

MOTION INFORMATION STATEMENT

Docket Number(s): 17-3895

Caption [use short title]

Motion for: Emergency Stay of authorization of coverage under the SPDES general permit for Millennium Pipeline Company's Eastern System Upgrade Project

Delaware Riverkeeper Network, et al., v. NYSDEC, et al.

Set forth below precise, complete statement of relief sought:

Stay of authorization of coverage under the SPDES general permit as provided in NYSDEC's August 30, 2017 Acknowledgement Notice.

MOVING PARTY: Delaware Riverkeeper Network  
 Plaintiff  Defendant  
 Appellant/Petitioner  Appellee/Respondent

OPPOSING PARTY: NYSDEC

MOVING ATTORNEY: Aaron Stemplewicz  
[name of attorney, with firm, address, phone number and e-mail]

OPPOSING ATTORNEY: Lisa Burianek

Delaware Riverkeeper Network  
925 Canal Street, Suite 3701  
Bristol, PA 19007

NYS Office of the Attorney General  
The Capitol  
Albany NY 122224

Court-Judge/Agency appealed from: NYSDEC

Please check appropriate boxes:

Has movant notified opposing counsel (required by Local Rule 27.1):  
 Yes  No (explain): Counsel for Petitioners emailed opposing counsel and the request for a stay will be served on opposing counsel on 12/20/17.

Opposing counsel's position on motion:  
 Unopposed  Opposed  Don't Know

Does opposing counsel intend to file a response:  
 Yes  No  Don't Know

FOR EMERGENCY MOTIONS, MOTIONS FOR STAYS AND INJUNCTIONS PENDING APPEAL:

Has request for relief been made below?  Yes  No

Has this relief been previously sought in this Court?  Yes  No

Requested return date and explanation of emergency: 12/20/17 or as soon

as possible thereafter. Millennium is authorized to begin tree clearing

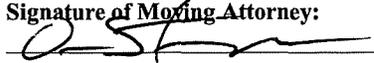
on December 20, 2017 and has indicated that it intends to start

additional construction activities. Construction of the pipeline could

be completed in as little as six months.

Is oral argument on motion requested?  Yes  No (requests for oral argument will not necessarily be granted)

Has argument date of appeal been set?  Yes  No If yes, enter date: \_\_\_\_\_

Signature of Moving Attorney:  Date: 12/20/17

Service by:  CM/ECF  Other [Attach proof of service]

No. 17-3895

ORAL ARGUMENT NOT YET SCHEDULED

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT**

DELAWARE RIVERKEEPER NETWORK; MAYA VAN ROSSUM, the  
Delaware Riverkeeper,

*Petitioners,*

v.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, BASIL SEGGOS, ACTING COMMISSIONER OF THE  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, JOHN FERGUSON, CHIEF PERMIT ADMINISTRATOR  
OF THE NEW YORK DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION,

*Respondents,*

MILLENNIUM PIPELINE COMPANY, L.L.C.,

*Intervenor.*

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**AFFIRMATION OF AARON STEMPLWICZ**

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Aaron Stemplewicz  
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Dated: December 20, 2017

Counsel for: *Delaware Riverkeeper Network  
and the Delaware Riverkeeper*

Aaron Stemplewicz, an attorney licensed to practice law in the United States Court of Appeals for the Second Circuit, affirms under penalty of perjury as follows:

1. I am the Senior Attorney at the Delaware Riverkeeper Network, attorney for the Petitioners in this matter.
2. I make this affirmation based on personal knowledge, my review of documents maintained in the ordinary course of business, and my representation of the Petitioners. Where my statements are not made on personal knowledge, I have cited admissible evidence that is already before the Court or I have attached a true and accurate copy of admissible evidence.
3. I submit this affirmation in support of Petitioners' Emergency Motion for a Stay, filed December 20, 2017.
4. The basis for the relief requested is set forth, in full, in the Emergency Motion for a Stay. The motion is supported by an addendum containing 14 exhibits, labeled A through N, which was also filed on December 20, 2017. The exhibits are true and correct copies of relevant records from the underlying proceeding before the Federal Energy Regulatory Commission, as well as other relevant materials.

WHEREFORE, Petitioners respectfully request that this Court grant the relief requested in the Emergency Motion for Stay.

Dated: December 20, 2017

/s/ Aaron Stemplewicz

Aaron Stemplewicz  
Counsel for: *Petitioners Delaware  
Riverkeeper Network and the  
Delaware Riverkeeper*

No. 17-3895

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CONSERVATION,

*Respondents,*

MILLENNIUM PIPELINE COMPANY, L.L.C.,

*Intervenor.*

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**EMERGENCY MOTION OF PETITIONERS FOR A STAY OF FINAL  
AGENCY ACTION OF THE NEW YORK DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION UNDER RULE 18**

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Phone: 215.369.1188  
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Dated: December 20, 2017

Counsel for: *Delaware Riverkeeper Network  
and the Delaware Riverkeeper*

**TABLE OF CONTENTS**

INTRODUCTION ..... 1

RELIEF REQUESTED.....4

JURISDICTION AND STANDING .....4

STANDARD OF REVIEW .....6

ARGUMENT .....7

    I.    Petitioners Demonstrate a High Likelihood of Success on the Merits .....7

        a.    The NYSDEC’s Authorization Of The Project Pursuant To Its SPDES General Permit Is Arbitrary, Unreasonable, And Contrary To The Requirements Of The Clean Water Act.....7

    II.   Petitioners Will Suffer Irreparable Harm in the Absence of a Stay .....17

    III.  A Stay Will Not Cause NYSDEC or Millennium Substantial Injury .....21

    IV.  A Stay is in the Public Interest .....22

CONCLUSION.....23

## INTRODUCTION

Petitioners Delaware Riverkeeper Network, and the Delaware Riverkeeper (collectively “DRN” or Petitioners), seek an emergency stay of the August 30, 2017, New York Department of Environmental Conservation’s (“NYSDEC” or Respondents) issuance of coverage under the State Pollution Elimination System general permit (“SPDES”) for Millennium Pipeline Company L.L.C.’s (“Millennium”) proposed Eastern System Upgrade pipeline project (“Project”). *See* Acknowledgement of Notice of Intent, Ex. D. All construction activity was authorized to begin on December 19, 2017, by the Federal Energy Regulatory Commission (“Commission”). *See* Notice to Proceed Granting Construction Activity, Ex. A. Millennium states that it intends to begin construction on December 20, 2017. *See* Implementation Plan, at 8, Ex. B.

On July 29, 2016, Millennium filed a request to the Commission for a Certificate of Public Convenience and Necessity authorizing the Project. *See* Certificate Order, 161 FERC ¶ 61,229, at ¶ 1, Ex. C. Under the Natural Gas Act, the Commission is the lead federal agency responsible for authorizing applications to construct and operate interstate natural gas pipeline facilities. *See* 15 U.S.C. §717f. The Commission required Millennium to obtain a SPDES from the NYSDEC prior to construction activity beginning. *See* Certificate Order, 161 FERC ¶ 61,229, at Appendix B, Condition 9, Ex. C. The Commission’s notice to

proceed with construction is also specifically predicated on Millennium having obtained all “federal authorizations.” *See* Letter Order Granting Construction Activity, at 1, Ex. 1. On August 30, 2017, the NYSDEC authorized coverage for the Project under the SPDES permit for the Project. *See* Acknowledgment of Notice of Intent, Ex. D.

Petitioners here challenge the issuance of coverage for the Project under the SPDES general permit by the NYSDEC as arbitrary, capricious, or otherwise not in accordance with law. The proposed Project involves the construction of approximately 8 miles of pipeline loop<sup>1</sup> along Millennium’s existing pipeline system, as well as the construction of a new compressor station and additional compressor units at other existing compressor stations. *See* Certificate Order, at ¶ 4, Ex. C. Construction of the Project would impact 209.2 acres of land, which includes roughly 25 acres of mature forested land. *See* Environmental Assessment, at 13, 71, Ex. E. The Project will cross seven subwatersheds, fourteen streams, and withdrawal and discharge over 2.5 million gallons of water for hydrostatic testing. The withdrawal and discharge of hydrostatic testing waters can “contribute to a change in the water quality of receiving waters” and also can “result in erosion of upland areas or stream banks and increased sedimentation or turbidity.” *Id.*, at 58, 64. Portions of pipeline facilities would also cross or otherwise impact numerous

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<sup>1</sup> Pipeline “loops” are new pipelines sited alongside and adjacent to one or more pre-existing pipelines.

other public and private resources, including: one state park, three county parks or recreation areas, one municipal park, two preserves, two private land trusts, a New York state scenic byway, two recreation hiking trails, a sportsman's club, and multiple Bald Eagle nests. *Id.*, at 99. Additionally, the New York Natural Heritage Program identified three significant natural communities that occur in the Project area that may be impacted. *Id.*, at 73. As explained in more detail below, the construction activity for the Project will inflict significant and irreparable harm on the resources identified above, and irreparable harm on Petitioners, their members, and the public.

The NYSDEC unlawfully provided authorization under the SPDES general permit for Millennium's Project without complying with several key provisions of the Clean Water Act which demand various and robust opportunities for public participation prior to authorization. NYSDEC's failure to comply with these clear provisions of the Clean Water Act have prevented Petitioners from obtaining adequate notice of authorization of Millennium's Project, and also obstructed Petitioners from all meaningful public participation opportunities.

Furthermore, because any appeal of an authorization pursuant to a Federal Energy Regulatory Commission jurisdictional project must be heard in the first instance by the Second Circuit, *see* 15 U.S.C. § 717r(d)(1), and the Second Circuit is limited in its review to the record developed before the agency, Petitioners have

also been prevented from developing a record upon which it could mount a substantive challenge to the authorization under the permit.

### **RELIEF REQUESTED**

Petitioners request a temporary stay during the pendency of this Court's consideration of this Emergency Motion for Stay, and for this Emergency Motion for Stay of permit authorization to be granted.

### **JURISDICTION AND STANDING**

This Court has jurisdiction to hear this case pursuant to 15 U.S.C. § 717r(d)(1), of the Natural Gas Act ("NGA"). *See* 15 U.S.C. § 717r(d)(1). Section 717r(d)(1) provides that:

[t]he United States Court of Appeals for the circuit in which a facility subject to . . . section 717f of this title is proposed to be constructed, expanded, or operated shall have original and exclusive jurisdiction over any civil action for the review of an order or action of a . . . State administrative agency acting pursuant to Federal law to issue, condition, or deny any permit, license, concurrence, or approval . . . required under Federal law.

*Id.*

Pursuant to Section 19(d) of the Natural Gas Act, 15 U.S.C. § 717r(d)(1), and Federal Rule of Appellate Procedure 15(a), DRN submitted a Petition for Review in the United States Court of Appeals for the Second Circuit for review of the NYSDEC's decision granting Millennium's request for State Pollutant Discharge Elimination System general permits (permit identification numbers

NYR11C669, NYR11C670, NYR11C671, NYR11C672) in connection with the Project. *See* Acknowledgement of Notice of Intent, Ex. D.

The Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92–500, 86 U.S. Stat. 816–904, codified as amended at 33 U.S.C. §§ 1251–1388), known as the Clean Water Act (“CWA”), governs discharges of pollutants from “point sources” (i.e., “any discernible, confined and discrete conveyance” [33 USC § 1362(14)] ) into the waters of the United States. These discharges are prohibited except as authorized by a National Pollutant Discharge Elimination System (“NPDES”) permit issued by the Administrator of the United States Environmental Protection Agency (“EPA”). “Generally speaking,” the statute envisaged NPDES permits that “place[d] limits on the type and quantity of pollutants that can be released into the Nation’s waters.” *South Fla. Water Management Dist. v. Miccosukee Tribe*, 541 U.S. 95, 102 (2004).

Although the federal government plays a role in water pollution control under the CWA, states, such as New York, continue their own water pollution control regulations as long as they are at least as stringent as federal law demands. *See* 33 U.S.C. § 1370. Importantly, states are authorized to administer the NPDES permit program for discharges into navigable waters within their borders. *See* 33 USC § 1342(b). Here, the EPA has delegated authority to NYSDEC to issue SPDES permits to fulfill the requirements of the CWA’s NPDES program.

Because the issuance of the authorization pursuant to the SPDES general permit is an “action” by a “state administrative agency” acting “pursuant to Federal law” to issue “permit[s],” Petitioners meet the standard articulated in Section 717r(d)(1). *See also Tennessee Gas Pipeline Company LLC v. Delaware Riverkeeper Network*, 921 F.Supp.2d 381, 387-88 (M.D. Pa. 2013); *Delaware Riverkeeper Network, et al. v. Secretary Department of Environmental Protection, et al.*, 833 F.3d 360, 370-374 (3d Cir. 2015).

Petitioners are a non-profit organization representing members who reside, work, and recreate in the areas that will be affected by the Project. *See* Petitioners’ Affs., Exs. F-J. Millennium’s construction and operational activities will cause Petitioners’ members concrete, particularized, and imminent harm, which this Court can redress by granting a stay. *See Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). Petitioners therefore have standing to assert this claim.

### **STANDARD OF REVIEW**

A party “seeking a preliminary injunction must establish that [it] is likely to succeed on the merits, that [it] is likely to suffer irreparable harm in the absence of preliminary relief, that the balance of equities tips in [its] favor, and that an injunction is in the public interest.” *Winters v. Natural Resources Defense Council, Inc.*, 555 U.S. 7, 20 (2008). These four factors are present here. Agency action under the NGA is reviewed pursuant to the Administrative Procedure Act, 5 U.S.C.

§§ 701-706, whereby courts hold unlawful and set aside agency actions that are “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A).

## **ARGUMENT**

### **I. Petitioners Demonstrate a High Likelihood of Success of the Merits**

#### **a. The NYSDEC’s Authorization Of The Project Pursuant To Its SPDES General Permit Is Arbitrary, Unreasonable, And Contrary To The Requirements Of The Clean Water Act**

NYSDEC violated statutory public participation requirements of the Clean Water Act by failing to provide an opportunity for public comment and an opportunity to request a public hearing on the SPDES Notice of Intent prior to NYSDEC’s authorization of coverage under the SPDES general permit. *See, e.g.*, 33 U.S.C. § 1342(a)(1); 33 U.S.C. § 1342(j).

Congress explicitly sought to encourage public participation in the development and implementation of the nation’s water pollution control measures, and required that the EPA and the states provide for, encourage, and assist with “[p]ublic participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the [EPA] or any State.” 33 USC § 1251(e). A strength of the NPDES permit system is the opportunity it provides for citizen participation throughout the permit issuance process. *See also Costle v. Pacific Legal Found.*, 445 U.S. 198, 216 (1980) (citing

the “general policy of encouraging public participation is applicable to the administration of the NPDES permit program”). Public participation is thus an essential element of the NPDES program: “[t]he public must have a genuine opportunity to speak on the issue of protection of its waters.” *Natural Res. Def. Council, Inc. v. EPA*, 859 F.2d 156, 177 (D.C. Cir. 1988) (quoting text available in S. Rep. No. 92-414, p. 72 (1971), reprinted in 1972 U.S.C.C.A.N. 3668).

It is well-established that for meaningful public participation, the public must be provided adequate notice to be able to evaluate a request for a government authorization or permit. *See, e.g., Ohio Valley Envtl. Coalition v. U.S. Army Corps of Engineers*, 674 F.Supp.2d 783, 800-02 (S.D. W.Va. 2010) (noting that “[c]ompletion and public notice are inextricably linked” and rejecting public notice and comment process undertaken on incomplete request); *Cook Inletkeeper v. EPA*, 2010 WL 4127976, at \* 2 (9th Cir., Oct. 21, 2010) (state administrative agency conceded that their finding “was flawed because of a lack of meaningful opportunity for public comment” on a Clean Water Act authorization). The notice of a request is directly tied to the commencement of public notice, to offer meaningful feedback the public needs a full picture of the project and its effects. *See Ohio Valley Envtl. Coalition*, 674 F.Supp.2d. at 802 (finding that federal agency “unreasonably found the applications were complete and issued public

notices that plainly did not contain sufficient information to allow for meaningful public comment”).

The CWA specifically requires that the public be afforded certain public participation opportunities on all discharge permits, such as the SPDES permit. The intended transparency of process, and engagement with the public, is reflected in two separate public participation requirements of the CWA for this type of permit. First, is a requirement that requests for coverage under NPDES and SPDES permits be made public. *See* 33 U.S.C. § 1342(j). Specifically, the CWA requires that “[a] copy of each permit application and each permit issued under [section 402] shall be available to the public.” *Id.* The court in *Environmental Defense Center v. U.S. E.P.A.*, concluded that “clear Congressional intent requires that NOIs be subject to the Clean Water Act’s public availability and public hearings requirements.” *Environmental Defense Center, Inc. v. U.S. E.P.A.*, 344 F.3d 832, 856 (9th Cir. 2003) (concluding that NOIs are “the functional equivalents” of permit applications) (hereinafter referred to as “*EDC*”). The EPA’s description in its stormwater regulations also concludes that a permit “application” is inclusive of “a notice of intent for coverage under a general permit.” 40 CFR 122.34(d)(1). This Circuit’s decision in *Waterkeeper Alliance* also supports this interpretation. *See Waterkeeper Alliance, Inc. v. U.S. E.P.A.*, 399 F.3d 486 (2d Cir. 2005). In *Waterkeeper Alliance*, this Court invalidated portions

of the EPA's 2003 regulations governing NPDES permitting for concentrated animal feeding operations, finding that the "permitting scheme . . . violates the Clean Water Act's public participation requirements and is otherwise arbitrary and capricious under the Administrative Procedure Act." *Id.*, at 503 (citing violations of the public participation requirements of 33 U.S.C. § 1342(a)(1) and 33 U.S.C. § 1342(j)); *but see Texas Ind. Producers & Royalty Owners Assn. v. Environmental Protection Agency*, 410 F.3d 964 (7th Cir. 2005).

Second, the CWA requires that the EPA, or a state, may only issue a NPDES permit – or here a SPDES permit – “**after** opportunity for public hearing.” *See* 33 U.S.C. § 1342(a)(1) (emphasis added); *see also* 33 U.S.C. § 1342(b)(3) (for a state to serve as permitting authority, state law must provide adequate authority to ensure that the public receive notice of each application for a permit and an opportunity for a public hearing before a ruling on each such application).<sup>2</sup>

In response to the *EDC* case the EPA issued guidance that directs states to comply with the court's decision by providing opportunities for public

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<sup>2</sup> New York state law also mandates public participation with respect to SPDES coverage, and requires “[p]ublic notice of a complete application for a SPDES permit” (ECL 17–0805(1)(a)), which shall include “a statement that written comments or requests for a public hearing on the permit application ... may be filed by a time and at a place specified” (ECL 17–0805(1)(a)(ix)). The public comment shall last “not less than thirty days following the date of the public notice ... during which time interested persons may submit their written views with respect to the application and the priority ranking of the permit” (ECL 17–0805(1)(b)).

participation and hearings on NOIs. *See* Memorandum from James A. Hanlon, Director, Environmental Protection Agency, Office of Wastewater Management, *Implementing the Partial Remand of Stormwater Phase II Regulations Regarding Notices of Intent & General Permitting for Phase II MS4s*, (April 16, 2004), available at: <https://www3.epa.gov/npdes/pubs/hanlonphase2apr14signed.pdf>. Although the EPA guidance is not binding on this Court, judicial deference to EPA's interpretation is "particularly appropriate" under a cooperative federalism statute, such as the Clean Water Act. *Rodriguez v. Perales*, 86 N.Y.2d 361, 367 (1995); *see also Brown v. Wing*, 93 N.Y.2d 517, 524 (1999) (noting that, where a state agency administers a federal statute, it would be appropriate to defer to that agency's interpretation where it comports with that of the responsible federal agency).

The concept of providing a fair and full opportunity for public participation in NPDES permitting is clearly enshrined in the implementing regulations for the NPDES program. For example, the EPA specifically identifies the policy justifications for providing public availability and an opportunity for a hearing:

[t]he NPDES permitting process includes the public as a valuable stakeholder and ensures that the public is included and information is made publicly available . . . Citizen suit enforcement has assisted in focusing attention on adverse water quality impacts on a localized, public priority basis. Citizens frequently rely on the NPDES permitting process and the availability of NOIs to track program implementation and help them enforce regulatory requirements.

64 Fed. Reg. at 68739-68740. Because substantive pollution control requirements are implicated by the NOI, and not in the boilerplate of the general permit itself, it is the NOIs, and not just the general permits, which must be made available to allow citizens to “track program implementation and . . . enforce regulatory requirements.” *Id.*

Here, on June 19, 2017, Millennium submitted its Notice of Intent (“NOI”) for coverage under the SPDES general permit. *See* Notice of Intent Request, Eastern System Upgrade, Ex. L. However, NYSDEC provided no public notice that an NOI had been submitted, no public notice that the NOI was complete, no public notice or opportunity for the receipt of public comment related to the NOI, no public notice when authorization was provided, and no opportunity for a public hearing. As such, the public and DRN were completely shut-out of the permitting process for the NOI. There was simply no way for DRN or the public to determine whether or not the Project met the substantive criteria for qualifying under the general SPDES permit.

Had DRN been provided the opportunity to comment on the NOI, it would have raised a host of issues. *See* Silldorff Aff., at ¶¶6-14, Ex. K; *see also* van Rossum Aff., at ¶¶22, Ex. F. For example, there is a heightened anti-degradation standard in this region of New York, and the regulations require “no measureable change to water quality” as required by the Delaware River Basin Commission.

Silldorff Aff., at ¶12. However, the NOI included no anti-degradation analysis, and “the New York State general permit for stormwater is not an approved component of the Administrative Agreement between New York State and the Delaware River Basin Commission.” *Id.* DRN was also prevented from evaluating impacts to “such resources as protected streams (whether they are class AA or AA-S), historic properties, and state-regulated wetlands.” *Id.*, at ¶13. Indeed, based on these concerns and others it is possible that Millennium’s Project would not have even qualified for a SPDES general permit, and instead Millennium should have been required to obtain an individual SPDES permit. *Id.* at ¶10-11. These are only a few of the many potential substantive issues DRN could have raised had it been provided the opportunity.

As described above, DRN was materially harmed by the lack of public notice because it was robbed of its opportunity to review the NOI, submit expert reports and comments, and therefore preserve a record for appeal. Indeed, the van Rossum declaration makes clear that “DRN did not become aware of the SPDES NOI until after it had been issued by NYSDEC,” and therefore “DRN was prevented from meaningfully engaging in the permitting process for a significant part of the Clean Water Act’s program.” van Rossum Aff., at ¶22, Ex. F. While the purpose of public notice is to “invite public comment prior to the final decision,” *Lake Erie Alliance for Protection of Coastal Corridor v. U.S. Army Corps of*

*Engineers*, 526 F.Supp. 1063, 1079 (W.D. Pa. 1981), that simply did not, and could not, occur here.

Concluding that no public participation is necessary for the SPDES permit would insulate the NYSDEC from the public, or other aggrieved parties, developing a record that contradicts the contents and conclusions presented in an NOI because those parties would never be provided with an opportunity to present their objections. Such a violation of the purpose and intent of the public participation requirements of the Clean Water Act simply does not withstand scrutiny. Under NYSDEC's implementation of the SPDES program, a landowner who has a stream running through his/her back yard would have no notice or opportunity to engage with NYSDEC regarding the SPDES permit prior to NYSDEC's authorization of a potential withdrawal from or a discharge to that landowner's stream. Such a regulatory regime is manifestly unjust, and does not comport with the public participation requirements of the Clean Water Act.

This problem is compounded by the fact that 15 U.S.C. § 717r(d)(1) requires that the circuit courts rely exclusively on the record as established at NYSDEC to determine whether the NYSDEC's authorization pursuant to the SPDES general permit was lawful. *See* 15 U.S.C. § 717r(d)(1). However, DRN could not have developed such a record because DRN was never made aware of a complete SPDES permit NOI, and thus DRN was not able to provide substantive comments

to NYSDEC. As such, DRN was prevented from developing a record for a substantive challenge to the SPDES permit.

In a case pending before the Third Circuit Court of Appeals, the court was highly critical at oral argument of a similar NPDES permitting scheme as implemented by the Pennsylvania Department of Environmental Protection (“Department”). See *Delaware Riverkeeper Network, et al. v. Pennsylvania Department of Environmental Protection, et al.*, Third Circuit Court of Appeals, Docket No. 16-2211, Oral Argument (November 7, 2017). There, the court criticized the Department’s position that the Department could issue a NPDES permit without any public notice or opportunity for comment. Specifically, the court stated:

How can the action of the department be viewed as something other than arbitrary and capricious when it is contingent upon the filing or issuance of a [NPDES] permit as to which the department itself acknowledges there is no opportunity to be heard, there is no notice and no opportunity to be heard because the NPDES permit is issued in final form without any notice?

Transcript of Oral Argument, *Delaware Riverkeeper Network, et al. v. Secretary of the Pennsylvania Department of Environmental Protection, et al.*, at 34, Ex. M; see also *id.*, at 35-45 (where the court further presses this line of questioning regarding the failure of the Department to provide public participation and notice for the NPDES permit). The same problem exists here, but worse. In Pennsylvania the

Department at least provided public notice of the final issuance of coverage under the NPDES general permit, here NYSDEC provided no such notice.

In the context of a Commission-jurisdictional pipeline project an emergency motion for stay is appropriate where “various important and required procedures” of the Clean Water Act were “ignored” by the state permitting agency. *See City of Green v. Ohio Environmental Protection Agency, et al.*, Sixth Circuit Court of Appeals, Docket No. 17-4016, Slip-op: Order and Opinion Granting Emergency Motion for Stay (November 22, 2017), at 2-3, Ex. N. In *City of Green*, the Sixth Circuit found that the Ohio Environmental Protection Agency likely failed to follow mandated procedures and methodology for evaluating wetlands, and that this procedural error was sufficient to grant a stay of the agency’s Clean Water Act approval of the pipeline project. *Id.*, at 4. Here, DRN could not even challenge whether proper methodologies were used, cited, or relied upon by NYSDEC and the applicant because DRN never had the opportunity to do so. As such, the likelihood of success on merits for DRN’s case for a stay is, if anything, significantly stronger than what was presented and affirmed in *City of Green*.

In failing to provide the citizen protections of a public available permit and a public hearing on the requested discharge, NYSDEC failed to adhere to the plain language of the Clean Water Act. Accordingly, NYSDEC’s decision to authorize coverage pursuant to the SPDES general permit was arbitrary, capricious, or

otherwise not in accordance with law. *See, e.g., INS v. Cardoza-Fonseca*, 480 U.S. 421, 447-48 (1987) (courts must reject administrative constructions of law inconsistent with clear congressional intent).

## **II. Petitioners Will Suffer Irreparable Harm in the Absence of a Stay**

Construction of the Project will require clearing vegetation (*i.e.*, trees and shrubs), grading the right-of-way (“ROW”), constructing or improving access roads, stripping topsoil and subsoils, excavating a trench, installing the pipeline, replacing topsoil and subsoil, and restoration of the pipeline ROW. *See van Rossum Aff.*, ¶ 9-11, Ex. F. Blasting might be necessary in some areas where bedrock is encountered.

These construction activities cause permanent environmental damage. For example, clearing woody vegetation can destabilize stream banks causing erosion and turbid discharges into the waterbody and increasing water temperatures. *Id.* ¶¶ 9, 18, 21. Both of these conditions can adversely impact native aquatic life. *Id.* Although some of the Project’s water-quality impacts could be mitigated by using “trenchless” techniques, to drill under waterbodies and wetlands, rather than excavating through them, even trenchless techniques pose risk to water quality, because drilling fluids could inadvertently be released into wetlands and waterbodies. *Id.*, at ¶19.

Irreparable harm to Petitioners' aesthetic and recreational interests will result from long-term harm to streams, wetlands, and forest. *See, e.g.,* Wood Aff., at ¶¶6-12, Ex. H; Billard Aff., at ¶¶6-10, Ex. J; Metts Aff., at ¶¶5-11, Ex. G; Robinson Aff., at ¶¶4-8, Ex. I. The harm to woody vegetation, including mature trees, is particularly significant because tree replanting requires decades before saplings can replace the environmental services provided by cleared trees. As such, there is no legal remedy for these harms.

The Supreme Court has recognized that environmental harm, “by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e., irreparable.” *Amoco Prod. Co. v. Vill. of Gambell*, 480 U.S. 531, 545 (1987); *see also Brady Campaign to Prevent Gun Violence v. Salazar*, 612 F. Supp. 2d 1, 25 (D. D.C. 2001) (“[E]nvironmental and aesthetic injuries are irreparable”). It is well established that the clearing of trees alone constitutes irreparable harm. *See, e.g., Concerned Citizens of Chappaqua v. U.S. Department of Transportation*, 579 F.Supp.2d 427, 432 (S.D.N.Y. 2008) (the felling of only sixty-one trees warranted a preliminary injunction); *Lichterman v. Pickwick Pines Marina, Inc.*, 2007 WL 4287586, at \*6 (N.D. Miss. Dec. 6, 2007) (finding that clearing trees in a shoreline buffer zone constituted irreparable harm to residents with views of the shore); *Saunders v. Wash. Metro. Area Transit Auth.*, 359 F.Supp. 457, 462 (D. D.C. 1973) (enjoining construction because “[p]laintiffs

would suffer irreparable harm in the removal of trees from their neighborhood”); *Merritt Parkway Conservancy v. Mineta*, 424 F.Supp.2d 396, 425 (D. Conn. 2006) (holding the “felling of mature trees” together with other effects to aesthetic and historic features to be irreparable harm).

Additionally, the irreparable harm requirement is satisfied when, as here, the proposed Project will likely irreparably harm Plaintiffs’ interests in using, recreating in, and conserving the project area. *See AWR v. Cottrell*, 632 F.3d 1127, 1135 (9th Cir. 2011); *see also* Wood Aff., at ¶¶6-12, Ex. H; Billard Aff., at ¶6-10, Ex. J; Metts Aff., at ¶¶5-11, Ex. G; Robinson Aff., at ¶¶4-8, Ex. I. Ultimately, irreparable harm relates to harm to the **petitioner** and the **petitioner’s interests** in the case, and is not limited to a showing of harm to the subject of the law being enforced. *See City of Green*, Slip-op., at 3, Ex. N (stating that “[t]he second stay factor—**irreparable harm to Green**—also weighs in Green’s favor”) (emphasis added). Importantly, there is no zone of interests test for irreparable harm. As explained by the Supreme Court, “[a] plaintiff seeking a preliminary injunction must establish that . . . **he is likely to suffer irreparable harm** in the absence of preliminary relief.” *Winters*, 555 U.S. 21-22 (“applicant must demonstrate that in the absence of a preliminary injunction, the applicant is likely to suffer irreparable harm before a decision on the merits can be rendered”).

Based on this standard, courts have repeatedly held that petitioners can rely on a showing of irreparable harm to their recreational or aesthetic interest in mature trees or other natural resources, regardless of the subject of the law being enforced. For example, there are several cases involving logging, where the court looked to the plaintiff's interests in the forest even though the legal claim had nothing to do with forests or trees. *See, e.g., Alliance for the Wild Rockies v. Cottrell*, 632 F.3d 1135 (9th Cir. 2011); *League of Wilderness Defenders v. Connaughton*, 752 F.3d 755 (9th Cir. 2014); *Alliance for the Wild Rockies v Christensen*, 663 Fed. Appx. 515 (9th Cir. 2016).

Here, the proposed construction activity includes mechanized tree clearing, trenching, grading, stormwater and water discharge impacts, and irreversible deforestation. For example, by the specific design of the Project mature trees will forever cease to exist and never be permitted to regrow, or if they are permitted to regrow will not reach a comparable level of maturity in Petitioners' lifetimes. Petitioners and their members have clearly explained how their recreational and aesthetic interests in the forests, streams, wildlife habitat, and other waterways will be irreparably harmed by construction and operation of the Project. *See generally* Petitioners' Affs., Exs. F-J.

Furthermore, the rising number of pipeline incidents resulting in property damage, including environmental harm, and bodily injury or death, is well

documented. In 2017, through November 1, 2017, there have been at least 430 pipeline incidents resulting in 26 injuries, 3 fatalities, and \$90,858,266 in damages. *See* U.S. Dep’t of Transportation, Pipeline and Hazardous Materials Safety Administration, Pipeline Incident 20 Year Trend data (Oct. 3, 2017).

### **III. A Stay Will Not Cause the NYSDEC or Millennium Substantial Injury**

Although Millennium may allege that delay to its construction schedule may result in economic harm, any such harm should be weighed in light of the fact that Millennium is ultimately responsible for that delay; Millennium chose to design and submit a proposed pipeline project that clearly violated the express provisions of the CWA. Whatever economic harm might befall Millennium as a result of this delay is temporary and far outweighed by the potential irreparable harm to the State’s environment. *See Citizen’s Alert Regarding the Environment v. United States Department of Justice*, 1995 WL 748246 at \*11 (D. DC. Dec. 8, 2015) (potential loss of revenue, jobs, and investment caused by delay did not outweigh “permanent destruction of environmental values that, once lost, may never again be replicated”).

Furthermore, the Sixth Circuit has held that the type of harm to a pipeline company resulting from the grant of an emergency motion for stay is “minimized because . . . this order directs the clerk of the court to expedite the appeal.” *City of*

*Green, Slip-op.*, at 4, Ex. N. DRN has no objection to an expedited schedule for this appeal.

#### **IV. A Stay Pending Review is in the Public Interest**

In cases involving preservation of the environment, the balance of harms generally favors a grant of injunctive relief. *See Amoco Prod. Co.*, 480 U.S. at 545 (“If such injury is sufficiently likely...the balance of harms will usually favor the issuance of an injunction to protect the environment”). There also is no question that the public has an interest in having the mandates of the federal Clean Water Act be carried out accurately and completely. Here, the clearing of mature trees, trenching through wetlands and streams, the concomitant loss of the ecological services those resources provide, and the impacts of withdrawing, using, and discharging over 2.5 million gallons of water is a significant environmental harm, and therefore a harm to the public interest in protecting natural resources.

The costs of complying with the Clean Water Act cannot fairly be characterized as harm, particularly when those costs are the self-inflicted. *See Cronin v. U.S. Dep’t of Agriculture*, 919 F.2d 439, 445 (7th Cir. 1990) (The felling of trees that will not grow back in plaintiff’s lifetime outweighs “the time value of the profit component of [the anticipated] revenue[s]” of the project).

### **CONCLUSION**

Petitioners request a temporary stay during the pendency of this Court's consideration of this Emergency Motion for Stay, and for this Emergency Motion for Stay to be granted. Petitioners have no objection to an expedited schedule for resolution of the Emergency Motion for Stay.

Respectfully submitted this 20th day of December 2017,

/s/ Aaron Stemplewicz

Aaron Stemplewicz  
Delaware Riverkeeper Network  
925 Canal Street, Suite 3701  
Bristol, PA 19107  
Phone: 215.369.1188  
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aaron@delawareriverkeeper.org

Counsel for: *Petitioners Delaware  
Riverkeeper Network and the  
Delaware Riverkeeper*

## CERTIFICATE OF COMPLIANCE

The undersigned attorney, Aaron Stemplewicz, hereby certifies:

1. This document complies with the type-volume limitations of Federal Rule of Appellate Procedure 27(d)(2). According to the word processing system used in this office, this document, exclusive of the sections excluded by Fed. R. App. P. 32(f), contains 5,167 words.
2. This document complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type-style requirements of Fed. R. App. P. 32(a)(6) because this document has been prepared in a proportionally spaced typeface in 14-point Time New Roman font.

Dated: December 20, 2017

/s/ Aaron Stemplewicz

Aaron Stemplewicz  
Counsel for: *Petitioners Delaware  
Riverkeeper Network and the  
Delaware Riverkeeper*

## CERTIFICATE OF SERVICE

I hereby certify that on December 20, 2017, the foregoing Emergency Motion, Addendum, and Affirmation have been served via the Court's CM/ECF system, via email upon Respondents and Intervenor in this matter:

Dated: December 20, 2017

/s/ Aaron Stemplewicz

Aaron Stemplewicz  
Counsel for: *Petitioners Delaware  
Riverkeeper Network and the  
Delaware Riverkeeper*

No. 17-3895

ORAL ARGUMENT NOT YET SCHEDULED

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT**

DELAWARE RIVERKEEPER NETWORK; MAYA VAN ROSSUM, the  
Delaware Riverkeeper,

*Petitioners,*

v.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, BASIL SEGGOS, ACTING COMMISSIONER OF THE  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, JOHN FERGUSON, CHIEF PERMIT ADMINISTRATOR  
OF THE NEW YORK DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION,

*Respondents,*

MILLENNIUM PIPELINE COMPANY, L.L.C.,

*Intervenor.*

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**ADDENDUM**

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Aaron Stemplewicz  
Senior Attorney  
Delaware Riverkeeper Network  
925 Canal Street, Suite 3701  
Bristol, PA 19007  
Phone: 215.369.1188  
Fax: 215.369.1181

Dated: December 20, 2017

Counsel for: *Delaware Riverkeeper Network  
and the Delaware Riverkeeper*

## INDEX TO EXHIBITS

A – FERC Notice to Proceed (December 19, 2017).....	AD001
B – Millennium’s Implementation Plan (December 6, 2017) .....	AD004
C – FERC Order Issuing Certificate, 161 FERC ¶ 61,229 (November 28, 2017) .....	AD051
D – NYSDEC Acknowledgement of Notice of Intent (August 30, 2017) .....	AD131
E – Environmental Assessment (March 31, 2017) .....	AD140
F – van Rossum Affidavit .....	AD389
G – Metts Affidavit .....	AD403
H – Wood Affidavit .....	AD409
I – Robinson Affidavit .....	AD415
J – Billard Affidavit .....	AD419
K – Silldorff Affidavit.....	AD425
L – Notice of Intent Application (June 19, 2017).....	AD433
M – Oral Argument Transcript (November 7, 2017) .....	AD450
N – <i>City of Green v. Ohio Environmental Protection Agency</i> , Order and Opinion (November 22, 2017).....	AD516

# Exhibit A

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

**In Reply Refer To:**

OEP/DG2E/Gas 2

Columbia Gas Transmission, LLC

Eastern System Upgrade Project

Docket No. CP16-486-000

December 19, 2017

Georgia Carter  
Vice President and General Counsel  
Millennium Pipeline Company, LLC  
One Blue Hill Plaza, 7<sup>th</sup> Floor  
P.O. Box 1565  
Pearl River, NY 10965

**Re: Authorization to Commence with Construction**

Dear Ms. Carter:

I approve Millennium Pipeline Company, LLC's (Millennium) December 15, 2017 request, with one exception, to construct the Eastern System Upgrade Project facilities in Orange, Sullivan, Delaware, and Rockland Counties, New York. This authorization also includes use of all contractor yards and staging areas for the Project, as well as the 12 modifications included in your request.

This authorization omits the pipeline facilities located on the Huckleberry Ridge State Forest parcel, as described in your filing. Millennium should file its Temporary Revocable Permit/easement agreement from the New York State Department of Environment and Conservation and request a separate notice to proceed before work can begin at that location.

In considering your request, we have determined that Millennium's Implementation Plan, filed on December 6, 2017, as supplemented on December 15, 2017, includes the information necessary to meet the construction conditions of the Commission's November 28, 2017 *Order Issuing Certificate* (Order) for the activities approved herein. We have confirmed the receipt of all federal authorizations relevant to the approved activities herein.

AD002

I remind you that Millennium must comply with all applicable terms and conditions of the Commission's Order. If you have any questions regarding this approval, please contact Eric Howard at (202) 502-6263.

Sincerely,



Alisa M. Lykens  
Chief, Gas Branch 2  
Division of Gas – Environment  
and Engineering

cc: Public File, Docket No. CP16-486-000

# Exhibit B



One Blue Hill Plaza, 7th Floor  
Post Office Box 1565  
Pearl River, NY 10965  
845.620.1300 Voice | 845.620.1320 Fax

December 6, 2017

Ms. Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, D.C. 20426

**Re: *Millennium Pipeline Company, L.L.C.*, Docket No. CP16-486-000  
Eastern System Upgrade Project  
Implementation Plan**

Dear Ms. Bose:

On November 28, 2017, the Federal Energy Regulatory Commission (“Commission”) issued an “Order Issuing Certificate” (“Order”), in the above-referenced docket authorizing Millennium Pipeline Company, L.L.C.’s (“Millennium”) Eastern System Upgrade Project.<sup>1</sup> Millennium accepted the Order on December 5, 2017. The Project will provide 223,000 dekatherms per day of incremental firm transportation service from its existing compressor station in Corning, New York, to the existing interconnection with Algonquin in Ramapo, New York. As approved, the Project will include construction of the following facilities: (i) approximately 7.8-mile-long, 30- and 36-inch-diameter pipeline loop in Orange County, New York; (ii) a new compressor station in Sullivan County, New York with one 22,400 horsepower Solar Titan 130E gas-fired turbine compressor unit; (iii) a new 22,400 horsepower Solar Titan gas-fired turbine compressor unit at the existing Hancock Compressor Station in Delaware County, New York; (iv) modifications to the existing Ramapo Meter and Regulator Station in Rockland County, New York; (v) modifications to the Wagoner Interconnect in Orange County, New York; (vi) additional pipeline appurtenant facilities at the existing Huguenot and Westtown Meter and Regulating Stations in Orange County, New York; and (vii) an alternate interconnect to the 16-inch-diameter Valley Lateral at milepost 7.6 of the Huguenot Loop.

In accordance with Ordering Paragraph (B)(3) and Environmental Condition No. 6 attached to the Order, Millennium hereby files its Implementation Plan for the Project. Millennium respectfully requests Commission approval of the Implementation Plan.

**Description of Items Being Filed**

**Public:**

- Millennium’s Implementation Plan
- Attachment A – Environmental Conditions Compliance Tracking Table

<sup>1</sup> *Millennium Pipeline Company, L.L.C.*, 161 FERC ¶ 61,229 (2017).

- Attachment B – Affirmative Statement of Environmental Inspector Authority
- Attachment C1 – Revised Project Alignment Sheets
- Attachment C2 – Route, Workspace, and Other Modifications
- Attachment D – Project Schedule
- Attachment E – Federal Authorization Status
- Attachment F – Project Correspondence
- Attachment G – Updated Noise Analysis Report
- Attachment H – Updated Environmental Construction Standards

**Critical Energy Infrastructure Information – Non-Public:**

- Attachment C1 – Aboveground Facility Plans

**Privileged and Confidential – Non-Public:**

- Attachment I – Phase 1A/1B Archaeological Survey Addendum
- Attachment J – Landowner Documentation

As indicated above, portions of this filing that contain Critical Energy Infrastructure Information (“CEII”) are marked “**CONTAINS CRITICAL ENERGY INFRASTRUCTURE INFORMATION—DO NOT RELEASE**” and should be treated as confidential for use by Commission Staff only and should not to be released to the public. Items that contain privileged and confidential information are marked “**CONTAINS PRIVILEGED INFORMATION—DO NOT RELEASE**” and should be treated as confidential for use by Commission Staff only and should not to be released to the public.

Millennium is filing the Implementation Plan, pursuant to the Commission’s guidelines for eFiling. Millennium is also providing complete copies of this filing to the Office of Energy Projects. If you have any questions regarding this filing, please contact me at 845-620-1300.

Respectfully submitted,

*/s/ Georgia Carter*

Georgia Carter  
Vice President and General Counsel  
Millennium Pipeline Company, L.L.C.

Attachments

cc: Rich McGuire, FERC  
Alisa Lykens, FERC  
Eric Howard, FERC



**CERTIFICATE OF SERVICE**

Pursuant to Rule 2010 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.2010 (2017), I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C., this 6th day of December, 2017.

/s/ Marco Bracamonte

Marco A. Bracamonte  
Paralegal  
Van Ness Feldman, LLP  
1050 Thomas Jefferson St., N.W.  
Seventh Floor  
Washington, D.C. 20007-3877  
(202) 298-1800



***IMPLEMENTATION PLAN***

***Millennium Pipeline Company, L.L.C.***

**Eastern System Upgrade**

***FERC Docket No. CP16-486-000***

***December 2017***



<b>INTRODUCTION.....</b>	<b>1</b>
<b>DESCRIPTION OF FACILITIES .....</b>	<b>2</b>
PIPELINE FACILITIES .....	3
ABOVEGROUND FACILITIES .....	3
<i>Compressor Stations</i> .....	4
<i>Meter Stations</i> .....	6
<i>Additional Aboveground Facilities</i> .....	7
<i>Cathodic Protection</i> .....	7
<b>ANTICIPATED CONSTRUCTION SCHEDULE .....</b>	<b>8</b>
<b>PROJECT MODIFICATIONS .....</b>	<b>8</b>
<b>IMPLEMENTATION OF CERTIFICATE ORDER ENVIRONMENTAL CONDITIONS.....</b>	<b>9</b>
CONDITION 1 .....	9
CONDITION 2 .....	11
CONDITION 3 .....	12
CONDITION 4 .....	13
CONDITION 5 .....	14
CONDITION 6 .....	16
CONDITION 7 .....	21
CONDITION 8 .....	22
CONDITION 9 .....	23
CONDITION 10 .....	24
CONDITION 11 .....	25
CONDITION 12 .....	26
CONDITION 13 .....	26
CONDITION 14 .....	27
CONDITION 15 .....	28
CONDITION 16 .....	29
CONDITION 17 .....	30



## LIST OF ATTACHMENTS

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- A Environmental Conditions Compliance Tracking Table
- B Affirmative Statement of Environmental Inspector Authority
- C1 Revised Project Alignment Sheets and Aboveground Facilities Plans  
(Submitted Under Separate Cover as CUI//CEII)
- C2 Route, Workspace, and Other Modifications
- D Project Schedule
- E Federal Authorization Status
- F Project Correspondence
  - U.S. Army Corps of Engineers Nationwide Permit 12 Authorization
  - U.S. Fish and Wildlife Service Clearance
  - National Oceanographic and Atmospheric Administration Clearance
  - New York State Department of Environmental Conservation Section 401 Water Quality Certification, Article 15, and Article 24 Permit Approvals
  - New York State Department of Environmental Conservation Article 11, Part 182 Jurisdictional Determination
  - New York State Department of Environmental Conservation Air State Facility Permit – Highland Compressor Station
  - New York State Department of Environmental Conservation Air State Facility Permit – Hancock Compressor Station
  - New York State Department of Environmental Conservation Exempt Activity Notice – Ramapo Meter Station
  - New York State Historic Preservation Office Clearance
  - New York State Department of Environmental Conservation Construction Stormwater Notice of Intent Acknowledgement – Orange County Facilities
  - New York State Department of Environmental Conservation Construction Stormwater Notice of Intent Acknowledgement – Highland Compressor Station
  - New York State Department of Environmental Conservation Construction Stormwater Notice of Intent Acknowledgement – Hancock Compressor Station
  - New York State Department of Environmental Conservation Construction Stormwater Notice of Intent Acknowledgement – Ramapo Meter Station
  - New York State Department of Environmental Conservation Five Acre Waiver – Orange County Facilities [*To be provided when received*]
  - New York State Department of Environmental Conservation Five Acre Waiver – Highland Compressor Station
  - New York State Department of Transportation Accommodation of Utilities [*To be provided when received*]



- Orange County Department of Public Works Temporary Driveway Permits [*To be provided when received*]
  - Orange County Department of Public Works Accomodation of Utilities [*To be provided when received*]
  - Town of Ramapo Signed MS4
  - Town of Deer Park Building Permit [*To be provided when received*]
  - Town of Deer Park Temporary Driveway Permit
  - Town of Greenville Highway Department Temporary Driveway Permit
  - Town of Minisink Highway Department Temporary Driveway Permits
  - Norfolk Southern and Metro North Accomodation of Utilities [*To be provided when received*]
  - Delaware Tribe Concurrence
  - Stockbridge-Munsee Mohican Tribe Concurrence
  - The Nature Conservancy Site Restoration Plan
- G Updated Noise Analysis Report
- H Updated Environmental Construction Standards
- I Phase 1A/1B Archaeological Survey Addendum [Submitted under separate cover – CUI//PRIV]
- J Landowner Documentation [Submitted under separate cover – CUI//PRIV]



## INTRODUCTION

Millennium Pipeline Company, L.L.C. (Millennium) has obtained authorization from the Federal Energy Regulatory Commission (FERC or Commission) pursuant to Section 7(c) of the Natural Gas Act to construct and operate the Eastern System Upgrade (Project). The Project includes construction of approximately 7.8 miles of 30- and 36-inch pipeline loop in Orange County, New York (Huguenot Loop). Millennium will locate a majority of the pipeline loop overlapping with and adjacent to the permanent easement associated with its existing mainline (Millennium Pipeline). Additionally, as part of the Project, Millennium will construct and operate (1) a new compressor station (Highland CS) in Sullivan County, New York, (2) additional horsepower (hp) at the existing Hancock Compressor Station (Hancock CS) in Delaware County, New York, (3) modifications to the existing Ramapo Meter and Regulator Station (Ramapo M&R) in Rockland County, New York, (4) modifications to the existing Wagoner Interconnect in Orange County, New York and (5) additional pipeline appurtenant facilities at the existing Huguenot Meter Station (Huguenot M&R) and Westtown Meter Station (Westtown M&R) in Orange County, New York.

Millennium initiated the Commission's pre-filing review process for the Project on January 19, 2016 and filed a formal application requesting certificate authorization for the Project on July 29, 2016. Commission staff issued an Environmental Assessment for the Project on March 31, 2017. The Commission subsequently issued an Order Issuing Certificate (Certificate Order) for the Project on November 28, 2017. This Project Implementation Plan has been prepared in accordance with the Certificate Order Environmental Condition Number 6, for review and written approval by the Director of the Office of Energy Projects (OEP). Millennium has obtained all authorizations required under federal law needed to construct the Project. Millennium anticipates commencing construction in December 2017 to meet the Project in-service date in September 2018.



## DESCRIPTION OF FACILITIES

The Project includes a new pipeline loop, a new compressor station, and modifications to one existing compressor station and three existing meter stations. The Project consists of the following components and facilities:

- approximately 7.8 miles of new 30- and 36-inch diameter pipeline looping generally overlapping with and adjacent to Millennium's existing pipeline right-of-way in Orange County, New York;
- construction and operation of a new 22,400 hp compressor station, Highland CS in Sullivan County, New York;
- construction and operation of an additional 22,400 hp at the existing Hancock CS in Delaware County, New York;
- modifications to the Ramapo M&R in Rockland County, New York;
- modifications to the Wagoner Interconnect in Orange County, New York;
- addition of pipeline appurtenant facilities, which includes pigging facilities, at the Huguenot M&R and the Westtown M&R in Orange County, New York; and
- addition of an alternate interconnect to the 16-inch Valley Lateral at milepost (MP) 7.6.

**Summary of Eastern System Upgrade Facilities**

Facility	New/Modified	Length (miles)	County
<b>Pipeline</b>			
30-inch Huguenot Loop	New	0.1	Orange
36-inch Huguenot Loop	New	7.7	Orange
<b>Compressor Stations</b>			
Highland CS	New	Not Applicable	Sullivan
Hancock CS	Modified	Not Applicable	Delaware
<b>Meter Stations</b>			
Wagoner Interconnect	Modified	Not Applicable	Orange
Huguenot M&R	Modified	Not Applicable	Orange
Westtown M&R	Modified	Not Applicable	Orange
Ramapo M&R	Modified	Not Applicable	Rockland
<b>Additional Aboveground Facilities</b>			
Pig Launcher / Receiver	New	Not Applicable	Orange
Alternate Interconnect	New	Not Applicable	Orange



### Pipeline Facilities

The Huguenot Loop includes approximately 7.8 miles of 30- and 36-inch diameter new natural gas pipeline loop that will extend from an interconnection with the existing Millennium Pipeline at the existing Huguenot M&R Station in the town of Deerpark, New York, southeast through the town of Greenville, to an interconnect with the Millennium Pipeline at the existing Westtown M&R Station in the town of Minisink, New York. The Huguenot Loop will have a maximum allowable operating pressure of 1,350 pounds per square inch gauge (psig) and a maximum operating pressure of 1,200 psig. To the extent practicable, the Huguenot Loop will be constructed overlapping with and adjacent to the permanent right-of way associated with the existing Millennium Pipeline. Based on current design, approximately 89 percent of the total length of the new pipeline will be co-located with Millennium's existing rights-of-way. Locations where the Huguenot Loop would be more than 25 feet from the existing Millennium pipeline include the commencement of the Loop at the Huguenot M&R, and the Horizontal Directional Drill (HDD) alignments for the crossings of the Neversink River and Interstate Highway 84.

**Summary of Pipeline Facilities for the Eastern System Upgrade**

Pipe Diameter	Milepost (MP) Begin	MP End	Length (Miles)	Town	County
<i>Huguenot Loop</i>					
30	0.0	0.1	0.1	Deerpark	Orange
36	0.1	1.8	1.7	Deerpark	Orange
36	1.8	6.0	4.3	Greenville	Orange
36	6.0	7.8	1.7	Minisink	Orange
		<b>Total Miles <u>a/</u></b>	<b>7.8</b>		
<u>a/</u> MPs are reference points and may not equal total length due to rounding.					

### Aboveground Facilities

Aboveground facilities for the Project will consist of the new Highland CS, additional compression at and modifications to the existing Hancock CS, modifications to the existing Ramapo M&R, modifications to the existing Wagoner Interconnect, and the addition of pipeline appurtenant facilities at the existing Huguenot M&R and Westtown M&R.



**Summary of Aboveground Facilities for the Eastern System Upgrade**

Facility Type and Name	Approximate MP	Town, County	Description
<b>Compressor Stations</b>			
Highland CS (new)	Millennium MP 135	Highland, Sullivan	Construct a new compressor station with one 22,400 hp Solar Titan 130E compressor unit.
Hancock CS	Millennium MP 107.8	Hancock, Delaware	Install a new Solar Titan 130E compressor unit, totaling 22,400 hp, and re-stage the existing Solar Mars compressors (15,900 hp), for a total of 38,300 hp.
<b>Meter Stations</b>			
Wagoner Interconnect (existing)	Millennium MP 150.0	Deerpark, Orange	Remove existing indirect heater.
Huguenot M&R (existing)	MP 0.0	Deerpark, Orange	Remove existing 30-inch pig receiver, extension of 30-inch Millennium Pipeline. Installation of new regulator facilities and a new 24-inch pig barrel for the existing 24-inch Millennium Pipeline. Installation of indirect heater, moved from the Wagoner Interconnect.
Westtown M&R (existing)	MP 7.8	Minisink, Orange	Install a new 36-inch pig receiver for the Huguenot Loop. Install a new 24-inch receiver barrel to the existing 24-inch Millennium Pipeline and a new 30-inch pig barrel for the existing 30-inch Millennium Pipeline. Add overpressure to protect the 24-inch 920 psi Maximum Allowable Operating Pressure pipeline.
Ramapo M&R (existing)	Millennium MP 190.2	Ramapo, Rockland	Install new filter/separators, meters, heater, and flow and pressure control regulation at the existing Ramapo M&R.
<b>Additional Aboveground Facilities</b>			
Pig Launcher / Receiver (new)	MP 0.1	Deerpark, Orange	Install a new 30-inch pig receiver facility and a new 36-inch pig launcher facility for the Huguenot Loop.
Alternate Interconnect (new)	MP 7.6	Minisink, Orange	Install a 12-inch side tap on the 36-inch Huguenot Loop, 12-inch lateral and tie-in to the 16-inch Valley Lateral pipeline.

Compressor Stations

Highland CS (New)

The Highland CS is a proposed, new compressor station located in Sullivan County, approximately 25 miles east of the existing Hancock CS in Delaware County. Millennium proposes to install one 22,400 hp Solar Titan 130E compressor at the new station.



The auxiliary facilities will include the compressor building, and will be constructed of a rigid steel frame with sheet metal roofs and walls. An auxiliary building will house station controls and communications equipment as well as an emergency electrical power generator and compressed air system. The proposed facilities will also include valves, filter-separators, an emergency generator, a fuel gas heater, parking and access areas, and a fence enclosure. Utilities that will be supplied from local utility companies are electric power and communications circuits. These utilities will require minor construction to bring the services into the station property. No new utility right-of-way is anticipated. The station site work will include a self-contained on-site water well and sanitary sewer system (e.g., on-site septic).

Stormwater treatment and detention practices proposed at the Highland CS include two bioretention areas located along the access drive to collect, detain, and treat runoff from the newly created impervious surfaces associated with the facility. A dry detention basin will be located adjacent to the larger bioretention basin, to provide sufficient detention to control stormwater runoff rates from the site during the 1, 10 and 100 year storm events such that there will be no increases in volume or rate of stormwater discharge from the property. Stormwater conveyance swales on the uphill side of the proposed access drive, in combination with culverts, will divert runoff from upland wooded areas away from the proposed stormwater management practices, to maintain pre-development drainage patterns to the extent possible.

The property for the Highland CS has several thousand feet of frontage on Route 12/55; however, the facility will be set back from the road more than 2,000 feet which is far enough so that the grade of the terrain and existing wooded vegetation provides adequate visual screening for the facility from the road. No additional screening is proposed. The outdoor lighting for the new compressor station will be limited during un-manned night time operation to the minimum amount required for security. The station security system incorporates outdoor video cameras that must have sufficient outdoor lighting to record clear images at night. The station main gate along with the station yard and all building entry and exit doors will have lighting for security. These lights will have directional control or they will be positioned in a manner that minimizes their visibility in the direction of local residences.

#### Hancock CS (Modified)

Millennium proposes to add a new Solar Titan 130E compressor unit, totaling 22,400 hp and to re-stage the existing Solar Mars compressors (15,900 hp) at its existing Hancock CS in Delaware County, New York. Installation of the new compressor unit will require construction of a new compressor building and auxiliary building. The modifications will also include installation of gas after-coolers; filter separator; additional Motor Control Center cabinets; an additional emergency generator; fuel gas heater; valves, etc., some of which may be built outside of the current station footprint. Minor construction will be required to upgrade the existing electric power utility service into the station, but no new rights-of-way are required for the upgrade. No additional visual screening is planned beyond existing on-site visual screening. The outdoor lighting for the existing compressor station is limited during un-manned night time operation to the minimum amount required for security. The station security system incorporates outdoor video cameras that must have sufficient outdoor lighting to record clear images at night. New outdoor lighting may be required in the area around the new compressor building. If new lights are installed, the lights will have



directional control or they will be positioned in a manner that minimizes their visibility in the direction of local residences.

Stormwater runoff from the existing Hancock CS is conveyed to an existing, open stormwater basin. To treat stormwater from the proposed modifications, the existing stormwater management basin will be reconfigured and converted into a bioretention treatment area. Additionally, a new smaller bioretention area will be constructed adjacent to the gas coolers and access drive. The bioretention areas are designed to treat the runoff from the smaller/more frequent storm events; higher flows will bypass these areas and be conveyed to a detention basin, which will provide detention storage of stormwater runoff from the 1, 10 and 100 year storm events. Post-developed stormwater runoff rates will be controlled to existing condition rates, or less.

### Meter Stations

#### Wagoner Interconnect (Modified)

Work at the existing Wagoner Interconnect will include the removal of one indirect 6,900,000 British thermal units per hour, line heater. The removed indirect heater will be relocated to the Huguenot M&R (see below). All work to remove the heater will take place within the existing fenced station area, and Millennium will use the existing permanent access road to access the site and remove equipment from the site. The heater and associated piping are located above ground, no below ground excavation is proposed. Relocation of the heater will allow gas to be heated at the Huguenot M&R, before regulation into Millennium's existing 24-inch pipeline.

#### Huguenot M&R (Modified)

Work at the existing Huguenot M&R will include the removal of the existing Millennium 30-inch pipeline receiver stub-up piping assembly and the extension of the 30-inch Millennium pipeline across the meter yard and ultimately to the new 30-inch receiver facility located at MP 0.1. Work will also include the installation of new regulator facilities to reduce the maximum allowable operating pressure from the existing Millennium 30-inch pipeline (1,200 psig) to the existing Millennium 24-inch pipeline (920 psig), the installation of a new permanent 24-inch pig launcher barrel to the existing Millennium 24-inch launcher piping assembly, and installation of the indirect heater relocated from the Wagoner Interconnect. All new facilities will be located within the existing Huguenot M&R site except for the extension of the 30-inch pipeline to the new Pig Launcher / Receiver at MP 0.1, and the new indirect heater. Millennium is currently in the process of modifying the existing permanent easement agreement from the landowner for the new land required at the Huguenot M&R.

#### Westtown M&R (Modified)

Work at the existing Westtown M&R will include the installation of a new 36-inch pig receiver facility at the terminus of the new 36-inch Huguenot Loop line. The existing Westtown M&R site will be expanded by adding a 35 foot wide by 125 foot long extension to the west side of the existing Westtown M&R fenced-in site. Work will also include the installation of a new 24-inch pig receiver barrel to the existing Millennium 24-inch pig receiver stub-up piping assembly, a new 30-inch pig launcher barrel to the existing



Millennium 30-inch pig launcher stub-up piping assembly, and adding overpressure protection facilities to protect the existing 24-inch Millennium pipeline Maximum Allowable Operating Pressure, all within the existing Westtown M&R site. Millennium is currently in the process of modifying the existing permanent easement agreement from the landowner for the new land required at the Westtown M&R.

#### Ramapo M&R (Modified)

The existing Ramapo M&R is located at Millennium's interconnect with the Algonquin pipeline system approximately one half-mile southwest of the Algonquin right-of-way crossing of Sky Meadow Road in Ramapo, New York. The proposed modifications would be generally located within the limits of the meter station facility and includes a new filter/separator, over pressure protection/back feed to existing facility, in-line heater, and ultrasonic meters and flow/pressure control valves to control the required capacity of natural gas through the station.

Millennium intends to use the permanent access road to the station for the period of construction and for operation. The existing 20-foot wide permanent access road will require some tree clearing for maintenance of the existing road. Additionally, Millennium proposes to widen the entrance of the access road from Sky Meadow Road. Millennium is also currently in the process of obtaining a permanent easement from Orange County for placement of the new filter/separators and/or other new equipment, including but not limited to new meters, heater, flow and pressure control regulation.

#### Additional Aboveground Facilities

##### Launcher and Receiver (MP 0.1)

A new 30-inch pig receiver facility and a new 36-inch pig launcher facility for the Huguenot Loop will be installed along the existing Millennium 24-inch pipeline right-of-way at MP 0.1. This new facility site is required because there is insufficient room at the existing Huguenot M&R to accommodate the new receiver / launcher facilities. The new facility is located partially within Millennium's existing / proposed permanent easement. The launcher / receiver facility will be fenced. A gravel pad will be located outside of the facility fence, on either end of the facility, to provide for occasional access to the facility during operations.

##### Alternate Interconnect (MP 7.6)

A 12-inch side tap will be installed on the 36-inch Huguenot Loop and tied into the 16-inch Valley Lateral to provide an alternate interconnect to supply gas to the Valley Lateral in the event that the 24-inch Millennium pipeline is out-of-service. This facility will be a below grade valve with only an extension stem/wheel operator located above grade. There will be no security fence or crushed rock at this location. It will be located on land owned by Millennium and currently maintained for the existing Millennium Pipeline right-of-way. Additional facilities will include approximately 300 feet of 12-inch lateral and a 12-inch connection to the proposed 16-inch Valley Lateral pipeline launcher facilities.

##### Cathodic Protection

An existing cathodic protection system is in place on the Millennium Pipeline and will be expanded for the proposed Huguenot Loop. Cathodic protection equipment, such as rectifiers, test leads, and anode beds



needed for the Project will be installed along the Huguenot Loop, and aboveground test stations will be established within Millennium's permanent easement to gather accurate information for potential current adjustments. Two new cathodic protection ground beds will be required along the Huguenot Loop. One ground bed is located in an open field adjacent to State Route 6 near approximate MP 5.0, and will extend outside Millennium's existing permanent easement. The second ground bed is located in disturbed, open land adjacent to Shinhollow Road, and will also extend outside Millennium's existing permanent easement. Millennium will obtain new permanent easement for the ground bed areas. In addition a new rectifier and ground bed (or deep anode bed well) will be installed at the Highland CS to protect the station piping.

## ANTICIPATED CONSTRUCTION SCHEDULE

An anticipated Project schedule is included as Attachment D. As identified in Attachment D, Millennium anticipates starting construction of the Project on December 20, 2017. Millennium's Application to FERC (July 2016) originally anticipated commencing Project activities in September 2017. The revised dates shown in the Project schedule in Attachment D reflect the actual issue date of the Certificate Order for the Project, and anticipated issue dates of the remaining New York State Department of Environmental Conservation (NYSDEC) and local approvals (see Attachment E).

## PROJECT MODIFICATIONS

Project facility locations are shown in the EA, except as identified below and reflected on the revised survey alignment sheets for the Project facilities, as depicted in Attachment C1 to this Implementation Plan. The majority of changes depicted in the revised alignment sheets reflect the incorporation of modified construction techniques to avoid impacts to waterbodies and wetlands in response to comments from the NYSDEC. Other modifications are required for Project design reasons. Specifically, Millennium incorporated one new conventional bore and one new HDD as part of the Project to minimize impacts on waterbodies and wetlands. Millennium also made several additional minor modifications to the Project, as described below and depicted on the attached alignment sheets and drawings.

The revised alignment sheets and drawings for the Project depicting workspace changes made since the issuance of the EA are described below:

- Addition of a second cathodic protection bed at MP 1.65;
- Increase in pipeline burial depth beneath the bed of stream S-12 (MP 2.5) to mitigate for potential scour;
- Additional water withdrawal (MP 4.97) and discharge (MP 7.55) for the Rutgers Creek HDD;
- Extension of proposed cathodic protection bed at MP 5.02;
- Incorporation of HDD 4 (MP 7.18 to MP 7.41), further minimizing impacts on Rutgers Creek (S-03), wetland W-06, and agricultural fields;
- Increase in pipeline burial depth beneath the bed of stream S-01 (MP 7.72) to mitigate for potential scour;



- Incorporation of conventional bore (MP 7.72 – MP 7.73), further minimizing impacts on a tributary to Rutgers Creek (S-01);
- Addition of a bridged equipment crossing over an existing culvert crossing across stream S-01 and removal of a the equipment crossing for stream S-02 within Staging Area 4, further minimizing impacts on tributaries to Rutgers Creek;
- Addition of ATWS at the Westtown M&R to accommodate the conventional bore and construction of station modifications;
- Minor reconfiguration of station elements within the proposed workspace for the Ramapo M&R;
- Minor relocation of the combustion turbine exhaust stack at the Highland CS; and,
- Addition of a temporary construction access road within the previously identified workspace limits for the Hancock CS.

Attachment C2 includes a table outlining each modified or new workspace area and provides a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. Each of the workspace modifications are identified on the updated alignment sheets or aboveground facility drawing using a cloud outline to differentiate the modification and assist the Director of OEP in its evaluation. Millennium has made these changes either through consultation with NYSDEC, or for Project design reasons and the changes do not result in significant environmental impact. The modifications have been incorporated into the 2017 construction alignment sheets and drawings contained in Appendix C1.

Consistent with Conditions 4 and 5 in the Order, **Millennium requests that the Director of OEP review and approve these modifications to the Project workspace.**

## **IMPLEMENTATION OF CERTIFICATE ORDER ENVIRONMENTAL CONDITIONS**

Millennium has included as Attachment A an Environmental Conditions Compliance Tracking Table with this IP to facilitate review of the status of the individual environmental certificate conditions and FERC approval status. The numbering sequence in the Tracking Table and throughout the IP follows that presented in the Order. Upon receipt of written authorization from the Director of the OEP, Millennium will commence Project-related activities.

### Condition 1

*Millennium shall follow the construction procedures and mitigation measures described in its applications and supplements (including responses to staff data requests) and as identified in the Environmental Assessment (EA), unless modified by the Order. Millennium must:*

- a. *request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);*
- b. *justify each modification relative to site-specific conditions;*



- 
- c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and*
  - d. receive approval in writing from the Director of the OEP **before using that modification.***

### **Compliance Statement**

Millennium will follow the construction procedures and mitigation measures described in its application and supplements, including responses to staff data requests and as identified in the EA. Should Millennium desire a modification to any of these procedures, measures, or conditions, Millennium will request such modification and provide the necessary justification relative to site-specific conditions, and provide an explanation of the equal or greater environmental protection afforded by said modification. Millennium will receive written approval from the Director of OEP before implementing said modification(s).



## Condition 2

*The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Project. This authority shall allow:*

- a. the modification of conditions of the Order;*
- b. stop-work authority; and*
- c. the imposition of any additional measures deemed necessary to assure continued compliance with the intent of the conditions as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from Project construction and operation.*

## **Compliance Statement**

Millennium acknowledges that the Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Project. This authority shall allow:

- a. the modification of conditions of the Order;
- b. stop-work authority; and
- c. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from Project construction and operation.



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### Condition 3

*Prior to any construction, Millennium shall file an affirmative statement with the Secretary, certified by senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel would be informed of the EIs' authority and have been or would be trained on the implementation of the environmental mitigation measures appropriate to their jobs before becoming involved with construction and restoration activities.*

### Compliance Statement

Millennium has included an affirmative statement signed by a senior company official (**Attachment B**), which certifies that all company and contract personnel will be informed of the EI's authority and have been, or will be adequately trained on the implementation of the environmental mitigation measures appropriate to their jobs before becoming involved with construction and restoration activities.



#### Condition 4

*The authorized facility locations shall be as shown in the EA, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, Millennium shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.*

*Millennium's exercise of eminent domain authority granted under the Natural Gas Act (NGA) Section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Millennium's right of eminent domain granted under NGA Section 7(h) does not authorize it to increase the size of its natural gas pipelines or aboveground facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.*

#### Compliance Statement

Millennium verifies that facilities locations shall be shown as in the EA, except as identified above in the Project Modifications section. These changes are also reflected on the revised survey alignment sheets for the Project facilities attached as Attachment C1 to this Implementation Plan.

Modified or new workspace areas are noted in the Project Modifications section and described in Attachment C2. As explained in the Project Modifications section, Attachment C2 provides a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. With the exception of these proposed modifications, no other modifications have been made since the EA was issued.

Millennium will submit written requests for Commission approval for any further modifications to the Project, including survey maps/sheets, in compliance with Conditions 1 and 4. These requests will reference the location of any such modifications on the applicable alignment sheet(s) or plot plan(s).

Millennium acknowledges that any exercise of eminent domain authority granted to Millennium under NGA Section 7(h) in any condemnation proceeding related to the Order will be consistent with authorized facilities and locations in the Order. Millennium is aware that its right of eminent domain granted under NGA Section 7(h) does not authorize Millennium to increase the size of its natural gas pipeline to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.



## Condition 5

*Millennium shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, contractor/pipe yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area.***

*This requirement does not apply to extra workspace allowed by the FERC Plan, and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.*

*Examples of alterations requiring approval include all route realignments and facility location changes resulting from:*

- a. implementation of cultural resources mitigation measures;*
- b. implementation of endangered, threatened, or special concern species mitigation measures;*
- c. recommendations by state regulatory authorities; and*
- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.*

## Compliance Statement

Millennium has incorporated the minor temporary workspace additions identified above under Condition 4 for use during construction and operation of the Project. These areas to be disturbed have not been previously identified in filings with the Secretary.

Since these Project modifications occurred subsequent to the issuance of the Certificate, Millennium is filing the following with the Secretary:

- a. Detailed alignment maps or sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all proposed modifications (Filed as Attachment C1).
- b. A description of the existing land use or cover type (Filed as Attachment C2).
- c. Documentation of landowner approval – Survey is 100 percent complete for the Project.
- d. Whether any cultural resources or federally listed threatened or endangered species would be affected.

No cultural resources would be affected by the requested modifications. Millennium submitted the review package for the Project to the New York Bureau of Parks, Recreation, and Historic



Preservation (NYS OPRHP) in May 2016, Millennium continued consultation, and submitted the Architectural Survey and Revised Phase IA/IB Archaeological Survey Reports in July 2016. NYS OPRHP responded on August 9, 2016 identifying that there was insufficient information regarding three areas of potential effect (APE): 07107.000041, 07107.000043, and 07105.000147 that they were in fact located outside of the Project's area. NYS OPRHP also responded that there was insufficient information regarding Site 07105.000148 eligibility for the State and/or National Registers of Historic Places (S/NRHP). Millennium responded to these comments, provided avoidance plans, where applicable, and NYS OPRHP issued its concurrence on December 9, 2016. Millennium subsequently requested no effect concurrence from NYS OPRHP for the new cathodic bed area at MP 1.65 and for the extended cathodic bed area at MP 5.02 on November 29, 2017 (see Attachment I – Privileged and Confidential). Concurrence for these workspace areas was received on December 6, 2017 (see Attachment F).

No federally listed endangered or threatened species will be affected by the requested modifications. Surveys for federally listed threatened or endangered species are complete for the Project, including areas covered by the requested modifications. Millennium submitted the review package for the Project to the U.S. Fish and Wildlife Service (USFWS) in May 2016, continued consultation and addressed comments from a USFWS letter dated May 30, 2017. Clearance from USFWS was ultimately issued on July 19, 2017. The new cathodic bed area at MP 1.65 and the extended cathodic bed area at MP 5.02 are located within the review area for which clearance from the USFWS was issued on July 19, 2017.

- e. Whether any other environmentally sensitive areas are within or abutting the area

Millennium conducted wetland and waterbody surveys within and adjacent to the proposed workspace areas. Environmentally sensitive areas abutting workspace are identified in the Table in Attachment C2. Millennium proposes to avoid or minimize impacts on the environmentally sensitive areas by implementing its Environmental Construction Standards, and by using the HDD and conventional bore construction methods.

**Millennium requests use of these workspace areas during construction of the Project. Millennium will not use these areas until they have been approved in writing by the Director of OEP.**



## Condition 6

*Within 60 days of the acceptance of the Certificate and before construction begins, Millennium shall file an initial Implementation Plan with the Secretary for review and written approval by the Director of OEP. Millennium must file revisions to the plan as schedules change. The plan shall identify:*

- a. *how Millennium will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;*
- b. *how Millennium will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;*
- c. *the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;*
- d. *company personnel, including EIs and contractors, who will receive copies of the appropriate materials;*
- e. *the location and dates of the environmental compliance training and instructions Millennium will give to all personnel involved with construction and restoration (initial and refresher training as the Projects progress and personnel change);*
- f. *the company personnel and specific portion of Millennium's organization having responsibility for compliance;*
- g. *the procedures (including use of contract penalties) Millennium will follow if noncompliance occurs; and*
- h. *for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:*
  - (1) *the completion of all required surveys and reports;*
  - (2) *the environmental compliance training of onsite personnel;*
  - (3) *the start of construction; and*
  - (4) *the start and completion of restoration.*

## Compliance Statement

Millennium is filing this Implementation Plan with the Secretary for review and written approval by the Director of OEP. Millennium will file revisions and/or updates to this Implementation Plan as needed. Millennium's compliance with each of the seven specific conditions of Condition 6 (i.e., Conditions 6.a to 6.h) is detailed below.

### a. Implementation of Procedures and Mitigation Measures

Prior to construction, Millennium will compile a package of all permits, plans and compliance documentation in a "permit book" that will be issued to all company and contractor supervisory personnel, including the EIs. The permit book will be distributed during the environmental training program (described below in Section 6.e.) and will be required to be kept onsite at all times by applicable personnel. The permit book will contain all of the federal, state, and local permits, authorizations, and clearances that



were obtained for the Project. In addition to the permits, the permit book will include the Project Environmental Construction Standards including Millennium's Spill Prevention and Response Procedures.

b. Incorporation of FERC requirements in Contract Bid Documents

Millennium will implement the mitigation measures required by the Order by including the various specifications, drawings, terms and conditions in the Contract Documents. Special mitigation measures such as training, special construction areas, amendments to address FERC conditions, State site-specific conditions, and other requirements will be incorporated into the Contract Document. Locations of various proposed environmental mitigation measures, where applicable, will be included on the construction alignment sheets and other detailed drawings to form one complete set of Construction Drawings for the Project.

c. Environmental Inspectors (EI)

Millennium will employ at least one EI for construction of the Project. A Company Environmental Coordinator (EC) will oversee the activities of the Lead and staff EIs and will ensure that sufficient personnel are made available to implement the environmental mitigation program. The Environmental Project Manager, located in Millennium's Office in Houston, Texas will serve as corporate liaison, ensuring that all corporate resources needed to successfully implement all environmental conditions and measures are made available to the Project.

During peak construction, Millennium's environmental inspection program will also include a Utility Inspector. The Utility Inspector is responsible for ensuring, confirming and documenting that construction is executed according to Millennium's specifications and all federal and state codes and regulations. In addition, the Construction Contractor will have a Contractor Environmental Coordinator (Contractor EC).

The EI will have the primary on-site authority and responsibility for ensuring contractor compliance with the various environmental mitigation measures for the assigned spread. In coordinating the efforts of the EI, the Company EC will consult with the Millennium Construction Superintendents and Chief Inspectors on a daily basis. The Craft/Utility Inspectors will have secondary authority and critical responsibility to ensure that their assigned activities are performed in compliance with the various environmental mitigation measures. The EI will be available for consultation with the Craft/Utility Inspectors when questions arise. Millennium will provide all these individuals with appropriate environmental training.

d. Environmental Material Distribution

Millennium will provide relevant environmental documents and information to all personnel involved with the construction process, including Company and Contractor Officers, both Company and Contractor ECs, EIs, Utility Inspectors, Chief Inspectors, and Construction Contractor Superintendents and foremen. In addition, copies of the Contract Specifications will be available at Millennium's offices in Houston, Texas as well as at Millennium's Project office in Slate Hill, New York. Similarly, the Contractor will be provided sufficient copies of the Contract Specifications to maintain reference sets at its home and field offices. Additional copies will be made available to other Company departments, such as Operations and Right-of-Way. Other Contractor personnel will be provided environmental materials on an as-needed basis and will be informed as to where additional materials will be maintained at the Contractor's office.



e. Environmental Training

Millennium will conduct a comprehensive environmental training program, which will include the following modules:

- Supervisory Staff Training;
- General Personnel Training (Crew Training); and
- Specialized Personnel Training (e.g., development and use of pipeyards, residential construction and site-specific residential construction plans, etc.)

As part of this training program, an Environmental Training Handbook outlining the key components of Millennium's environmental compliance protocols for projects under the jurisdiction of the Commission will be provided to all supervisory and key construction personnel. Millennium anticipates that initial Environmental Training will occur in mid- December 2017, starting at the Hancock and Highland Compressor Stations on December 19, 2017. Environmental Training for the Huguenot Loop and Ramapo M&R facilities will be scheduled shortly after training for the compressor station sites is complete.

Other supporting materials will include:

- A hardhat decal (to certify training attendance),
- Sign-in sheets/certification statement, and
- Tailgate training handouts (e.g., erosion control details, protected species/resources descriptions, and waterbody/wetland protection requirements).

*Supervisory Staff Training*

A supervisory staff training program will be provided immediately before the start of pipeline construction. Attendees will include Millennium inspectors (i.e., EIs, Chief Inspectors, and Craft/Utility Inspectors) as well as key Contractor personnel, including the Construction Superintendent, the Contractor's ECs, Environmental Foremen and the Crew Foremen. Other individuals attending include other supervisory personnel, construction and environmental management staff, contractor staff in supervisory roles, and agency representatives. During this training, the following topics will be included among those that will be addressed:

- Environmental Inspection Program
- FERC 3<sup>rd</sup> Party Monitoring Program
- Variance Request Process
- Environmental Compliance Management
- Agency Representation and Concerns
- Environmental Protective Measures outlined in the Order, FERC's Plan and Procedures, and Millennium's Spill Prevention and Response Procedures and requirements of other Federal and State Agency Permits
- Key Project-Specific Environmental Concerns.



### *General Personnel Training*

In addition to the supervisory staff training, Millennium will provide an environmental training program for all construction personnel working on the Project, as well as survey staff, agency representatives, and visitors to the job site. Millennium's EIs and other qualified staff will deliver this mandatory training in the field. This training will discuss the role of the EIs and the requirements in the FERC Plan and Procedures, highlight key environmental obligations related to the Project, and underscore Millennium's expectations for environmental compliance from all Project personnel. This training will be conducted throughout construction as new personnel or visitors arrive on-site.

### *Specialized Personnel Training (for example, contractor yards, residential, etc.)*

Short training sessions will be conducted at each contractor yard and other areas, as appropriate, before construction activities begin in those areas. All Project personnel involved in construction activities in these areas will be required to attend. Millennium's EC or EIs will conduct the trainings on-site prior to initiating work. Key environmental concerns and requirements, including installation and maintenance of erosion controls, procedures specified in Millennium's Spill Prevention and Response Procedures, and workspace limits will be emphasized. Site- and topic-specific training handouts will be provided.

#### f. Eastern System Upgrade Organization

Millennium's Project office in Slate Hill, New York and regional office in Houston, Texas will share the primary responsibilities of ensuring that construction is performed in compliance with all terms and conditions of the Contract Documents, the various environmental measures required by the Commission's Order, and all applicable federal and state agencies' regulations. Key personnel for the Project are as follows.

Project Director:	Bruce Page
Construction Manager:	Randy Parker
Environmental Project Manager:	Randy Parker
Pipeline Construction Superintendent:	TBD
Highland CS Construction Superintendent:	TBD
Hancock CS Construction Superintendent:	TBD
Ramapo M&R Construction Superintendent:	TBD
Construction Environmental Coordinators:	TBD
Right-of-Way Manager:	James Wilson

#### g. Noncompliance

If a noncompliance event occurs, the on-site EI or Utility Inspectors will initially consult the Contractor Crew Foreman or other Contractor Supervisor personnel regarding the noncompliance issue and appropriate corrective action to be implemented. Upon reaching agreement on a plan of action, the Contractor Crew Foreman will initiate the corrective action and resolve the noncompliance immediately. In cases where it appears a timely agreement cannot be reached between the EI and Contractor Crew Foreman, the EI and EC will contact the Contractor's Project Superintendent and the FERC Third-Party Monitor to resolve the situation. In addition, the Environmental Inspectors will document the issue of noncompliance, the



corrective measure that was implemented (or the date the measure will be implemented), and whether the corrective measure was successful, for inclusion in the status reports submitted to the Commission.

Millennium's Contract Document has numerous provisions for avoiding noncompliance and facilitating resolution in the event of noncompliance by the Contractor. For example, the Contract requires the Contractor to perform in compliance with all laws and address all regulations and permit/clearance conditions. The Contractor has the obligation to correct/repair all work not in compliance in as timely a fashion as possible. Millennium may also remove personnel (either Contractor or inspection personnel) from the Project if their performance does not meet the environmental permit and/or contract requirements or, most importantly, Project and Millennium's compliance expectations. Millennium believes that diligent administration and enforcement of the terms of the Contract Document will adequately ensure compliance with the conditions of the Order.

#### h. Construction Schedule

A schedule for the start of construction and restoration activities, the completion of restoration activities, and the environmental compliance training of on-site personnel for the Project's facilities is provided in Attachment D. With filing of the cultural resources addendum report (Attachment I – Privileged and Confidential), all required surveys and reports have been completed for the facilities associated with this Implementation Plan.

**Condition 7**

*Millennium shall employ at least one EI per construction spread. The EIs shall be:*

- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;*
- b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see Condition 6 above) and any other authorizing document;*
- c. empowered to order the correction of acts that violate the environmental conditions of the Order, and any other authorizing document;*
- d. a full-time position, separate from all other activity inspectors;*
- e. responsible for documenting compliance with the environmental conditions of that Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and*
- f. responsible for maintaining status reports.*

**Compliance Statement**

Millennium will employ at least one EI for the Project (one construction spread). The EI(s) will be:

- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
- b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see Condition 6 above) and any other authorizing document;
- c. empowered to order the correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
- d. a full-time position, separate from all other activity inspectors;
- e. responsible for documenting compliance with the environmental conditions of that Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
- f. responsible for maintaining status reports.



## Condition 8

*Beginning with the filing of its Implementation Plan, Millennium shall file updated status reports with the Secretary on a **biweekly basis until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:*

- a. an update on Millennium's efforts to obtain the necessary federal authorizations;*
- b. the construction status of the Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;*
- c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);*
- d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;*
- e. the effectiveness of all corrective actions implemented;*
- f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and*
- g. copies of any correspondence received by Millennium from other federal, state, or local permitting agencies concerning instances of noncompliance, and Millennium's response.*

## Compliance Statement

Millennium will file biweekly status reports with the Secretary throughout the Project until all construction and restoration activities are completed. These reports will be made available to other federal and state agencies with permitting responsibilities upon request. The status reports will address the following compliance measures:

- a. An update on Millennium's efforts to obtain the necessary federal authorizations;
- b. The current construction status of the Project, work planned for the following reporting period, and schedule changes for stream crossings or work in other environmentally sensitive areas;
- c. A listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions or permit requirements imposed by other federal, state, or local agencies);
- d. A description of corrective actions implemented in response to all instances of noncompliance, and their cost;
- e. The effectiveness of all corrective actions implemented;
- f. A description of any landowner or resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
- g. Copies of any correspondence received by Millennium from other federal, state, or local permitting agencies concerning instances of noncompliance, and Millennium's response.

Beginning with the filing of this Implementation Plan, Millennium shall file with the Secretary updated status reports on a **biweekly** basis for the Eastern System Upgrade until all construction and restoration activities are complete.



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**Condition 9**

***Millennium must receive written authorization from the Director of OEP before commencing construction of any Project facilities. To obtain such authorization, Millennium must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).***

**Compliance Statement**

Millennium acknowledges that it must receive written authorization from the Director of the OEP before commencing construction of Project facilities at each location.

Millennium has included a summary of the federal authorizations received as of the date of filing this Implementation Plan, as Attachment E to this Implementation Plan, documenting the status of all applicable federal permits and approvals by Project facility. All applicable authorizations required under federal law have been obtained for the Project. Authorizations received to date are included in Attachment F. Millennium will request, in writing, authorization from the Director of OEP before commencing construction on the Project facilities.



Condition 10

*Millennium must receive written authorization from the Director of OEP **before placing the Project into service.** Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Project are proceeding satisfactorily.*

**Compliance Statement**

Millennium acknowledges that it will not place the Eastern System Upgrade facilities into service until the Director of OEP issues written authorization following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Project are proceeding satisfactorily.



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## Condition 11

*Within 30 days of placing the authorized facilities in service, Millennium shall file an affirmative statement with the Secretary, certified by a senior company official:*

- a. that the facilities have been constructed and installed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or*
- b. identifying which of the conditions in the Order Millennium has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.*

## **Compliance Statement**

Millennium will file an affirmative statement certified by a senior company official containing the information listed in Conditions 11.a. and 11.b. **within 30 days of placing the authorized facilities in service.**



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**Condition 12**

*Millennium shall offer to conduct, with the well owner's permission, pre- and post-construction monitoring of well yield and water quality for wells within 150 feet of construction workspace.*

**Compliance Statement**

Millennium mailed a form letter on December 1, 2017 to landowners with water wells within 150 feet of the construction workspace, offering pre- and post- construction water well testing. The letter notifies landowners that they may have an active water well within 150 feet of the proposed construction workspace or new permanent easement for the pipeline and requests permission for a 3<sup>rd</sup> party private firm to perform pre- and post-construction testing on the water source. The Millennium contact to request water well testing provided in the letter is James Wilson, Construction Manager, including a telephone number and electronic mail address (see Attachment J – Landowner Documentation, filed as CUI//PRIV, NOT FOR PUBLIC RELEASE).

**Condition 13**

*Prior to construction, Millennium shall file with the Secretary documentation of its consultation regarding Project construction and operation within the Huckleberry Ridge State Forest, including any specific procedures Millennium will implement or permits identified by the NYSDEC.*

**Compliance Statement**

In consultation with NYSDEC, Millennium has committed to restoring the streambank of Shin Hollow Brook at MP 2.5, within the Huckleberry Ridge State Forest, subsequent to installation of the pipeline. The existing stream has been significantly disturbed by off-road vehicles. A site-specific drawing for the crossing of Shin Hollow Brook at MP 2.5 is included in the oversized Project drawings issued for this implementation Plan (Attachment C1, Drawing sheet ESC 2). A note is included on the drawing stating that the portion of the existing streambank that is currently degraded due to off-road vehicle activity will be restored to conditions similar to the adjacent undisturbed banks. Post-construction monitoring at this location will assess success of the restoration efforts, and measures will be implemented across the permanent easement to deter future use of the area by off-road vehicles. Documentation of this consultation with NYSDEC was filed with the Commission on March 8, 2017 [FERC Accession Number 20170308-5241]. Drawing ESC 2 was included as part of Millennium's application for a Joint Permit to NYSDEC, and approval of that application dated August 24, 2017 is provided in Appendix F.



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**Condition 14**

*Prior to construction, Millennium shall file with the Secretary documentation of its consultations regarding Project construction and operation within private parcels protected under conservation easements, including any specific procedures Millennium will implement as identified in coordination with The Nature Conservancy.*

**Compliance Statement**

Millennium has completed consultation regarding Project construction and operation within private parcels protected under conservation easements. In coordination with The Nature Conservancy, Millennium has developed and agreed to specific restoration measures for those parcels as part of a Site Restoration Plan. Millennium specifically incorporates the Site Restoration Plan into this Implementation Plan and attaches it as part of Attachment F – Project Correspondence.



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**Condition 15**

*Prior to construction using any drilling equipment or performing entry-side activity at MP 3.8 of the Mountain Road/Bedell Drive HDD, Millennium shall file with the Secretary for review and written approval by the Director of the OEP, a revised HDD noise assessment for entry-side activity at MP 3.8 and an estimate of the number of days/weeks/months required to complete the HDD. If the results of the assessment show that the noise levels would exceed 55 dBA  $L_{dm}$  at any NSA, Millennium shall file a noise mitigation plan that identifies all reasonable measures Millennium commits to implementing to reduce noise levels attributable to the proposed drilling operations at NSAs, and the resulting noise levels at each NSA with mitigation.*

**Compliance Statement**

A revised HDD Construction Noise Assessment (Dated June 30, 2017) including entry-side activity at MP 3.8 (HDD #3B) is included in Attachment G. The report states that Millennium intends to employ a 24-hour per day HDD construction schedule. The results of the analysis indicates that the estimated Ldn sound level for 24-hour operation exceeds the FERC guideline of 55dBA Ldn for a 24 hour drilling schedule at the entry point (NW of Bedell Drive). With respect to 24-hour or daytime only operations, Millennium will determine with the selected HDD contractor what hours will be worked prior to commencement of the HDD. At a minimum, Millennium will employ a residential-grade exhaust silencer on all engines associated with the site equipment (e.g., generators, pumps, and hydraulic power unit). A 16 foot high barrier on three sides of the entry site equipment (i.e., northeast, east, and southeast sides) will also be installed. Millennium will submit additional noise control measures and noise control strategies for the HDD #3B entry side prior to commencement of the HDD. Millennium anticipates providing this information to FERC by March 1, 2018.



## Condition 16

*Millennium shall make all reasonable efforts to ensure its predicted impact on noise levels from the new Highland Compressor Station and modified Hancock Compressor Station are not exceeded at nearby NSAs, and file noise surveys showing this with the Secretary **no later than 60 days** after placing each station into service. If a full load condition noise survey of the entire stations is not possible, Millennium shall file an interim survey at the maximum possible horsepower and file the full load survey **within 6 months**. If the noise attributable to the operation all of the equipment at either compressor station under full or interim horsepower load conditions exceeds an  $L_{dn}$  of 55 dBA at any nearby NSA, Millennium shall file a report on what changes are needed and shall install additional noise controls measures to meet the level **within 1 year** of the in-service date. Millennium shall confirm compliance with this requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.*

## Compliance Statement

Millennium will file noise surveys showing levels from the new Highland and modified Hancock Compressor Stations with the Secretary **no later than 60 days** after placing each into service. If noise levels exceed  $L_{dn}$  of 55 dBA, Millennium will file a report on what changes are needed and shall install additional noise controls measures to meet the level **within 1 year** of the in-service date. If additional noise controls are installed, Millennium will confirm compliance with this requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional controls.



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#### Condition 17

*Millennium shall file noise surveys with the Secretary **no later than 60 days** after placing the modified Ramapo and Huguenot Meter Stations in service. If the noise attributable to the operation of either meter station exceeds the previously existing noise levels at any nearby NSAs that are currently at or above an  $L_{dn}$  of 55 dBA, or exceeds 55 dBA  $L_{dn}$  at any nearby NSAs that are currently below 55dBA  $L_{dn}$ , Millennium shall file a report on what changes are needed and shall install the additional noise controls to meet the requirements **within 1 year** of the in-service date. Millennium shall confirm compliance with the above requirement by filing a second sound level survey with the Secretary **no later than 60 days** after it installs the additional noise controls.*

#### Compliance Statement

Millennium will file noise surveys showing levels from the modified Ramapo and Huguenot Meter Stations with the Secretary **no later than 60 days** after placing each into service. If noise levels exceed  $L_{dm}$  of 55 dBA, Millennium will file a report on what changes are needed and shall install additional noise controls measures to meet the level **within 1 year** of the in-service date. If additional noise controls are installed, Millennium will confirm compliance with this requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional controls.



Implementation Plan  
Eastern System Upgrade  
FERC Docket CP16-486-000

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## **ATTACHMENT D**

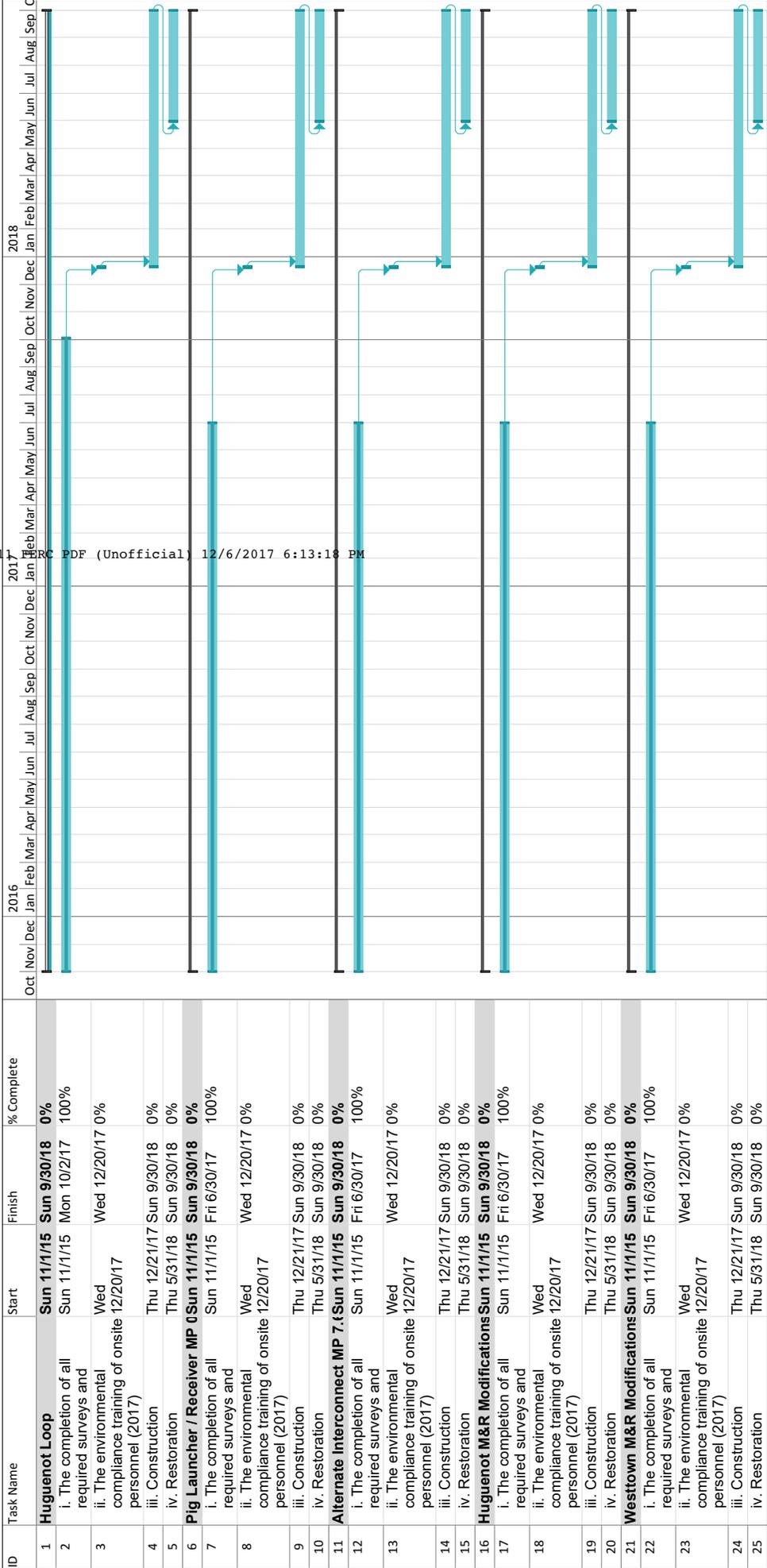
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### Project Schedule



Eastern System Upgrade - Schedule Overview  
December 2017

20171207-501 PDF (Unofficial) 12/6/2017 6:13:18 PM



Legend for Gantt chart symbols:

- Task**: Solid teal bar
- Split**: Dotted teal bar
- Milestone**: Teal diamond
- Summary**: Teal bracket
- Project Summary**:
  - External Tasks: Dotted teal bar
  - External Milestone: Teal diamond
  - Inactive Task: Grey bar
  - Inactive Milestone: Grey diamond
- Inactive Milestone**: Grey diamond
- Inactive Summary**: Grey bar
- Manual Task**: Teal bar with white fill
- Duration-only**: Teal bar with white fill
- Manual Summary Rollup**:
  - Manual Summary: Teal bar with white fill
  - Start-only: Teal bar with white fill
  - Finish-only: Teal bar with white fill
- Deadline**: Teal arrow
- Progress**: Teal bar with white fill
- Manual Progress**: Teal bar with white fill

Eastern System Upgrade - Schedule Overview  
December 2017



20171207-5017 PDF (Unofficial) 12/6/2017 6:13:18 PM

ID	Task Name	Start	Finish	% Complete	2016	2017	2018
26	<b>Wagoner Interconnect Modifications</b>	Sun 11/1/15	Sun 9/30/18	0%			
27	i. The completion of all required surveys and	Sun 11/1/15	Fri 6/30/17	100%			
28	ii. The environmental compliance training of onsite personnel (2017)	Wed 12/20/17	Wed 12/20/17	0%			
29	iii. Construction	Thu 12/21/17	Sun 9/30/18	0%			
30	iv. Restoration	Thu 5/31/18	Sun 9/30/18	0%			
31	<b>Ramapo M&amp;R Modifications</b>	Sun 11/1/15	Sun 9/30/18	0%			
32	i. The completion of all required surveys and	Sun 11/1/15	Fri 6/30/17	100%			
33	ii. The environmental compliance training of onsite personnel (2017)	Wed 12/20/17	Wed 12/20/17	0%			
34	iii. Construction	Thu 12/21/17	Sun 9/30/18	0%			
35	iv. Restoration	Thu 5/31/18	Sun 9/30/18	0%			
36	<b>Highland CS</b>	Sun 11/1/15	Mon 4/15/19	0%			
37	i. The completion of all required surveys and	Sun 11/1/15	Fri 6/30/17	100%			
38	ii. The environmental compliance training of onsite personnel (2017)	Tue 12/19/17	Tue 12/19/17	0%			
39	iii. Construction	Wed 12/20/17	Sun 9/30/18	0%			
40	iv. Restoration	Thu 5/31/18	Sun 9/30/18	0%			
41	<b>Hancock CS</b>	Sun 11/1/15	Sun 9/30/18	0%			
42	i. The completion of all required surveys and	Sun 11/1/15	Fri 6/30/17	100%			
43	ii. The environmental compliance training of onsite personnel (2017)	Tue 12/19/17	Tue 12/19/17	0%			
44	iii. Construction	Wed 12/20/17	Sun 9/30/18	0%			
45	iv. Restoration	Thu 5/31/18	Sun 9/30/18	0%			
46	NOTE: Environmental Compliance Training for the Huguenot Loop (Orange County Facilities) and Ramapo M&R to be scheduled shortly after the December 19, 2017 training for the Highland and Hancock Compressor Stations.			0%			

Legend for Schedule Overview:

- Task**: Solid teal bar
- Split**: Dotted teal bar
- Milestone**: Diamond symbol
- Summary**: Bracket symbol
- Project Summary**:
  - External Tasks: Dotted teal bar
  - External Milestone: Diamond symbol
  - Inactive Task: Solid grey bar
  - Inactive Milestone: Diamond symbol
- Inactive Milestone**:
  - Inactive Summary: Solid grey bar
  - Manual Task: Solid teal bar
  - Duration-only: Solid teal bar with vertical lines
- Manual Summary Rollup**:
  - Manual Summary: Solid teal bar
  - Start-only: Solid teal bar with left bracket
  - Finish-only: Solid teal bar with right bracket
- Deadline**:
  - Progress: Solid teal bar with vertical line
  - Manual Progress: Solid teal bar with vertical line and arrow



Implementation Plan  
Eastern System Upgrade  
FERC Docket CP16-486-000

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## **ATTACHMENT E**

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### Federal Authorization Status

**TABLE E**  
**Eastern System Upgrade - Permits and Approvals**

Agency and Contact Information	Permit/Consultation	Submittal Date	Approval Status
<b>FEDERAL</b>			
FERC	Certificate of Public Convenience and Necessity under Section 7(c) of the Natural Gas Act	Jul-16	Order Issuing Certificate issued November 28, 2017
U.S. Army Corps of Engineers New York District	Nationwide Permit - Section 404 of the Clean Water Act (CWA)	Jul-16	Authorization issued September 13, 2017
U.S. Fish & Wildlife Service	Consultation - Section 7 Endangered Species Act Consultation - Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act	May-16	Clearance issued July 19, 2017
National Oceanographic and Atmospheric Administration Habitat Conservation Division National Marine Fisheries Service	Consultation – Section 7 Endangered Species Act And Essential Fish Habitat	Jan-16	Clearance issued January 21, 2016
<b>NEW YORK</b>			
New York State Department of Environmental Conservation (NYSDEC)	Section 401 Water Quality Certification and New York Environmental Conservation Law Article 15 and Article 24 Permit	Aug-16	Certification and Permit Approvals issued August 24, 2017
NYSDEC	New York Environmental Conservation Law Article 11, Part 182 Determination	Aug-16	Determination issued August 30, 2017

**TABLE E**  
**Eastern System Upgrade - Permits and Approvals**

<b>Agency and Contact Information</b>	<b>Permit/Consultation</b>	<b>Submittal Date</b>	<b>Approval Status</b>
NYSDEC	Air State Facility Permit – Highland Compressor Station	Jul-16	Permit issued August 31, 2017
NYSDEC	Air State Facility Permit – Hancock Compressor Station	Jul-16	Permit issued August 31, 2017
NYSDEC	Air State Facility Permit Minor Modification – Ramapo Meter Station	May-17	Exempt Activity Notice issued May 15, 2017
New York Bureau of Parks, Recreation, and Historic Preservation	Consultation – Section 106 National Historic Preservation Act	May-16	Concurrence issued August 9, 2016, December 9, 2016, and December 6, 2017
NYSDEC	Coverage under State Pollutant Discharge Elimination System General Permit for Storm Water Discharges from Construction Activity General Permit No. GP-0-15-002 (SPDES GP Coverage) – Orange County Facilities	Aug-16	Acknowledgement issued August 30, 2017
NYSDEC	SPDES GP Coverage – Highland Compressor Station	Sep-16	Acknowledgement issued August 30, 2017
NYSDEC	SPDES GP Coverage – Hancock Compressor Station	Aug-16	Acknowledgement issued August 30, 2017
NYSDEC	SPDES GP Coverage – Ramapo Meter Station	Aug-16	Acknowledgement issued August 30, 2017
NYSDEC	Five Acre Waiver – Orange County Facilities	Aug-16	Pending

**TABLE E**  
**Eastern System Upgrade - Permits and Approvals**

<b>Agency and Contact Information</b>	<b>Permit/Consultation</b>	<b>Submittal Date</b>	<b>Approval Status</b>
NYSDEC	Five Acre Waiver – Highland Compressor Station	Sep-16	Authorized September 22, 2017
New York State Department of Agriculture and Markets	Consultation	Jan-16	Complete July 2016
New York State Department of Transportation	Accommodation of Utilities within State Highway Right-of-Way (Route 209)	Sep-17	Pending; in review
New York State Department of Transportation	Accommodation of Utilities within State Highway Right-of-Way (I-84)	Sep-17	Pending; in review
New York State Department of Transportation	Accommodation of Utilities within State Highway Right-of-Way (Route 6)	Sep-17	Pending; in review
New York State Department of Transportation	Temporary Driveway Permits (5).	Sep-17	Pending
New York State Department of Transportation	Existing; Permitted Access to be reviewed for Construction. TAR-0001, TAR-0008, TAR-0011, PAR-0001, PAR-0002.	Sep-17	Review completed, 5/6 driveways will require a permit, see above.
Delaware River Basin Commission	Project Review	Initiated January 2016	No substantial effect letter issued December 1, 2016
Orange County Department of Public Works	Temporary Driveway Permit Neversink Drive	Jul-17	Pending; in review
Orange County Department of Public Works	Temporary Driveway Permits (2) Mountain Road	Jul-17	Pending; in review

**TABLE E**  
**Eastern System Upgrade - Permits and Approvals**

Agency and Contact Information	Permit/Consultation	Submittal Date	Approval Status
Orange County Department of Public Works	Accommodation of Utilities within state right-of-way (Mountain Road)	Jul-17	Pending, in review
Sullivan County Department of Public Works	Driveway Permit Modification Highland CS	Not Applicable	Not Applicable
Town of Ramapo	Driveway Permit Modification Ramapo Meter	Not Applicable	Not Applicable
Town of Ramapo Department of Public Works	MS4 Storm-water Review	Aug-16	Accepted March 10, 2017
Town of Ramapo Codes Department	Building Permit Ramapo Facilities	Not Applicable	Not Applicable
Town of Deer park Highway Department	Temporary Driveway Permit Shin hollow Road	Dec-16	Received September 14, 2017
Town of Deer park Building Inspector	Building Permit Huguenot Facilities	Oct-17	Town Meeting August 27, 2017
Town of Greenville Highway Department	Temporary Driveway Permit Toad Pasture Road	Dec-16	Received June 19, 2017
Town of Minisink Highway Department	Temporary Driveway Permit Ridge Road	Dec-16	Received July 10, 2017
Town of Minisink Highway Department	Temporary Driveway Permit South Plank Road	Dec-16	Received July 10, 2017
<b>PRIVATE</b>			
Norfolk Southern Railroad	Accommodation of Utilities within Railroad right-of-way	Jul-17 (Resubmitted)	Final agreement is being negotiated between Norfolk Southern and Millennium

**TABLE E**  
**Eastern System Upgrade - Permits and Approvals**

Agency and Contact Information	Permit/Consultation	Submittal Date	Approval Status
Metro North Railroad	Accommodation of Utilities within Railroad right-of-way	Jul-17 (Resubmitted)	Design accepted by Metro North, Entry Permit is being written

# Exhibit C

161 FERC ¶ 61,229  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;  
Cheryl A. LaFleur, and Robert F. Powelson.

Millennium Pipeline Company, L.L.C.

Docket No. CP16-486-000

ORDER ISSUING CERTIFICATE

(Issued November 28, 2017)

1. On July 29, 2016, Millennium Pipeline Company, L.L.C. (Millennium) filed an application under section 7(c) of the Natural Gas Act (NGA)<sup>1</sup> and Part 157 of the Commission's regulations<sup>2</sup> for authorization to construct and operate the Eastern System Upgrade Project (Eastern System Upgrade), located in Orange, Sullivan, Delaware, and Rockland Counties, New York. The project is designed to provide up to 223,000 dekatherms per day (Dth/d) of firm transportation service.

2. For the reasons discussed below, the Commission grants Millennium's requested certificate authorization, subject to conditions.

**I. Background and Proposal**

3. Millennium, a Delaware limited liability company, is a natural gas company, as defined by section 2(6) of the NGA,<sup>3</sup> engaged in the transportation of natural gas in interstate commerce and subject to the Commission's jurisdiction. Millennium operates

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<sup>1</sup> 15 U.S.C. § 717f(c) (2012).

<sup>2</sup> 18 C.F.R. pt. 157 (2017).

<sup>3</sup> 15 U.S.C. § 717a(6) (2012).

an approximately 240-mile-long interstate natural gas pipeline system extending across southern New York from an interconnection with National Fuel Gas Supply Corporation in Independence, New York, to an interconnection with Algonquin Gas Transmission, LLC (Algonquin) in Ramapo, New York.

4. Millennium proposes to construct and operate its Eastern System Upgrade to provide 223,000 Dth/d of incremental firm transportation service from its existing compressor station in Corning, New York, to the existing interconnection with Algonquin in Ramapo, New York. To provide the incremental service, Millennium proposes to construct and operate the following pipeline facilities:

- an approximately 7.8-mile-long, 30- and 36-inch-diameter pipeline loop in Orange County, New York (Huguenot Loop);<sup>4</sup>
- a new compressor station in Sullivan County, New York (Highland Compressor Station), with one 22,400 horsepower Solar Titan 130E gas-fired turbine compressor unit;
- a new 22,400 horsepower Solar Titan gas-fired turbine compressor unit at the existing Hancock Compressor Station in Delaware County, New York;
- modifications to the existing Ramapo Meter and Regulator Station in Rockland County, New York;
- modifications to the Wagoner Interconnect in Orange County, New York;
- additional pipeline appurtenant facilities at the existing Huguenot and Westtown Meter and Regulating Stations in Orange County, New York; and

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<sup>4</sup> A pipeline loop is a new pipeline placed adjacent to an existing pipeline and connected to that pipeline at both ends. The Huguenot Loop will loop the existing 7.2-mile-long, 24-inch-diameter pipeline segment between the Huguenot Meter Station and Westtown Meter Station (Neversink segment).

- an alternate interconnect to the 16-inch-diameter Valley Lateral<sup>5</sup> at milepost 7.6 of the Huguenot Loop.

5. In addition, Millennium has reserved for the project 3,000 Dth/d of existing mainline transportation service available from a receipt point in Empire, New York, to a delivery point in Ramapo, New York, as provided for in section 4.2(i) of the General Terms and Conditions of Millennium's FERC Gas Tariff.

6. Millennium held an open season on March 11, 2015, to solicit interest in an expansion along the eastern end of its system. Following the open season, Millennium executed long-term precedent agreements with nine shippers (all of which are local distribution companies (LDC) or municipalities) for 202,500 Dth/d of firm transportation service, approximately 91 percent of the total design capacity of the project.<sup>6</sup> Millennium is currently marketing the remaining 20,500 Dth/d of available service.

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<sup>5</sup> On July 21, 2017, Millennium filed with the Commission its request for notice to proceed with construction of the Valley Lateral Project Docket No. CP16-17-000. On October 20, 2017, Millennium renewed its request, and on October 27, the Commission issued a notice to proceed with construction. On October 30, 2017, the New York DEC filed a Request for Stay of the Notice to Proceed, which the Commission denied on November 15, 2017. *Millennium Pipeline Co., L.L.C.*, 161 FERC ¶ 61,186 (2017). New York DEC also petitioned the United States Court of Appeals for the Second Circuit for a temporary stay of the Commission's Notice to Proceed until the Commission acts on New York DEC's request for rehearing of the Commission's declaratory order finding New York DEC's waiver of section 401. *In re New York State Department of Environmental Conservation v. FERC*, 2d Cir. No. 17-3503, Petitioner's Emergency Petition for a Writ of Prohibition (Oct. 30, 2017) (Emergency Petition). New York DEC also requested the court to stay the effectiveness of the Notice to Proceed on an interim basis while the court considers the merits of its petition. *Id.* at 34. On November 2, 2017, the court granted an administrative stay pending consideration of the petition by the next available three-judge panel. *In re New York State Dep't of Env'tl. Conservation v. FERC*, 2d Cir. No. 17-3503 (Nov. 2, 2017). New York DEC's Emergency Petition is pending at the court.

<sup>6</sup> Millennium requests privileged treatment of its executed precedent agreements in accordance with section 388.112 of the Commission's regulations. 18 C.F.R. § 388.112 (2017). Millennium asserts that the agreements are confidential. The names of the shippers are listed in the privileged portion, not the public portion, of Millennium's application. *See* Millennium July 29, 2016 Application at Exhibit I.

7. Millennium estimates the proposed facilities will cost approximately \$275 million. Millennium proposes to charge its existing system rates under Rate Schedule FT-1 as the initial recourse rates for firm service on the proposed facilities. Project shippers have elected to pay negotiated rates. Millennium proposes to charge its existing system-wide IT rate for interruptible service on the proposed facilities, and to recover incremental fuel use and lost and unaccounted for fuel on the project through incremental fuel retainage percentages.

## II. Public Notice, Interventions, and Comments

8. Notice of Millennium's application was published in the *Federal Register* on August 17, 2016, with interventions and comments due by September 1, 2016.<sup>7</sup> Appendix A of this order identifies all parties that filed timely, unopposed motions to intervene. Timely, unopposed motions to intervene are granted automatically pursuant to Rule 214 of the Commission's Rules of Practice and Procedure.<sup>8</sup> Glenn O'Hehier, Juliette S. Hermant, Stella Varveris, Larry Cohn, Corey King, Jeanne-Marie Maiale, and County of Sullivan, New York, filed untimely motions to intervene, which the Commission granted.<sup>9</sup>

9. Numerous comments were filed both supporting and opposing the project. Comments in opposition argue that the project is not needed and raise environmental and safety concerns, including the project's effect on forests and wetlands, air and water quality, public health, property values, recreation, noise, and aesthetics. Millennium filed comments responding to arguments regarding the project's economic benefits and market need, and the project's effects on the environment, human health, and property values.<sup>10</sup>

10. We discuss the project's market need below in the Certificate Policy Statement section of this order. The environmental and safety concerns raised in this proceeding are addressed in the Environmental Assessment (EA) for this project, and as appropriate, below in the Environmental Analysis section of this order.

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<sup>7</sup> 81 Fed. Reg. 54,799.

<sup>8</sup> 18 C.F.R. § 385.214(c) (2017).

<sup>9</sup> Secretary September 29, 2016 Notice Granting Late Intervention; Secretary September 7, 2017 Notice Granting Late Intervention.

<sup>10</sup> Millennium filed reply comments on September 6 and December 22, 2016, and February 8 and May 16, 2017.

### III. Discussion

11. Since the proposed facilities will be used to transport natural gas in interstate commerce subject to the Commission's jurisdiction, the construction and operation of the facilities are subject to the requirements of subsections (c) and (e) of section 7 of the NGA.<sup>11</sup>

#### A. Certificate Policy Statement

12. The Certificate Policy Statement provides guidance for evaluating proposals to certificate new construction.<sup>12</sup> The Certificate Policy Statement establishes criteria for determining whether there is a need for a proposed project and whether the proposed project will serve the public interest. The Certificate Policy Statement explains that, in deciding whether to authorize the construction of major new natural gas facilities, the Commission balances the public benefits against the potential adverse consequences. The Commission's goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant's responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain in evaluating new pipeline construction.

13. Under this policy, the threshold requirement for pipelines proposing new projects is that the pipeline must be prepared to financially support the project without relying on subsidization from existing customers. The next step is to determine whether the applicant has made efforts to eliminate or minimize any adverse economic effects the project might have on the applicant's existing customers, existing pipelines in the market and their captive customers, or landowners and communities affected by the construction. If residual adverse effects on these interest groups are identified after efforts have been made to minimize them, the Commission will evaluate the project by balancing the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test. Only when the benefits outweigh the adverse effects on economic interests will the Commission proceed to consider the environmental analysis where other interests are addressed.

14. As discussed above, the threshold requirement is that the applicant must be prepared to financially support the project without relying on subsidization from its

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<sup>11</sup> 15 U.S.C. §§ 717f(c), (e) (2012).

<sup>12</sup> *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), *order on clarification*, 90 FERC ¶ 61,128, *order on clarification*, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement).

existing customers. To ensure that existing customers do not subsidize expansion projects, Commission policy requires that incremental rates be established as initial recourse rates for services utilizing expansion capacity unless such incremental rates would be lower than the existing system rates for service. As discussed below, we find it appropriate for Millennium to use the existing applicable system reservation and usage charges for the expansion services because the combined calculated incremental reservation and usage charges for the expansion are lower than the existing system charges. Further, as discussed in more detail below, the revenues generated from the current precedent agreements will not recover the costs of the expansion. Therefore we are not making a finding that Millennium may roll-in the costs of the expansion in a future proceeding absent a change in circumstances. Millennium will bear the risk of any cost under-recovery. Accordingly, we find existing shippers will not subsidize the project and that the threshold no-subsidy requirement has been met.

15. None of Millennium's existing customers have indicated any concerns that construction, operation, or service on the project will adversely affect existing services. Nor is there any evidence that Millennium's proposed project will adversely affect any other pipelines or their customers; no pipelines or their captive customers have protested Millennium's proposal.

16. We also find that Millennium has taken sufficient steps to minimize adverse impacts on landowners and surrounding communities. Millennium has designed the project to utilize, to the extent practicable, its existing rights-of-way and land it already owns or has newly acquired. Millennium estimates that approximately 88 percent of the total length of the Huguenot Loop will be collocated with its existing rights-of-way. The proposed new compressor station, new units at an existing compressor station, meter and regulating equipment, pig launchers, and other facility installations will be located on land that Millennium owns or that is subject to a permanent easement.<sup>13</sup>

### **1. Project Market Need**

17. Some intervenors raised concerns about the project's market need. Linda Reik, a local landowner, cites a study commissioned by the Massachusetts Attorney General to argue that new natural gas pipeline capacity is not needed to ensure reliable power supply

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<sup>13</sup> Millennium July 29, 2016 Application at 5-6.

in New England through 2030.<sup>14</sup> In addition, Ms. Reik asserts that project demand can be satisfied by renewable energy alternatives, such as solar and wind power, or energy efficiency gains.<sup>15</sup> Further, two commenters requested that the information on project shippers and their precedent agreements be made publicly available in order for the public to sufficiently understand the project market need.

18. Under the Certificate Policy Statement, the Commission considers all evidence submitted reflecting on the need for a project, including, but not limited to, precedent agreements, demand projections, potential cost savings to consumers, or a comparison of projected demand with the amount of capacity currently serving the market.<sup>16</sup> The Commission has found that long-term commitments serve as “significant evidence of demand for [a] project.”<sup>17</sup> Millennium has executed precedent agreements with nine shippers for firm service using approximately 91 percent of the design capacity for the proposed project. We find that Millennium’s precedent agreements are persuasive evidence of market need for this project, and further, Ordering Paragraph (C) of this order requires that Millennium file a written statement affirming that it has executed final contracts for service at the levels provided for in these precedent agreements before commencing construction.

19. Ms. Reik’s assertion that the project is not needed based on the study commissioned by the Massachusetts Attorney General is unpersuasive. That study focuses on long-term electric reliability issues in New England and compares potential ways to address those reliability issues, considering both ratepayer cost and regional carbon emissions.<sup>18</sup> The study explicitly states that it does not assess “whether there is a need for incremental pipeline capacity to meet gas LDC needs or whether power

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<sup>14</sup> Linda Reik August 31, 2016 Motion to Intervene and Comments at 2 (citing Analysis Group, Inc., Power System Reliability in New England Meeting Electric Resource Needs in an Era of Growing Dependence on Natural Gas (2015), *available at* <http://www.mass.gov/ago/docs/energy-utilities/reros-study-final.pdf>) (Massachusetts AG Study).

<sup>15</sup> Linda Reik May 1, 2017 Comments.

<sup>16</sup> Certificate Policy Statement, 88 FERC at 61,748.

<sup>17</sup> *Id.* The United States Court of Appeals for the District of Columbia Circuit has upheld the Commission’s finding that long-term precedent agreements constitute evidence of market demand. *See Sierra Club v. FERC*, 867 F.3d 1357, 1379 (D.C. Cir. 2017) (Sabal Trail).

<sup>18</sup> Massachusetts AG Study at 4.

system needs (or lack thereof) should affect considerations related to development and construction of new pipeline capacity for use by gas LDCs.”<sup>19</sup> As stated earlier, the purpose of the project is to provide incremental firm transportation service to LDCs and municipalities. Accordingly, the study does not assess the market for the Eastern System Upgrade. Moreover, renewable energy or energy efficiency measures would not accomplish the project purpose of providing incremental natural gas transportation service to the nine project shippers. As discussed above, the project shippers have elected to meet their present energy needs by signing precedent agreements for natural gas service. The Commission cannot require individual energy users to use different or specific energy resources. Thus, these long-term precedent agreements accurately reflect the need for the project.

20. In addition, National Grid Gas Delivery Companies, which includes three project shippers (Boston Gas, Colonial Gas, and Narragansett) serving Rhode Island and Massachusetts retail customers, filed comments stating that load forecasts predict demand growth within its New England service territories over the next 10 years, indicating a need for additional gas pipeline capacity.<sup>20</sup> They added that the project would provide additional access to upstream sources of gas supply.<sup>21</sup>

21. Regarding access to the privileged precedent agreements, we note that Millennium filed a form of protective agreement in its application,<sup>22</sup> consistent with the requirements of section 388.112(b)(2) of the Commission’s regulations.<sup>23</sup> Any party was able to request a copy of the privileged information by mailing a written request to Millennium, which would have included an executed copy of the protective agreement and a statement or proof of their party status.<sup>24</sup>

## **2. Certificate Policy Statement Conclusion**

22. Accordingly, we find that Millennium has demonstrated a need for the Eastern System Upgrade and that the project’s benefits will outweigh any adverse economic

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<sup>19</sup> *Id.* at 20, n.36.

<sup>20</sup> National Grid Gas Delivery Companies September 1, 2016 Motion to Intervene and Comments at 4.

<sup>21</sup> *Id.* at 5.

<sup>22</sup> Millennium July 29, 2016 Application at Exhibit Z-1.

<sup>23</sup> 18 C.F.R. § 388.112(b)(2)(i) (2017).

<sup>24</sup> *Id.* § 388.112(b)(2)(iii).

effects on existing shippers, other pipelines and their captive customers, and landowners and surrounding communities. Consistent with the criteria discussed in the Certificate Policy Statement and subject to the environmental discussion below, we find that the public convenience and necessity requires approval of Millennium's proposal, as conditioned in this order.

## **B. Rates**

### **1. Initial Recourse Rates**

23. Millennium proposes to assess its generally applicable Rate Schedule FT-1 reservation charge of \$0.6499 Dth/d and usage charge of \$0.0019 per Dth for firm transportation service utilizing the proposed facilities.

24. For comparison purposes, Millennium calculated an illustrative initial incremental reservation charge of \$0.6301 per Dth/d for the firm service and usage charge of \$0.0000 per Dth. Millennium developed the illustrative incremental recourse charge of \$0.6301 per Dth/d by dividing the first year incremental annual cost of service of \$51,283,372 by the annual project design billing determinants of 2,676,000 Dth/d,<sup>25</sup> and by using its system depreciation rate and pre-tax rate of return.<sup>26</sup> The Commission finds that the combined illustrative incremental recourse reservation and usage charges are lower than the generally applicable system rates. Therefore, the Commission approves Millennium's proposal to use its generally applicable reservation and usage charges under Rate Schedule FT-1.

25. On February 21, 2017, Commission staff issued a data request asking Millennium to break down projected Operation and Maintenance (O&M) expenses by FERC account number and between labor and non-labor costs. In response, Millennium identified a total of \$897,021 in non-labor O&M costs for FERC account numbers 864 and 865. Millennium classified these costs as fixed costs. Commission policy<sup>27</sup> and section 284.7(e) of our regulations<sup>28</sup> require that non-labor costs in these accounts be

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<sup>25</sup> The project design capacity of 223,000 Dth/d times 12 months equals 2,676,000 Dth/d of annual design determinants.

<sup>26</sup> *Millennium Pipeline Co., L.L.C.*, 117 FERC ¶ 61,319, at PP 32, 103 (2006).

<sup>27</sup> *See, e.g., Tennessee Gas Pipeline Co., L.L.C.*, 156 FERC ¶ 61,156, at P 29 (2016) (stating the Commission generally requires all non-labor costs in these accounts to be classified as variable costs).

<sup>28</sup> 18 C.F.R. § 284.7(e) (2017). Section 284.7(e) provides:

classified as variable costs. Consistent with the Commission's regulations requiring the use of straight fixed variable (SFV) rate design, reservation charges may not recover any variable costs.<sup>29</sup> Accordingly, Millennium is directed to reclassify these non-labor O&M costs as variable costs.

## 2. Predetermination on Rolled-in Rate Treatment

26. Millennium does not request a predetermination that it may roll the costs of the project into its rates in its next NGA section 4 rate case. Nevertheless and consistent with longstanding Commission policy, we will evaluate whether to issue a predetermination of rolled-in rate treatment.<sup>30</sup>

27. To receive a predetermination favoring rolled-in rate treatment, a pipeline must demonstrate that rolling in the costs associated with the construction and operation of new facilities will not result in existing customers subsidizing the expansion. In general, this means that a pipeline must show that the revenues to be generated by an expansion project will exceed the project cost. To make this determination, we compare the project cost to the revenues generated using actual contract volumes and either the maximum recourse rate or, if the negotiated rate is lower than the recourse rate, the actual negotiated rate.

28. The Eastern System Upgrade is not fully subscribed, and Millennium states the negotiated rates are lower than the recourse rates. Based on the 202,500 Dth/d of total subscribed under precedent agreements at negotiated rates, Millennium estimates its first year revenues from the expansion services to be \$46,472,019, which is less than its estimated first year cost of service of \$51,283,372. Therefore, the Commission will not

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[if] a reservation fee is charged, it must recover all fixed costs attributable to the firm transportation service, unless the Commission permits the pipeline to recover some of the fixed costs in the volumetric portion of a two-part rate. A reservation fee may not recover any variable costs or fixed costs not attributable to the firm transportation service.

<sup>29</sup> *Dominion Transmission, Inc.*, 153 FERC ¶ 61,382, at P 33 (2015) (stating variable costs should not be recovered through the reservation charge); *Columbia Gulf Transmission, LLC*, 152 FERC ¶ 61,214, at P 20 (2015) (stating variable costs should be recovered through the usage charge).

<sup>30</sup> *Millennium Pipeline Co., L.L.C.*, 145 FERC ¶ 61,007, at P 31, n.41 (2013) (stating that the Certificate Policy Statement contemplates that as a general matter, issues of future rate treatment will be addressed in advance).

grant a predetermination of rolled-in rate treatment for the costs of the Eastern System Upgrade Project in a future section 4 rate case absent a demonstration that the costs associated with the project can be rolled-in without existing customers subsidizing the project. Millennium will bear the burden of proof to demonstrate that rolled-in rate treatment is just and reasonable. This holding is consistent with previous NGA section 7 expansion projects in which the Commission denied predetermination of rolled-in rate treatment due to costs exceeding revenues in the first few years.<sup>31</sup>

### **3. Reporting Incremental Project Costs**

29. The Commission will require Millennium to keep separate books and accounting of costs and revenues attributable to the proposed incremental project services and capacity created by the project in the same manner as required by section 154.309 of the Commission's regulations.<sup>32</sup> The books should be maintained with applicable cross-reference and the information must be in sufficient detail so that the data can be identified in Statements G, I, and J in any future NGA section 4 or 5 rate case, and the information must be provided consistent with Order No. 710.<sup>33</sup>

### **4. Fuel Retainage Rate**

30. Millennium proposes to charge an initial incremental fuel retainage percentage of 0.79 percent to recover incremental fuel use and lost and unaccounted for gas on the project. Millennium calculated its initial incremental fuel retainage percentage based on its analysis of current system deliveries and fuel gas consumption, and on an assumed initial load factor of 90 percent. Millennium states that it will track changes in fuel costs for the incremental service using its currently effective fuel consumption tracking mechanism to true-up any differences between the projected and actual fuel costs, and will use actual load factors after the facilities become operational.

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<sup>31</sup> See *Southern Natural Gas Co.*, 115 FERC ¶ 61,328, at PP 39-43 (2006); *Eastern Shore Natural Gas Co.*, 111 FERC ¶ 61,479, at PP 18-22 (2005).

<sup>32</sup> 18 C.F.R. § 154.309 (2017).

<sup>33</sup> *Revisions to Forms, Statements, and Reporting Requirements for Natural Gas Pipelines*, Order No. 710, FERC Stats. & Regs. ¶ 31,267, at P 23 (2008).

31. Millennium's proposed incremental fuel retainage percentage is greater than its existing system fuel retainage percentage of 0.488 percent.<sup>34</sup> Therefore, the Commission approves Millennium's incremental fuel retainage percentage.

32. Millennium also provides for the Commission's review a *pro forma* rate sheet that revises section 7, Retainage Rates, of its General Terms and Conditions of its FERC Gas Tariff to incorporate the incremental fuel retainage percentage for the project. The Commission finds the changes as provided by the *pro forma* tariff records acceptable and directs Millennium to file actual tariff records not less than 30 days, or more than 60 days, before the in-service date of the project.

## 5. Negotiated Rates

33. Project shippers have agreed to pay negotiated rates. Millennium must file either the negotiated rate agreements or tariff records setting forth the essential terms of the agreements in accordance with the Alternative Rate Policy Statement<sup>35</sup> and the Commission's negotiated rate policies.<sup>36</sup> The filing must be made at least 30 days, but not more than 60 days, before the proposed effective date for such rates.<sup>37</sup>

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<sup>34</sup> Millennium Pipeline Company, LLC, FERC NGA Gas Tariff, Millennium Tariffs, Currently Effective Rates, Section 7. Retainage Rates, 10.0.0.

<sup>35</sup> *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines; Regulation of Negotiated Transportation Services of Natural Gas Pipelines*, 74 FERC ¶ 61,076, order granting clarification, 74 FERC ¶ 61,194, reh'g and clarification denied, 75 FERC ¶ 61,024, reh'g denied, 75 FERC ¶ 61,066, reh'g dismissed, 75 FERC ¶ 61,291 (1996), petition denied sub nom. *Burlington Res. Oil & Gas Co. v. FERC*, 172 F.3d 918 (D.C. Cir. 1998). (Alternative Rate Policy Statement).

<sup>36</sup> *Natural Gas Pipelines Negotiated Rate Policies and Practices; Modification of Negotiated Rate Policy*, 104 FERC ¶ 61,134 (2003), order on reh'g and clarification, 114 FERC ¶ 61,042, reh'g dismissed and clarification denied, 114 FERC ¶ 61,304 (2006).

<sup>37</sup> Pipelines are required to file any service agreement containing non-conforming provisions and to disclose and identify any transportation term or agreement in a precedent agreement that survives the execution of the service agreement. 18 C.F.R. § 154.112(b) (2017); see, e.g., *Texas Eastern Transmission, LP*, 149 FERC ¶ 61,198, at P 33 (2014).

### C. Engineering Analysis

34. Delaware Riverkeeper Network (Delaware Riverkeeper) filed a report by Richard B. Kuprewicz of Accufacts Inc. that reviewed Millennium's non-public Critical Energy Infrastructure Information (CEII) flow diagrams filed in Exhibit G of Millennium's application.<sup>38</sup> Using Millennium's CEII, Mr. Kuprewicz developed four exhibits that plot Millennium pipeline's pressure and flow at each milepost between the Corning Compressor Station, at the beginning of Millennium's system, and the Ramapo Metering Station at the interconnection with Algonquin for both the existing and proposed flow scenarios under summer and winter design conditions. These exhibits provide the basis for Mr. Kuprewicz's analysis of Millennium's proposal. Delaware Riverkeeper filed Mr. Kuprewicz's four exhibits with the Commission as CEII.<sup>39</sup>

35. Based on his exhibits and review of Millennium's CEII, Mr. Kuprewicz claims that the 36-inch-diameter portion of the Huguenot Loop is larger than needed for the project, and that Millennium has not justified the proposed Maximum Allowable Operating Pressure (MAOP) of 1,350 pounds per square inch (psig) for the Huguenot Loop and 750 psig delivery pressure to the Algonquin pipeline. Mr. Kuprewicz makes these arguments as part of his contention that Millennium has impermissibly segmented the Eastern System Upgrade from its Valley Lateral Project (Valley Lateral), approved in Docket No. CP16-17,<sup>40</sup> and hypothetical unidentified future pipeline projects. Millennium filed a response disputing Mr. Kuprewicz's findings and asserting that it designed the Eastern System Upgrade to specifically provide project shippers with the firm transportation service to meet their express market demand for natural gas.<sup>41</sup> We address each of Mr. Kuprewicz's engineering design arguments immediately below and his segmentation arguments in the Environmental Analysis of this order.

36. As a preliminary matter, we note that Mr. Kuprewicz identified differences in Millennium's various flow diagrams in the mainline pipeline length of Millennium's pipeline system downstream of the Minisink Compressor Station. Mr. Kuprewicz pointed out that the length of the mainline varied by over five miles in some of Millennium's flow diagrams. In its April 10, 2107 response to staff's April 5, 2017 data request, Millennium provided flow diagrams correcting the typographical errors

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<sup>38</sup> Delaware Riverkeeper March 29, 2017 Filing. Delaware Riverkeeper repeated these comments in its comments on the draft EA filed May 1, 2017.

<sup>39</sup> Delaware Riverkeeper April 20, 2017 Filing.

<sup>40</sup> *Millennium Pipeline Co., L.L.C.*, 157 FERC ¶ 61,096 (2016), *order on reh'g and stay*, 161 FERC ¶ 61,194 (2017).

<sup>41</sup> Delaware Riverkeeper May 16, 2017 Filing.

noted by Mr. Kuprewicz. These new flow diagrams now properly represent the pipeline facilities and associated flow characteristics under existing and proposed gas flow scenarios. In addition, these new flow diagrams mirror the hydraulic flow models that Millennium filed on May 26, 2017, in support of its Eastern System Upgrade Project.

37. Commission staff reviewed Millennium's flow diagrams filed in its application, revised flow diagrams, and hydraulic flow models. Consistent with Commission staff's long-standing practice, staff used one of two industry standard hydraulic pipeline simulation software packages to evaluate whether the proposed project has been properly designed to meet existing and proposed system delivery requirements. Based upon these detailed pipeline hydraulic simulations conducted by Commission staff, the Commission is confident that staff accurately estimated the impacts that the proposed project would have on Millennium's system both before and after the project is in service. Commission staff's review of Millennium's pipeline hydraulic models, as supported by Millennium's revised flow diagrams, found that Millennium properly designed its facilities to provide an additional 223,000 Dth/d of new firm transportation service to meet the requirements of its expansion shippers while operating under winter and summer design conditions and meeting all other contractual obligations and minimum delivery pressures.

### **1. Pipeline Diameter of Huguenot Loop**

38. Mr. Kuprewicz claims that the 36-inch-diameter portion of the Huguenot Loop is larger than needed based on the pressure line slope plotted in his exhibits, and that a 30-inch-diameter pipeline would meet the project purpose. Millennium disputes Mr. Kuprewicz's assertions, arguing that that the 36-inch-diameter Huguenot Loop is required to meet the project demand based upon hydraulic pipeline modeling results and that a 30-inch-diameter loop would not meet the project purpose, but would require either additional looping or compression to provide the proposed service. On May 26, 2017, in response to staff's May 23, 2017 data request, Millennium provided flow diagrams and hydraulic models supporting its position.

39. As stated above Commission staff examined the flow diagrams, engineering data and hydraulic models provided in support of Millennium's application. Staff determined that Millennium's project was properly designed to provide an additional 223,000 Dth/d of new transportation service while maintaining existing services and meeting all design and contractual obligations. In addition, Commission staff evaluated the substitution of 30-inch-diameter pipeline, in lieu of the proposed 36-inch diameter pipeline, including the examination of the hydraulic models provided by Millennium on May 26, 2017. Staff confirmed that substituting 30-inch-diameter pipe for the 36-inch diameter pipe would require either the installation of 1,500 horsepower of additional compression at the Minisink Compressor Station or constructing 4.71 miles of additional pipeline looping to provide the project contracted volumes and meet required delivery pressures. Accordingly, we confirm that the proposed 36-inch-diameter portion of Huguenot Loop

is properly designed to meet the new service requirements and the substitution of a 30-inch-diameter pipe would require substantial additional facilities.

**2. Maximum Allowable Operating Pressure of Huguenot Loop and Delivery Pressures to Algonquin**

40. Mr. Kuprewicz claims that the proposed MAOP of 1,350 psig on the Huguenot Loop cannot be justified because it is inconsistent with the operating pressures on Millennium's existing mainline. Mr. Kuprewicz argues that installing a pipeline with a MAOP of 1,350 psig overbuilds the project for its stated purpose, because the MAOP of 1,350 psig cannot be utilized without incorporating additional compressor stations and mainline pipeline changes beyond those proposed here.

41. The MAOP is the maximum pressure at which a pipe may operate based upon the physical properties of the steel and class location, determined by the population density, as dictated by the U.S. Department of Transportation (DOT).<sup>42</sup> Staff notes that indeed the Huguenot Loop's MAOP of 1,350 psig will be higher than the 1,200 psig MAOP of most of Millennium's existing system and the 920 psig MAOP of the 7.0-mile Neversink Segment. There is no requirement, however, that MAOPs be consistent at all times across a pipeline's entire system. Further, as we note above, Commission staff found that Millennium properly designed the project to provide the contracted volumes.

42. Currently, the Neversink Segment is a pressure and capacity constraint on Millennium's pipeline system. The proposed Huguenot Loop, as needed, will allow Millennium to minimize the flow of gas on the Neversink Loop to provide the proposed increase in gas volumes to the Algonquin system at the Ramapo interconnect at the required delivery pressures, as required by Algonquin's system at this point. As Millennium's system is currently and proposed to be configured, the pressures in the Huguenot Loop will not approach its MAOP. Nor has Millennium identified any future plans for expansion of its system in order to fully exploit the 1,350 psig MAOP, as prescribed by DOT regulations, of the proposed Huguenot Loop.

**3. Delivery Pressure**

43. Mr. Kuprewicz argues that Millennium has not justified its delivery pressure of 750 psig to Algonquin's interconnection in Ramapo, New York.

44. Millennium, as the upstream pipeline, needs to ensure that it can deliver gas volumes into Algonquin's system under all operating conditions, including both summer and winter peak periods. To do this, Millennium needs to provide gas supplies to

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<sup>42</sup> 49 C.F.R. § 192.111 (2017).

Algonquin at pressures equal to or greater than the existing line pressure on Algonquin's system. As Millennium points out in its reply comments filed on May 16, 2017, the current MAOP of Algonquin's system at the Ramapo Meter Station is 750 psig.<sup>43</sup> Therefore, Millennium must design its system to ensure that it can deliver gas to Algonquin at pressures sufficient to enter the Algonquin system. We find that Millennium has fully supported its proposed design delivery pressure to Algonquin.

#### **4. Purpose of the Neversink Segment**

45. Mr. Kuprewicz states that the 24-inch-diameter Neversink Loop is out of character with the design of the rest of Millennium 30-inch-diameter, 1,200 MAOP system, and is destined for a different service, such as providing gas to the proposed CPV Valley Energy Center supplied by the Valley Lateral.

46. Mr. Kuprewicz correctly states that the Neversink Segment's MAOP is out of character with the rest of the Millennium system. As Mr. Kuprewicz is aware, the Neversink Segment is a legacy pipeline segment incorporated into Millennium's system from another pipeline system when the Millennium system was constructed.<sup>44</sup> Daily operating conditions and nominations on Millennium's system will dictate the flow of the gas through the proposed 36-inch-diameter Huguenot Loop and the 24-inch-diameter Neversink Segment. From time to time the Neversink Segment may feed the CPV Valley Energy Center, at other times the Neversink Segment will act as a loop of the Huguenot Loop.

#### **5. Future Pipeline Expansions**

47. Mr. Kuprewicz alleges that the project design signals that Millennium is anticipating further pipeline expansions. Based upon the increase in horsepower of compression and the use of 36-inch-diameter pipeline for the Huguenot Loop, Mr. Kuprewicz suggests that additional project expansions are expected well beyond the needs in the instant application.

48. As we reiterate our findings above, staff determined after an extensive review and examination of the engineering data, flow diagrams, and hydraulic models submitted in the proceeding, including Mr. Kuprewicz's exhibit, that Millennium has designed the project to meet the specific needs of its shippers. There are no current proposals by

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<sup>43</sup> Millennium May 16, 2017 Reply Comments at 15.

<sup>44</sup> *Millennium Pipeline Co., L.P.*, 100 FERC ¶ 61,277 (2002) (order authorizing Millennium to construct its mainline).

Millennium before the Commission to expand or modify its pipeline system. Based upon the foregoing we find Mr. Kuprewicz's assertions to be speculative, unsupported and without merit.

**D. Environmental Analysis**

49. On February 5, 2016, the Commission granted Millennium's request to use the Commission's pre-filing review process in Docket No. PF16-3-000. On May 11, 2016, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Planned Eastern System Upgrade Project and Request for Comments on Environmental Issues* (NOI). The Commission published the NOI in the Federal Register and mailed the NOI to 513 interested persons or entities, including federal, state, and local government representatives and agencies; elected officials; affected landowners; environmental and public interest groups; potentially interested Native American tribes; other interested entities; and local libraries and newspapers.

50. In response to the NOI, the Commission received 452 comment letters during the public scoping period. In addition, we received 66 letters before issuance of the NOI and 235 additional comment letters after the scoping period closed. Comments were filed by individuals; state and federal agencies, including the New York State Department of Environmental Conservation (New York DEC), New York State Department of Agriculture and Markets, and U.S. Environmental Protection Agency (EPA); and numerous non-governmental organizations, including Delaware Riverkeeper, Upper Delaware Preservation Coalition, The Nature Conservancy, Catskill Mountainkeeper, and Protect Orange County. Most comments opposed the Eastern System Upgrade and raised concerns about project need and scope; project alternatives; cumulative impacts; and project effects on air quality and human health, climate change, cultural resources, land use, recreation, visual resources, property values, environmental justice, soils, vegetation, wildlife, special status species, and public safety.

51. To satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA), our staff prepared an Environmental Assessment (EA) for Millennium's proposal. The EA addresses geology, soils, groundwater, surface water, wetlands, vegetation, wildlife and aquatic resources, threatened and endangered species, land use, recreation, visual resources, socioeconomics (including property values), cultural resources, air quality and noise, climate change, reliability and safety, cumulative impacts, and alternatives. In addition, the EA replies to all substantive comments received in response to the notice of application, NOI, as well as the comments filed after the scoping period. Commission staff issued the EA on March 31, 2017, for a 30-day comment period.

52. In response to the EA, the Commission received comments from 37 individuals (including landowners); the U.S. Fish and Wildlife Service (FWS); the Delaware Tribe of Indians; Delaware Riverkeeper; Catskill Mountainkeeper; two Sullivan County officials; the Sullivan County Chamber of Commerce; the Town of Highland, New York; and Teamsters National Pipeline Management. These comments raise issues related to project need and scope; the pipeline's future compliance with mitigation measures; the appropriateness of an EA instead of an environmental impact statement (EIS); segmentation; project alternatives; cumulative impacts; and project effects on geology/soils, water resources, vegetation and wildlife, threatened and endangered species, land use, socioeconomics, cultural resources, air quality, noise, and public safety.

53. We have addressed comments on project need and scope above. Below, we address the remaining substantive comments organized by comment topic or resource area. In each relevant resource area, we discuss the project's direct, indirect, and cumulative effects as appropriate.

### 1. Mitigation Measures

54. The EA finds that the Eastern System Upgrade will have no significant impacts based in part on Millennium's implementation of its Environmental Construction Standards, which meet or exceed the measures in the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan (Plan)* and *Wetland and Waterbody Construction and Mitigation Procedures (Procedures)*.<sup>45</sup> Delaware Riverkeeper argues that the EA cannot rely on Millennium's implementation of its Environmental Construction Standards to minimize project effects because the standards are inadequate. In support, Delaware Riverkeeper cites complaints filed in response to the construction of Millennium's mainline in 2007 and 2008.

55. An agency may use mitigation measures to minimize a proposed action's possible adverse impacts below the level of significance, when the adequacy of the proposed mitigation measures is supported by substantial evidence.<sup>46</sup> In practice, mitigation measures have been found to be sufficiently supported when they are based on agency studies or when they "are likely to be adequately policed."<sup>47</sup> If mitigation measures are

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<sup>45</sup> EA at 22.

<sup>46</sup> *National Audubon Society v. Hoffman*, 132 F.3d 7, 17 (2d Cir. 1997) (*Audubon Society*); see also *Cabinet Mountain Wilderness v. R. Max Peterson*, 685 F.2d 678 (D.C. Cir. 1982); "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 Fed. Reg. 18,026, 18,038 (1981).

<sup>47</sup> *Audubon Society*, 132 F.3d at 17.

mandatory, and a program exists to monitor and enforce those measures, then the efficacy of the mitigation measures has been found to be assured.<sup>48</sup>

56. The issue Delaware Riverkeeper raises relates to compliance, not to the adequacy of the required mitigation. Instances of non-compliance that occurred nearly 10 years ago do not support a conclusion that there are pervasive flaws in the required mitigation measures. Commission staff has used its *Plan* and *Procedures* as a baseline level of protection on construction projects for over 20 years. During this time, staff has continued to assess mitigation needs and refined these protection measures based on its own and outside parties' expertise. Staff has directly observed the measures' efficacy through thousands of environmental compliance inspections, and has also considered best practices and other information from the public.<sup>49</sup> As Millennium is required to follow its Environmental Construction Standards, which meet or exceed the *Plan* and *Procedures*, we find that the mitigation measures proposed are sufficient.

## 2. Need for an EIS

57. Commenters assert that Commission staff should have prepared an EIS instead of an EA for the proposed project. Under NEPA, agencies must prepare an EIS for major federal actions that may significantly impact the environment.<sup>50</sup> If an agency determines that a federal action is not likely to have significant adverse effects, it may prepare an EA. Guided by the Council on Environmental Quality's (CEQ) regulations,<sup>51</sup>

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<sup>48</sup> *Id.*

<sup>49</sup> Commission staff updated both the *Plan* and *Procedures* in 1994, 2003, and 2013. During the process leading to these revisions, the Commission considered comments from "the natural gas industry, federal, state and local agencies, environmental consultants, inspectors, construction contractors, nongovernmental organizations and other interested parties with special expertise with respect to environmental issues commonly associated with pipeline projects and other natural gas facility construction projects." *Notice of Availability of Final Revisions to the Upland Erosion Control, Revegetation, and Maintenance Plan and Wetland and Waterbody Construction and Mitigation Procedures*, 78 Fed. Reg. 34,374 (June 7, 2013).

<sup>50</sup> 42 U.S.C. § 4332(2)(C) (2012); 40 C.F.R. § 1502.4 (2017).

<sup>51</sup> 40 C.F.R. § 1501.3(b) (2017) (stating agencies may prepare an EA to assist agency planning and decision-making).

the Commission will typically issue an EA, rather than prepare an EIS, where staff determines that the proposed action will not have a significant effect on the human environment.

58. Here, Commission staff prepared an EA to determine whether the Eastern System Upgrade would have a significant impact on the human environment, requiring the preparation of an EIS. The EA assesses the project effects that could occur on a variety of resources. Based on the EA's analysis and recommended mitigation measures, the EA concludes, and we agree, that approval of the Eastern System Upgrade would not constitute a major federal action significantly affecting the quality of the human environment. Therefore, preparation of an EIS is not required.

### 3. Segmentation

59. Delaware Riverkeeper and several commenters argue that the Commission improperly segmented its NEPA review by failing to analyze the Eastern System Upgrade and Millennium's approved Valley Lateral in a single NEPA document as connected, similar, and cumulative actions. As discussed below, we disagree.

60. CEQ regulations require the Commission to include "connected actions," "cumulative actions," and "similar actions" in its NEPA analyses.<sup>52</sup> "An agency impermissibly 'segments' NEPA review when it divides connected, cumulative, or similar federal actions into separate projects and thereby fails to address the true scope and impact of the activities that should be under consideration."<sup>53</sup> Connected actions include actions that meet one of the following three criteria: (i) they automatically trigger other actions, which may require environmental impact statements; (ii) they cannot or will not proceed unless other actions are taken previously or simultaneously; and (iii) they are interdependent parts of a larger action and depend on the larger action for their justification.<sup>54</sup>

61. In evaluating whether multiple actions are, in fact, connected actions, courts have employed a "substantial independent utility" test, which the Commission finds useful for determining whether the three criteria for a connected action are met. The test asks "whether one project will serve a significant purpose even if a second related project is

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<sup>52</sup> *Id.* § 1508.25(a).

<sup>53</sup> *Delaware Riverkeeper Network v. FERC*, 753 F.3d 1304, 1313 (D.C. Cir. 2014) (*Delaware Riverkeeper Network*).

<sup>54</sup> 40 C.F.R. § 1508.25(a)(1) (2017).

not built.”<sup>55</sup> For proposals that connect to or build upon an existing infrastructure network, this standard distinguishes between those proposals that are separately useful from those that are not. While the analogy between the pipelines and highways is not always apt, similar to a highway network, “it is inherent in the very concept of” the interstate pipeline grid “that each segment will facilitate movement in many others; if such mutual benefits compelled aggregation, no project could be said to enjoy independent utility.”<sup>56</sup>

62. In *Delaware Riverkeeper Network*, the court ruled that individual pipeline proposals were interdependent parts of a larger action where four pipeline projects, when taken together, would result in “a single pipeline” that was “linear and physically interdependent” and where those projects were financially interdependent.<sup>57</sup> The court put a particular emphasis on the four projects’ timing, noting that when the Commission reviewed one of the four projects, the other projects were either under construction or pending before the Commission.<sup>58</sup> In a later case, the same court indicated that in considering a pipeline application, the Commission need not jointly consider projects that are unrelated and do not depend on each other for their justification.<sup>59</sup>

63. In this case, the projects will not result in a single pipeline or one that is linearly, physically, or functionally interdependent.<sup>60</sup> The Valley Lateral comprises a 7.8-mile-long, 16-inch-diameter lateral pipeline to provide 127,200 Dth/d of firm transportation service from an interconnect with Millennium’s mainline in the Town of Minisink, New York, to the new gas-powered CPV Valley Energy Center in the Town of Wawayanda,

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<sup>55</sup> *Coalition on Sensible Transp., Inc. v. Dole*, 826 F.2d 60, 69 (D.C. Cir. 1987); see also *O’Reilly v. U.S. Army Corps of Eng’rs*, 477 F.3d 225, 237 (5th Cir. 2007) (defining independent utility as whether one project “can stand alone without requiring construction of the other [projects] either in terms of the facilities required or of profitability.”).

<sup>56</sup> *Coalition on Sensible Transp., Inc. v. Dole*, 826 F.2d at 69.

<sup>57</sup> *Delaware Riverkeeper Network*, 753 F.3d at 1314.

<sup>58</sup> *Id.*

<sup>59</sup> See *Myersville Citizens for a Rural Community, Inc. v. FERC*, 783 F.3d 1301, 1326 (D.C. Cir. 2015) (*Myersville*).

<sup>60</sup> See also *Millennium Pipeline Co., LLC*, 161 FERC ¶ 61,194 at P 30 (finding projects the Eastern System Upgrade and Valley Lateral Projects are not connected actions).

New York. In contrast, the Eastern System Upgrade comprises a 7.8-mile-long pipeline that loops Millennium's mainline and added compression to deliver 223,000 Dth/d of firm transportation service from a receipt point in Steuben County, New York, to Algonquin's interconnect in Ramapo, New York, expanding capacity on Millennium's mainline to provide gas to downstream project shippers. Each project's expansion service follows a unique, discrete transportation path to separate shippers with different receipt and delivery points.

64. While the Eastern System Upgrade will include an interconnection with the Valley Lateral that will provide the Valley Lateral shipper an alternate means to access to gas supply in the event that Millennium's mainline is taken out of service, that interconnection is not a basis for finding that the Eastern System Upgrade and the Valley Lateral are connected actions.<sup>61</sup> Pipeline interconnects are commonly installed to provide access to a backup or alternative source of natural gas to ensure uninterrupted deliveries of gas to intended customers during pipeline maintenance activities.<sup>62</sup> Similarly, the fact that some of the construction zones for the projects will overlap does not mean that the projects are interdependent. Geographic proximity by itself does not equate to interdependence. If this were the case, customers of proposed projects located in close proximity would be held captive by multiple projects, as no given project in an area could be independently proposed, evaluated, or constructed.<sup>63</sup>

65. Delaware Riverkeeper and Mr. Kuprewicz appear to argue that the projects are functionally connected because the operation of the Huguenot Loop will cause the majority of natural gas supplies on Millennium's system to travel through the Huguenot Loop, leaving only the gas supplies for the Valley Lateral to flow through the Neversink segment. The use of the Neversink segment, however, does not demonstrate that the projects are interdependent. If the Eastern System Upgrade is not built, gas would

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<sup>61</sup> On June 10, 2016, the EPA filed comments stating that it was concerned that the Eastern System Upgrade would connect to the Valley Lateral, and requested that the EA discuss the interconnect in detail and whether the Eastern System Upgrade could be completed with or without the Valley Lateral. Because the EPA did not file comments on the EA, we presume that the EPA is satisfied with how the EA addressed its comments.

<sup>62</sup> *Millennium Pipeline Co., L.L.C.*, 157 FERC ¶ 61,096 at P 55 & n.74.

<sup>63</sup> As discussed below, however, the cumulative environmental impacts of projects located in the same vicinity will be included in our cumulative impacts analysis, as appropriate.

continue to flow through the Neversink segment to deliver gas to the Valley Lateral. Similarly, if the Valley Lateral is not built, the Eastern System Upgrade would require the Huguenot Loop to deliver gas to its project's shippers.

66. Furthermore, there is no record evidence that the two projects are financially interdependent or that construction of either of the two expansion projects will allow service proposed on other, unidentified hypothetical expansion projects to be achieved at a much lower cost.<sup>64</sup> Because the Eastern System Upgrade and Valley Lateral have no pertinent physical, functional, or financial link, the timing of the projects has no relevance. Accordingly, the Eastern System Upgrade and Valley Lateral are not connected actions as defined by section 1508.25(a)(1) of CEQ's regulations.

67. Delaware Riverkeeper also argues that the EA fails to satisfy the factors established in *Taxpayers Watchdog, Inc. v. Stanley*,<sup>65</sup> namely whether the project has logical termini, substantial independent utility, and does not foreclose the opportunity to consider alternatives. Delaware Riverkeeper claims that the Eastern System Upgrade lacks independent utility because it could not function properly without the Valley Lateral or other hypothetical unidentified future pipeline projects. In addition, it argues that the Commission is mistaken when it states that projects have independent utility if they are designed to serve different customers at different points in time. Delaware Riverkeeper adds that the Eastern System Upgrade has no logical termini because the project's physical end does not turn on the project's individual contract. In the alternative, it contends that because the Eastern System Upgrade ends where the Valley Lateral begins, the Eastern System Upgrade's logical termini is the Valley Lateral, demonstrating the two projects are connected. Delaware Riverkeeper also argues that because the Eastern System Upgrade will create inefficiencies and public safety issues on Millennium's system, Millennium has foreclosed the alternative of not fully looping the pipeline.

68. As we explain above, the Eastern System Upgrade facilities are necessary to deliver the quantities of gas contracted for by the project shippers. With respect to the logical termini factor, the placement and termini of pipeline looping is based on the engineering and hydraulics necessary to add capacity to an existing system sufficient to provide the contracted-for level of firm transportation service between designated receipt and delivery points. Unlike a metro rail system, which was the infrastructure under consideration in *Taxpayer Watchdog*, the logical termini of pipeline expansion loops are

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<sup>64</sup>*C.f. Delaware Riverkeeper Network*, 753 F.3d at 1316-17 (finding improper segmentation based, in part, on record evidence that the projects were financially interdependent).

<sup>65</sup> 819 F.2d 294 (D.C. Cir. 1987) (*Taxpayer Watchdog*).

not necessarily coterminous with the contracted receipt and delivery points (or what would be the stations in the case of a rail system). The termini of this project were based on the engineering and hydraulics necessary to add capacity to Millennium's existing system. Millennium's Eastern System Upgrade and Valley Lateral comport with the *Taxpayer Watchdog* independent utility test because, as discussed above, each project would proceed irrespective of the other. Further, Delaware Riverkeeper's assertion that Millennium is required to loop the entire mainline pipeline is false and conjectural. No such proposal is pending before the Commission and Millennium is not required to upgrade its mainline for safety purposes.<sup>66</sup>

69. We also find that the Eastern System Upgrade and Valley Lateral are not cumulative or similar actions, and neither Delaware Riverkeeper nor any other commenter offers any explanation as to why the Eastern System Upgrade and Valley Lateral should be characterized as such.<sup>67</sup> Actions are cumulative if, when viewed with other proposed actions, they have cumulatively significant impacts and should therefore be discussed in the same environmental document.<sup>68</sup> The EA assesses the Eastern System Upgrade's cumulative effect on resources that are affected by both the Eastern System Upgrade and the Valley Lateral, including geology and soils, water resources and wetlands, vegetation and wildlife, land use and visual resources, and air quality.<sup>69</sup> The EA concludes that the Eastern System Upgrade would contribute a negligible to minor cumulative impact when the effects of the project are added to those of the Valley Lateral.<sup>70</sup> Accordingly, the Eastern System Upgrade and Valley Lateral are not "cumulative actions" as defined by section 1508.25(a)(2) of the CEQ's regulations.

70. The CEQ regulations define "similar actions" as those actions "which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography."<sup>71</sup> The projects serve different customers and are physically, functionally, and financially independent. Accordingly, we find that

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<sup>66</sup> EA at 151 (stating the Eastern System Upgrade would represent a slight increase in risk to the nearby public).

<sup>67</sup> See also *Millennium Pipeline Co., L.L.C.*, 161 FERC ¶ 61,194 at PP 31-32.

<sup>68</sup> 40 C.F.R. § 1508.25(a)(2) (2017).

<sup>69</sup> EA at 151-66.

<sup>70</sup> *Id.* at 166.

<sup>71</sup> 40 C.F.R. § 1508.25 (2017).

preparation of separate EAs for the Eastern System Upgrade and Valley Lateral is both appropriate and consistent with CEQ guidance.

71. Moreover, even if, for the sake of argument, the Commission were to find that the projects were similar actions, our determination as to whether to prepare a single environmental document for similar actions is discretionary.<sup>72</sup> CEQ states that “[a]n agency *may* wish to analyze [similar] actions in the same impact statement. It *should* do so when the *best way* to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement.”<sup>73</sup> We do not find that such a multi-project analysis is the best way to assess the impacts or alternatives to the Eastern System Upgrade.

#### 4. Geology and Soils

72. One commenter expresses concern for long-term impacts on soils.<sup>74</sup> The EA concludes that impacts on soils would be adequately minimized with implementation of Millennium’s Environmental Construction Standards.<sup>75</sup>

73. Delaware Riverkeeper asserts that the EA erroneously relies on Millennium’s erosion and sedimentation measures to find that impacts from steep slopes will be minimal and that there would be no harm from landslides. Citing a report prepared by Princeton Hydro, Delaware Riverkeeper states that similar measures failed for similar pipeline projects located on steep slopes, but neither Delaware Riverkeeper nor Princeton Hydro specifically identify those projects.

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<sup>72</sup> See *Earth Island Institute v. U.S. Forest Service*, 351 F.3d 1291, 1305-06 (9th Cir. 2003) (finding agency’s decision to not prepare a single EIS for similar actions was proper).

<sup>73</sup> 40 C.F.R. § 1508.25(a)(3) (2017) (emphasis added); see also *Klamath-Siskiyou Wildlands Center v. Bureau of Land Management.*, 387 F.3d 989, 1001-01 (9th Cir. 2004) (emphasizing that agencies are only required to assess similar actions programmatically when such review is necessarily the best way to do so).

<sup>74</sup> K. Bushell April 26, 2017 Comments.

<sup>75</sup> EA at 52-53.

74. Section B.1.1 of the EA discusses the total length of steep slopes crossed by the project and the potential for landslides in these areas.<sup>76</sup> The EA concludes that project construction and operation would not increase the risk of landslides,<sup>77</sup> not that there would be no harm from a landslide should one occur. The EA bases its finding on the project design, which avoids construction across steep slopes where practicable (e.g., at the Neversink River) and employs special construction techniques (e.g., cut-and-fill) where steep side-slope construction is unavoidable.<sup>78</sup> Further, the EA finds that Millennium will minimize potential risks from landslides and erosion by implementing its Environmental Construction Standards, which provide that revegetation efforts will continue until revegetation is successful.<sup>79</sup> These standards adhere to New York State Department of Agriculture and Markets guidance<sup>80</sup> and, as stated above, meet or exceed the measures in our *Plan* and *Procedures*. As for effects of blasting shallow bedrock, Millennium has prepared and is required to comply with a project-specific Bedrock Blasting Plan to minimize and mitigate blasting effects.<sup>81</sup>

75. As stated above, Millennium will adhere to its Environmental Construction Standards during construction. As noted, these standards adhere to New York State Department of Agriculture and Markets guidance and meet or exceed the measures in the Commission's *Plan* and *Procedures*, which reflect best practices and have proven effective on hundreds of projects constructed under the Commission's jurisdiction. Moreover, during project construction and restoration, Millennium will

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<sup>76</sup> *Id.* at 44. Table A-10 of the EA lists the areas of steep slopes crossed by the Huguenot Loop by milepost. *Id.* at 34. Because the table rounded the mileposts for presentation purposes, the mileposts do not equal the total length of steep slopes reported in the text (about 1.1 miles). *Id.* at 44.

<sup>77</sup> *Id.* at 45.

<sup>78</sup> *Id.* at 33-34.

<sup>79</sup> Millennium Environmental Construction Standards (filed as an attachment to its March 8, 2017 Filing) at 24; *see also* EA at 45.

<sup>80</sup> New York State Department of Agriculture and Markets Pipeline Right-of-Way Construction Projects Agricultural Mitigation through the Stages of Planning, Construction/Restoration and Follow-up Monitoring (2011), <https://www.agriculture.ny.gov/ap/agservices/WEBAPConstrGuides.pdf> (providing agricultural mitigation standards and practices for the construction of transmission pipelines and post-construction restoration activities that affect agricultural land).

<sup>81</sup> Millennium July 29, 2016 Application at Appendix 1B.

employ environmental inspectors to ensure compliance with its Environmental Construction Standards, other measures proposed in its application as amended, and conditions appended to this order. Among other things, the inspectors will be responsible for inspecting and ensuring the maintenance of temporary erosion control measures. If Millennium fails to comply with this order or other federal and state permits, Millennium would be subject to enforcement by the Commission<sup>82</sup> and potentially by other permit administering agencies. Accordingly, we affirm the EA's finding that the construction and operation of the project will not increase the risk of landslides.

76. Further, Delaware Riverkeeper comments on the low revegetation potential of project area soils and shallow bedrock in the project area, which may require blasting and further soil disturbance. Delaware Riverkeeper also states that the EA does not address discrepancies with Millennium's soil calculations that Princeton Hydro identifies.

77. The discrepancies identified by Princeton Hydro relate to staff's use of the K-factor to determine soil erodibility. The K-factor is an index that quantifies the relative susceptibility of soil to erosion and accounts for soil characteristics, including texture and structure. Princeton Hydro's report argues that the K-factor insufficiently determines erodible soils because it does not account for the slope of the soil and assumes soils are undisturbed. Table B-1 of the EA identifies 4.7 percent of the project area as having highly water erodible soils based on the K-factor of each soil type. While we recognize that soils on slopes may be more prone to erosion and that land disturbing activities could increase the potential for erosion and sedimentation, we find that staff appropriately used the K-factor to identify soils. A K-factor is assigned to soil map units based on extensive research and are valuable in characterizing the susceptibility of soils to erosion in the project area. Accordingly, we find that staff's analysis of impacts to geology and soils was proper.

## 5. Water Resources

### a. Groundwater

78. Several commenters express concerns regarding impacts on springs and drinking water. Delaware Riverkeeper comments that pipeline trenches can divert groundwater and alter the hydrologic cycle in the vicinity of the pipeline right-of-way. Further, Delaware Riverkeeper asserts that the project could adversely affect several sensitive shallow and principal aquifers used by New York City, including the Ramapo River

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<sup>82</sup> 15 U.S.C. § 717s(a) (2012) (the Commission may enjoin actions that violate the provisions of its certificate orders); *id.* 717t(b) (authorizing the Commission to impose penalties on any person who willfully and knowingly violates its orders).

Basin Aquifer, the Delaware River Streamflow Zone recharge area for the New Jersey Coastal Plains Aquifer Sole Source Aquifer, and the New Jersey Fifteen Basin Aquifers Systems Sole Source Aquifer.

79. The EA identifies the sole source aquifers, primary aquifers, source water protection areas, water supply wells, and seeps or springs within the project vicinity.<sup>83</sup> The EA finds that groundwater could sustain minor impacts from temporary changes in overland water flow and recharge in areas where the water table is near the surface, and that soil compaction from construction could affect water absorption in soil, thereby reducing groundwater recharge. Millennium, however, will mitigate these effects by revegetating the right-of-way to restore the preconstruction overland flow and recharge patterns pursuant to its Environmental Construction Standards.<sup>84</sup> The EA also recognizes that inadvertent spills of fuel or hazardous materials could affect groundwater, but Millennium will implement its Spill Prevention Response Plan and Unanticipated Discovery of Contamination Plan, included in its Environmental Construction Standards, to reduce potential impacts should a spill occur, identify the type and extent of contamination, and develop a response action.<sup>85</sup>

80. As for effects of pipeline trenching, the EA states that no springs or seeps are located within the trenchline of the Huguenot Loop.<sup>86</sup> Moreover, Millennium's Environmental Construction Standards provide that Millennium will install trench breakers to slow groundwater flow along the trench, and Environmental Condition 12 in Appendix B of this order requires Millennium to conduct post-construction monitoring of well yield and water quality for wells within 150 feet of construction workspace. Based on these measures, the EA concludes,<sup>87</sup> and we agree, that the project would not result in significant long-term or permanent impacts on groundwater resources in the project area.

**b. Surface Water**

81. Commenters express concern regarding impacts on water quality in surface waterbodies, including tributaries to Halfway Brook, the Delaware River, and Delaware Lake. Some commenters state that the EA does not assess water quality or quantitative

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<sup>83</sup> EA at 54-56.

<sup>84</sup> *Id.* at 57.

<sup>85</sup> *Id.*

<sup>86</sup> *Id.* at 55.

<sup>87</sup> *Id.* at 58.

water quality data. Delaware Riverkeeper states that Millennium's proposed trench and horizontal directional drill (HDD) methods will increase sediment erosion and adversely affect the biological integrity of streams. Similarly, another commenter expresses concern about stream quality impacts associated with the HDD crossing of the Neversink River and its tributaries S-19, S-20, and S-21.<sup>88</sup> FWS recommends that the Commission give special attention to erosion and sedimentation controls, and require trenchless construction methods (i.e., conventional boring and HDD) in all waterbodies the New York DEC classifies as fisheries of special concern or designated as Class A, B, or C(T). For those streams where dry crossings are used, FWS recommends that Millennium take precautions to minimize impacts to aquatic biota. Further, FWS recommends an environmental inspector be on-site during in-stream construction to ensure erosion and sedimentation controls are appropriately implemented.

82. The EA concludes, and we affirm, that, with the implementation of Millennium's Environmental Construction Standards as well as applicable permit conditions, impacts on surface water quality would not be significant.<sup>89</sup> Section B.2.2 and Appendix E of the EA identify the waterbodies that the project will cross, the proposed crossing methods, and the impairment status and designated uses of waterbodies (which are developed based on quantitative water quality data).<sup>90</sup> The EA states that the project does not cross the Upper Delaware River or Halfway Brook, and, therefore, direct impacts on these waterbodies or associated riparian vegetation would not occur.<sup>91</sup> Similarly, the project will not directly affect or cross Delaware Lake or tributaries S-20 and S-21, which are not located within 50 feet of construction work areas. The project will cross S-19 using HDD.<sup>92</sup>

83. Based on our staff's experience, Millennium's proposed waterbody crossing methods will adequately minimize impacts. Millennium will construct waterbody crossings in accordance with state and federal permits and its Environmental Construction Standards to appropriately minimize impacts on waterbodies during construction. Millennium will cross all waterbodies classified as fisheries of special concern or designated as Class A, B, or C(T) by the New York DEC using trenchless methods, except for Shin Hollow Brook (S-12) and HC-S-01 Unnamed Tributary to

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<sup>88</sup> Stephen Metts May 1, 2017 Comments.

<sup>89</sup> EA at 64.

<sup>90</sup> *Id.* at Appendix E.

<sup>91</sup> *Id.* at 61.

<sup>92</sup> *Id.* at Appendix E, E-1.

Pea Brook. Millennium will cross Shin Hollow Brook using a dry-ditch construction method, and HC-S-01 Unnamed Tributary to Pea Brook using an existing bridge and culvert.<sup>93</sup> Since the issuance of the EA, Millennium filed site-specific crossing plans for the waterbodies that will be crossed via dry-ditch construction methods, including Shin Hollow Brook, and revised the boundaries of Staging Area 4 to avoid impacts on waterbody S-01 (an unnamed tributary to Rutgers Creek). Commission staff has reviewed these site-specific plans and revised workspace locations and finds them acceptable to further minimize waterbody impacts and consistent with those identified in our *Procedures* (see section V.6) for classified fisheries or special use waterbodies.

84. Millennium's use of the conventional bore and HDD crossing method would avoid direct impacts on fisheries during construction at crossings of five waterbodies, including the Neversink River and Rutgers Creek.<sup>94</sup> Where waterbodies are crossed by HDD, hand-clearing will occur during construction and no vegetation maintenance along the path of the HDD will occur during project operation. Millennium will also limit routine vegetation and mowing within the riparian strip along the waterbody edge. The EA states that water quality and aquatic species could be affected by an inadvertent release of HDD drilling fluid or an accidental spill of hazardous material into a waterbody;<sup>95</sup> however, Millennium's adherence to its HDD Plan and Environmental Construction Standards would minimize the potential for these impacts, as well as the response time for notification and clean-up should an inadvertent release or spill occur.<sup>96</sup> Further, in accordance with its Environmental Construction Standards and Environmental Condition 7 in the Appendix B to this order, Millennium will assign to each construction spread a minimum of one environmental inspector, who will be knowledgeable of the wetland and waterbody conditions, and who is responsible for inspecting construction activities for compliance with conditions in this order and other environmental permit conditions.

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<sup>93</sup> *Id.* at 77.

<sup>94</sup> Because Millennium has not provided the results of geotechnical investigations to assess the feasibility of HDD construction at Rutgers Creek and has not provided an assessment of noise impacts on noise sensitive areas (NSA) in the vicinity of entry and exit pits proposed at mileposts 7.2 and 7.4, we have included new Environmental Condition 19, requiring further study of and imposing construction restrictions regarding this crossing, in Appendix B of this order.

<sup>95</sup> EA at 62.

<sup>96</sup> *Id.* at 63.

85. Additionally, Princeton Hydro comments that hydrostatic testing water from a commercial source could contain chlorine, chloramines, or fluoride that could impact biota of a receiving stream or wetland. While it is common that commercial or municipal potable water sources could be chlorinated, and have fluoride added, Princeton Hydro's statement is speculative and does not specify which biota is sensitive to water chlorination and/or fluoride. Further, spent hydrostatic test waters are not discharged directly into a stream but through energy dissipating devices in upland areas. Accordingly, we affirm the EA's finding that the impacts from discharge of hydrostatic test water would be temporary and minor.<sup>97</sup>

86. Delaware Riverkeeper asserts that the EA provides little or no analysis of the cumulative impact on subwatersheds and tributary basins that would occur from construction, operation, and post-construction mitigation of the Eastern System Upgrade, Valley Lateral, the CPV Valley Energy Center, and other hypothetical, unidentified projects. Delaware Riverkeeper adds that the EA should have considered Millennium's potential non-compliance with environmental conditions in its cumulative impacts analysis.

87. The EA assesses cumulative impacts on water resources and wetlands in each Hydrologic Unit Code-12 (HUC-12) subwatershed crossed by the project.<sup>98</sup> The EA includes Millennium's existing pipeline as a past action that is described as part of the affected environment. The EA concludes that the Eastern System Upgrade, in addition to the other projects within each HUC-12 (including the Valley Lateral and CPV Valley Energy Center), would result in temporary and minor cumulative impacts on water resources and wetlands,<sup>99</sup> noting that the Eastern System Upgrade and the other projects are required to comply with any mitigation requirements and conditions in their Clean Water Act section 401 water quality certifications, Clean Water Act section 404 permits, and state wetland permits. The EA appropriately did not consider other hypothetical, unidentified projects as those are conjectural and not reasonably foreseeable.<sup>100</sup>

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<sup>97</sup> *Id.* at 64.

<sup>98</sup> *Id.* at 157.

<sup>99</sup> *Id.*

<sup>100</sup> *Wilderness Workshop v. U.S. Bureau of Land Management*, 531 F.3d 1220, 1228-31 (10th Cir. 2008) (holding that NEPA does not require the agency to analyze the impacts of future actions that were "speculative" or not "imminent" connected actions); *Sierra Club v. Lujan*, 949 F.2d 362, 368 (10th Cir. 1991) ("NEPA does not require an agency to consider the environmental effects that speculative or hypothetical projects

88. Commission staff also properly did not consider potential non-compliance when assessing the project's cumulative effects on water resources. As stated above,<sup>101</sup> during project construction and restoration, Millennium must employ environmental inspectors to ensure compliance with Millennium's Environmental Construction Standards, other measures proposed in Millennium's application as amended, and conditions appended to this order. If Millennium fails to comply with this order or other federal and state permits, Millennium would be subject to enforcement by the Commission and potentially by other permit-administering agencies. Based on the avoidance and minimization measures discussed in the EA, together with the environmental conditions included in Appendix B of this order, we agree with the EA's conclusions that cumulative impacts on wetlands and waterbodies will be temporary and minor.

## 6. Wetlands

89. One commenter expresses concern that the EA does not identify mitigation for potential releases of HDD drilling fluids in wetland habitats and does not provide information on the toxicity or quantity of fluids that could be released from HDD activities.<sup>102</sup> Millennium has provided an acceptable HDD Contingency Plan that addresses the prevention, detection, required notifications, and response to any inadvertent releases of drilling fluid in upland areas, wetlands, and waterbodies. In any event, as the EA states, drilling mud is made of a naturally occurring non-toxic bentonite clay material and water, and is used to stabilize the borehole.<sup>103</sup> Due to the non-toxic nature of bentonite clay, a release of drilling mud will not introduce hazardous substances into the environment.

90. FWS recommends that the Commission require Millennium to provide compensatory mitigation for wetland impacts. The EA finds that with the implementation of Millennium's Environmental Construction Standards, adherence to applicable permits, and HDD methods, wetland impacts associated with the construction and operation of the project would not be significant.<sup>104</sup> Nevertheless, while we will not require compensatory mitigation, we note, as the EA states, that Millennium is consulting with the U.S. Army Corps of Engineers regarding impacts on wetlands, and will comply

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might have on a proposed project.”).

<sup>101</sup> See *supra* at PP 74, 83.

<sup>102</sup> Richard K. Malenky, Ph.D. May 2, 2017 Comments.

<sup>103</sup> EA at 28.

<sup>104</sup> *Id.* at 70.

with applicable permits for wetland impacts.<sup>105</sup> Environmental Condition 9 in the Appendix B to this order requires all federal approvals be obtained before commencing project construction, including a Clean Water Act section 404 discharge permit from the Corps, which may require compensatory mitigation.<sup>106</sup>

## 7. Vegetation

91. Commenters are concerned that the forest clearing for the permanent right-of-way, compressor site, and additional temporary workspace will have long-term impacts on forested habitat and cause forest fragmentation. The EA concludes that impacts on forest vegetation would be long-term because the regrowth of tree species could take 20 to 50 years.<sup>107</sup> However, about 88 percent of the proposed pipeline will be adjacent to or will overlap Millennium's existing mainline right-of-way, and thus, forest fragmentation will be minimized.<sup>108</sup>

92. Commenters also express concern that forest fragmentation will increase the potential for invasive species establishment. FWS recommends that Millennium identify and incorporate best management practices to limit the spread of invasive species, and that Millennium file its Invasive Species Management Plan for review. FWS also recommends that the Commission require Millennium to map the locations of invasive plants and remove all invasive plants from work areas during post-construction monitoring. Section B.3.1 of the EA states that Millennium will implement its Invasive Species Management Plan, which Millennium attached to its application,<sup>109</sup> and its Environmental Construction Standards, which include measures to control the spread of invasive species.<sup>110</sup> We find that Millennium's proposed invasive species management is acceptable.

93. FWS recommends that Millennium not burn vegetation cleared from the right-of-way, and that it pile forest slash along the edge of the right-of-way to provide wildlife habitat. Section B.3.1 of the EA states that vegetation cleared during construction will be

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<sup>105</sup> *Id.* at 69.

<sup>106</sup> *Id.* at 183.

<sup>107</sup> *Id.* at 75.

<sup>108</sup> *Id.*

<sup>109</sup> Millennium July 29, 2016 Application at Appendix 3B.

<sup>110</sup> EA at 76.

burned, chipped (except in wetlands), or otherwise handled per individual landowner agreements.<sup>111</sup> Environmental Condition 7 of Appendix B of this order requires Millennium to dispose of vegetation in accordance with applicable regulations and ordinances. We find these measures acceptable.

94. FWS recommends that Millennium seed disturbed areas with native plant species and annual rye. The EA states that Millennium will re-seed disturbed areas using seed mixes in accordance with New York DEC recommendations and its Environmental Construction Standards, unless otherwise specified during landowner consultation or by permit requirements.<sup>112</sup> Millennium's Environmental Construction Standards state that unsaturated wetlands will be seeded with annual rye grass, and New York DEC-regulated wetlands will be revegetated with a native seed mix.<sup>113</sup>

95. To minimize wildlife habitat disturbance, FWS recommends that Millennium limit maintenance of the permanent right-of-way to a 5-to-8-year cycle for tree and shrub clearing. Right-of-way maintenance is necessary to maintain accessibility to the right-of-way and accommodate pipeline integrity surveys. Millennium will implement the measures in its Environmental Construction Standards and will limit its right-of-way vegetation maintenance over the full width of the permanent right-of-way to no more than once every three years. Further, routine vegetation maintenance clearing will not occur between April 15 and August 1, to minimize potential effects on migratory birds,<sup>114</sup> and Millennium will avoid routine maintenance activities in wetlands and waterbody riparian areas between HDD entry and exit points. Millennium's vegetation maintenance measures are acceptable.

## 8. Wildlife Resources and Migratory Birds

96. Commenters express concern regarding impacts of the project, particularly the Highland Compressor Station, on wildlife. They argue that the EA's conclusion finding that the project will have no significant impact on wildlife is not supported by quantitative data, and that the EA only generally characterizes the affected habitat. Further, they state that the EA does not address long-term impacts on wildlife from

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<sup>111</sup> *Id.* at 74.

<sup>112</sup> *Id.* at 75.

<sup>113</sup> *Id.* at 29.

<sup>114</sup> We note that Commission staff developed its *Plan's* vegetation maintenance mitigation measures and vegetation clearing restrictions in consultation with the FWS.

operating the compressor stations, including habitat degradation, leaks of hazardous materials, and accidents.

97. The EA quantifies the project's effects on wildlife habitat during construction and operation of the Eastern System Upgrade,<sup>115</sup> and concludes that long-term and permanent impacts on wildlife habitat would occur where forested vegetation is cleared for construction and within the permanent project footprint. The EA states that project construction in its entirety will affect 84 acres of forested land and project operation 27.6 acres;<sup>116</sup> construction of the Highland Compressor Station will affect 16.8 forested acres and its operation 5.3 forested acres.<sup>117</sup> The EA states that while some individual wildlife mortality may occur because of the project, these effects would occur at the individual level during construction and would be minor.<sup>118</sup> Further, similar habitats that are near the project can support displaced wildlife.<sup>119</sup>

98. Millennium will implement prevention and mitigation measures to reduce project effects on wildlife, including spill prevention measures and cleanup procedures in its Spill Prevention and Response Plan. Aboveground pipeline facilities, including compressor stations, must also be designed, constructed, operated, and maintained in accordance with DOT's *Minimum Federal Safety Standards*. DOT's standards are intended to ensure adequate protection for the public and prevent natural gas facility accidents and failures,<sup>120</sup> and also protect wildlife. Accordingly, we agree with the EA's finding that the construction and operation of the project would not have population level impacts or significant adverse impacts on wildlife.<sup>121</sup>

99. FWS states that the EA provides no baseline data regarding the reptiles and amphibians that could be harmed by project construction. The EA identifies reptiles and amphibians that may potentially occur in wetlands within the project area, including the green frog, northern water snake, and numerous turtles and other frogs, and assesses

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<sup>115</sup> EA at 74.

<sup>116</sup> *Id.* at 93.

<sup>117</sup> *Id.* at 73.

<sup>118</sup> *Id.* at 83.

<sup>119</sup> *Id.* at 75, 83.

<sup>120</sup> *Id.* at 143.

<sup>121</sup> *Id.* at 83.

impacts on wildlife generally.<sup>122</sup> Other amphibians and reptiles that may occur in the project area include the eastern box turtle, painted turtle, common snapping turtle, eastern garter snake, eastern racer, American bullfrog, American toad, northern redback salamander, and red spotted newt.<sup>123</sup> Because these amphibians and reptiles would experience the same project effects as other wildlife, the EA's finding that the project would not have significant adverse impacts on wildlife also applies to these species.

100. One commenter notes that Millennium's bird survey did not sufficiently identify bird species in the project area.<sup>124</sup> Other commenters state that the Commission did not consider Audubon New York's recommendation that independent bird surveys be conducted at the Highland Compressor Station site.

101. We find Commission staff appropriately considered project effects on bird species in the project area. In accordance with the Commission's Memorandum of Understanding with FWS regarding the implementation of Executive Order 13186 for the protection of migratory birds, FWS shared information on migratory birds during Commission staff's initial project review.<sup>125</sup> FWS identified no particular species of concern that warranted species-specific surveys, other than the bald eagle. Audubon New York's comments on independent bird surveys are based on its mistaken assumption that the Highland Compressor Station would be located within the Mongaup Valley Wildlife Management Area (WMA).<sup>126</sup> However, the Highland Compressor Station will be located about 0.6 mile outside of that area.<sup>127</sup> Based on the distance, rolling topography, and wooded land between the proposed Highland Compressor Station site and the wildlife management area, Commission staff does not anticipate any direct or indirect

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<sup>122</sup> *Id.* at 80, 82.

<sup>123</sup> New York DEC, New York State Amphibian and Reptile Atlas Project, <http://www.dec.ny.gov/animals/7140.html>.

<sup>124</sup> George Billard May 1, 2017 Comments at 2.

<sup>125</sup> *See Notice of Availability of a Memorandum of Understanding Between the Federal Energy Regulatory Commission and the U.S. Fish and Wildlife Service to Promote Conservation of Migratory Birds*, 76 Fed. Reg. 18,754 (April 5, 2011).

<sup>126</sup> Audubon New York October 24, 2016 Comments. The Mongaup Valley Wildlife Management Area was designated by the Audubon Society as an Important Bird Area and provides habitat for bald eagles and other species that use forested habitat.

<sup>127</sup> EA at 81.

impacts on the wildlife management area as a result of project construction or operation.<sup>128</sup> We concur.

102. FWS comments that construction activity in cleared areas could disturb forest-dwelling breeding migratory birds, and that construction noise, lighting, dust, and emissions may disrupt wildlife activity. Section B.3.3 of the EA addresses potential short-term impacts on migratory birds.<sup>129</sup> Construction activities may disrupt wildlife occupying habitats near the project; however, noise levels in those areas will return to background levels during project operation. The EA states Millennium will design aboveground facilities and use equipment that minimizes potential noise impacts on migratory birds and benefits other local wildlife. Millennium will reduce fugitive emissions through the application of dust suppressants to disturbed work areas.<sup>130</sup> Emissions associated with the construction-related activities will be temporary and will not cause, or significantly contribute to, a violation of any applicable ambient air quality standard.<sup>131</sup> Accordingly, we agree with the EA's conclusions that based on the analyses conducted and Millennium's proposed mitigation measures, including timing restrictions for vegetation clearing, project construction will not significantly affect wildlife, including migratory birds.

103. FWS states that the EA does not address the magnitude of cumulative impacts on migratory birds and does not mention the original impacts from the construction of Millennium's existing pipeline. The EA discusses cumulative impacts of wildlife, which includes migratory birds,<sup>132</sup> and includes Millennium's existing pipeline as a past action that is described as part of the affected environment. The EA concludes that similar migratory bird habitats near construction activities may support displaced wildlife.<sup>133</sup> Further, because Millennium will collocate 88 percent of the pipeline with existing rights-of-way, new fragmentation of interior forest will be minimized.

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<sup>128</sup> *Id.*

<sup>129</sup> *Id.* at 83-84.

<sup>130</sup> *Id.* at 127.

<sup>131</sup> *Id.* at 161.

<sup>132</sup> *Id.* at 158.

<sup>133</sup> *Id.*

## 9. Threatened and Endangered Species

104. Below we address comments regarding project effects on the dwarf wedgemussel, Indiana bat, bald eagle, and timber rattlesnake, and regarding staff's process for assessing project effects on threatened and endangered species.

### a. Dwarf Wedgemussel

105. Delaware Riverkeeper argues that threats to the dwarf wedgemussel, which occurs in the Neversink River,<sup>134</sup> cannot be mitigated or avoided because the project will remove the forested riparian zone, causing increases in sedimentation and turbidity. Other commenters state that the project will adversely affect the mussel based on Commission staff's EA for the Minisink Compressor Project, filed in Docket CP11-515-000. Those commenters note that the EA for the Minisink Compressor Project found that a project alternative called the Wagoner Alternative could impact the dwarf wedgemussel when the alternative's proposed pipeline would have crossed the Neversink River.<sup>135</sup>

106. The EA finds,<sup>136</sup> and the FWS has concurred, that the project may affect, but is not likely to adversely affect the dwarf wedgemussel.<sup>137</sup> We affirm the EA's finding. Commission staff's general discussion of the Wagoner Alternative's potential effects on the dwarf wedgemussel, on which the Commission never formally consulted with FWS, has no pertinence here. In this case, Millennium will avoid direct impacts on the Neversink River by using the HDD construction method. Vegetation removal in the forested riparian zone will be limited to hand-clearing of small-diameter vegetation along the path for laying the telemetry cable between the HDD entry and exit points. Millennium's geotechnical investigations at the Neversink River indicate that the

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<sup>134</sup> *Id.* at 89.

<sup>135</sup> Commission Staff February 29, 2012 Environmental Assessment for the Minisink Compressor Project Docket CP11-515.

<sup>136</sup> EA at 90.

<sup>137</sup> U.S. Fish and Wildlife Service July 19, 2017 at 3. The conclusion that an action "may affect, but is not likely to adversely affect" is appropriate "when effects to the species or critical habitat are expected to be beneficial, discountable, or insignificant." U.S. Fish and Wildlife Service and National Marine Fisheries Service, Endangered Species Consultation Handbook at B-55, [https://www.fws.gov/endangered/esa-library/pdf/esa\\_section7\\_handbook.pdf](https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf).

subsurface materials are favorable for HDD installation and there is low risk for an inadvertent release of drilling fluids along the planned crossing.<sup>138</sup>

107. To avoid adverse effects to the Neversink River during the HDD installation, Millennium will designate a minimum of one environmental inspector to monitor HDD activities and will contact FWS within 24 hours of the inadvertent return, or as soon as practicable. Millennium has also committed to consult with FWS regarding the measures it will implement to protect mussels, which could include surveys and temporary relocation. Further, Millennium will implement its Spill Prevention and Response Plan and Environmental Construction Standards to reduce potential inadvertent leaks, spills of hazardous materials, or sedimentation from entering the Neversink River.

108. If the HDD is unsuccessful, Millennium would implement an alternative open-cut crossing of the Neversink River.<sup>139</sup> This order does not authorize the alternative open-cut crossing. If the alternative crossing method is required, Millennium shall request a variance from the Commission and, pursuant to Environmental Condition 18 in Appendix B of this order, consult with applicable agencies, including FWS, to obtain further approvals before implementing the open-cut crossing.

**b. Indiana Bat**

109. Commenters state that the project will adversely affect the federally endangered Indiana bat. They also add that Millennium's proposed installation of artificial roost structures will not adequately mitigate adverse effects on the bats.

110. The EA concludes, and the FWS has concurred,<sup>140</sup> that the project may affect, but is not likely to adversely affect the Indiana bat.<sup>141</sup> We affirm the EA's finding. The EA states that two known summer roost sites were identified within 2.5 miles of the Huguenot Loop, within 1.1 and 1.4 miles from the project site. Given the distance of these roost sites from project construction, which will be limited to daytime hours except during HDD, Commission staff does not anticipate that noise, fugitive dust, or lighting from pipeline construction will affect roosting Indiana bats. We concur.

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<sup>138</sup> EA at 28.

<sup>139</sup> *Id.*

<sup>140</sup> Fish and Wildlife Service July 19, 2017 Filing at 2.

<sup>141</sup> EA at 89.

111. Millennium will also install artificial roost structures, a common mitigation measure, within the project area where it is within areas of known Indiana bat occurrence. In addition, Millennium will conduct all tree clearing between October 1 and March 31 when Indiana bats are hibernating or concentrated near their hibernacula. While unlikely, if Indiana bats are foraging in the project vicinity, bats will likely avoid active construction areas and will return to the project area when construction activity has ceased. Millennium has also committed to either plant or acquire and preserve about 9.5 acres of trees in Orange County, New York, to mitigate for the loss of potential Indiana bat habitat.<sup>142</sup> If trees are planted, Millennium will plant shagbark hickory, white oak, and sugar maple, which provide suitable bat roosting habitat.<sup>143</sup> We find these mitigation measures to be adequate.

**c. Bald Eagle**

112. Commenters are concerned about project impacts on bald eagles within the project vicinity and overwintering bald eagle habitat in the Neversink River corridor.<sup>144</sup> FWS recommends that if blasting occurs within 0.5 mile of a bald eagle nest, that Millennium complete blasting between September 1 and November 30 to avoid disturbing nesting bald eagles.

113. Project construction and operation activities will occur well beyond the 660-foot minimum distance to bald eagle nests recommended by FWS's *National Bald Eagle Management Guidelines*.<sup>145</sup> While Millennium anticipates that blasting may be required along the Huguenot Loop between mileposts 0.8 and 1.1, these blasting locations are greater than 0.5-mile from the locations of known bald eagle nests. Further, Millennium has committed to conducting pre-construction surveys in the vicinity of the Neversink River crossing. If Millennium finds a new nest near the project area, Millennium will coordinate with FWS on its blasting activities and follow FWS's *National Bald Eagle Management Guidelines*.<sup>146</sup> Given Millennium's commitment to implementing FWS's

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<sup>142</sup> Fish and Wildlife Service July 19, 2017 at 2.

<sup>143</sup> Millennium June 13, 2017 FWS Concurrence Request at 3-4 (filed in Millennium's June 21, 2017 filing).

<sup>144</sup> Bald eagles are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, and by the State of New York as a threatened species.

<sup>145</sup> EA at 85.

<sup>146</sup> Fish and Wildlife Service July 19, 2017 Filing at 3.

guidelines, we affirm the EA's conclusion that the project will not adversely affect nesting bald eagles.<sup>147</sup>

114. We also anticipate, and FWS has agreed, that the project will have minimal effects on wintering bald eagles in the Neversink River corridor.<sup>148</sup> New York DEC identified no communal roost sites used by wintering bald eagles. Further, the Neversink River in the project area provides limited winter foraging habitat as it is shallow and freezes during the winter. If bald eagles are in the project vicinity during construction, they will be temporarily affected and will likely avoid areas of active construction. Individual eagles could find other suitable roosts in similar habitat surrounding the project area, and will likely return when construction activity has ceased.

**d. Timber Rattlesnake**

115. Commenters challenge the EA's finding that the project would not have an adverse effect on the state-threatened timber rattlesnake. Several commenters state that the project would negatively affect timber rattlesnake dens that they state are located near the Highland Compressor Station based on landowner accounts and GIS data developed by Delaware Riverkeeper. Delaware Riverkeeper and another commenter state that the timber rattlesnakes will be adversely affected by the vibrations from operating the Highland Compressor Station and Ramapo Meter Station, and by the cumulative impacts of the project along with the effects from Millennium's construction of its mainline in 2007 and 2008.<sup>149</sup>

116. The EA states that the project would not have an adverse effect on the timber rattlesnake because timber rattlesnakes were not identified within project workspaces and Millennium will implement its mitigation measures.<sup>150</sup> We affirm the EA's finding. The EA states that the New York Natural Heritage Program<sup>151</sup> has records of timber rattlesnake occurrences at six locations within 1.5 miles of the project workspaces,

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<sup>147</sup> EA at 85.

<sup>148</sup> Fish and Wildlife Service July 19, 2017 Filing at 3.

<sup>149</sup> The Commission considered Millennium's proposal to construct and operate its mainline in Docket No. CP98-150-000.

<sup>150</sup> EA at 91.

<sup>151</sup> The New York Natural Heritage Program is a partnership between the New York DEC and the State University of New York College of Environmental Science and Forestry.

including a known hibernacula and foraging area within 0.4 mile of the Ramapo Meter Station.<sup>152</sup> In 2016, Millennium conducted surveys for potential suitable habitat within the project area, and identified two timber rattlesnake dens within 900 feet from the Ramapo Meter Station and potential foraging habitat, but no dens, near the Highland Compressor Station site.<sup>153</sup>

117. Millennium will implement avoidance and mitigation measures during the construction and operation of the project. Millennium's Timber Rattlesnake Impact Assessment and Mitigation Plan states no construction activities will occur during timber rattlesnake hibernation periods and includes a project-specific Rattlesnake Encounter Plan.<sup>154</sup> Millennium has also proposed to install a snake barrier fence around the Highland Compressor Station site workspace, and hire a licensed, qualified timber rattlesnake biologist to monitor for timber rattlesnakes during construction outside of the hibernation period.<sup>155</sup> At the Highland Compressor Station site, Millennium will restore the project area with native brushy vegetation within temporary workspace limits to offset the permanent loss of forest habitat, and construct optimal basking habitat in the vicinity of the timber rattlesnake den nearest to the project site.<sup>156</sup> Millennium must also obtain a permit from the New York DEC, which has authority over state-listed species, that may have conditions to mitigate project effects on the timber rattlesnake.

**e. Procedural Concerns**

118. Delaware Riverkeeper contends that the EA prematurely made "may affect, not likely to adversely affect" or "no effect" findings for the federally listed bog turtle and northern long-eared bat and state listed timber rattlesnake, brook floater mussel, and putty root orchid before consultations with FWS and New York DEC were completed.

119. The EA's findings regarding the threatened and endangered species are not premature. The Commission staff does not wait for the issuance of federal, state and local permits to assess project impacts before making conclusions under NEPA. The issuance of federal, state, and local permits and approvals proceed on a parallel, but

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<sup>152</sup> EA at 91.

<sup>153</sup> *Id.*

<sup>154</sup> Millennium Timber Rattlesnake Impact Assessment and Mitigation Plan (filed in Millennium January 26, 2017 Supplemental Information Correspondence) at 7.

<sup>155</sup> *Id.* at 3, 16.

<sup>156</sup> *Id.* at 18.

separate, review process under the purview of the respective agencies with jurisdiction. Nevertheless, we note that FWS has concurred with the EA's determination that the project may affect, but will not adversely affect, the bog turtle, and stated that it had no further comment on Commission staff's streamlined form for compliance with FWS's rangewide consultation associated with the section 4(d) rule for the federally threatened northern long-eared bat.<sup>157</sup> Millennium's consultation with New York DEC is ongoing.

## 10. Land Use

120. Commenters state that Millennium has disregarded the Town of Highland, New York's zoning laws that expressly prohibit compressor stations and other high-impact industrial uses. State and local laws may not prohibit or unreasonably delay the construction of facilities approved by the Commission under the NGA.<sup>158</sup> The Commission is the lead federal agency with siting authority under the NGA, and any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this authorization.

121. One commenter states that if the Commission authorizes the Huguenot Loop to cross two parcels held in conservation easements with The Nature Conservancy, the Commission will violate a legally binding agreement and undermine conservation easements. NGA section 7(h) provides that a certificate holder is authorized to acquire the necessary land or property to construct the approved facilities by exercising the right of eminent domain if it cannot acquire the easement by an agreement with the landowner.<sup>159</sup> Nevertheless, the EA notes that Millennium has negotiated an easement agreement with the owner of one of the parcels, continues to work toward an easement agreement with the owner of the other parcel, and is actively consulting with The Nature Conservancy on the crossings of both these parcels.<sup>160</sup> Further, Environmental

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<sup>157</sup> Fish and Wildlife Service May 30, 2017 at 5.

<sup>158</sup> See 15 U.S.C. § 717r(d) (2012) (state or federal agency's failure to act on a permit considered to be inconsistent with Federal law); see also *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 310 (1988) (state regulation that interferes with FERC's regulatory authority over the transportation of natural gas is preempted) and *Dominion Transmission, Inc. v. Summers*, 723 F.3d 238, 245 (D.C. Cir. 2013) (noting that state and local regulation is preempted by the NGA to the extent it conflicts with federal regulation, or would delay the construction and operation of facilities approved by the Commission).

<sup>159</sup> 15 U.S.C. § 717f(h) (2012).

<sup>160</sup> EA at 104.

Condition 14 in Appendix B of this order requires that Millennium file with the Commission documentation of this consultation, including any specific mitigation measures identified in coordination with The Nature Conservancy, before construction.

122. One commenter expresses concern about siting portions of the project on agricultural lands, and recommends that these areas be avoided or that remediation of the land be documented. The EA concludes that project impacts on agricultural lands will be minor and temporary.<sup>161</sup> Millennium will implement measures in its Environmental Construction Standards, which incorporates measures from the New York State Department of Agriculture and Markets pipeline construction guidance.<sup>162</sup> These measures will minimize impacts on agricultural areas and include requirements regarding minimum pipeline cover depth, topsoil segregation, and post-construction monitoring and remediation. The EA states that Millennium will strip topsoil and stockpile topsoil separately from the subsoil, for placement back on the right-of-way following construction, within actively cultivated or rotated cropland, managed pastures, and hayfields.<sup>163</sup> Millennium will use matting to protect topsoil covering the construction right-of-way over Millennium's existing pipeline from the movement of equipment and construction activities. Following construction, Millennium will monitor agricultural lands for a minimum of two growing seasons. Based on these measures, we agree with the EA's findings that impacts on agricultural lands will be minor and temporary.

## 11. Socioeconomic Impacts

123. Commenters express concerns about the project's impacts on property values, the local tax base, and tourism. Commenters state that properties near existing and proposed compressor stations have been devalued because of the public's negative perception of the health effects from these facilities' emissions. Commenters state that the EA relies on only industry-funded studies and did not acknowledge the sources they provided that found the proximity of compressor stations adversely affect property values, including a report prepared by Key-Log Economics LLC. One commenter states that the Commission should provide a financial solution for property devaluation.

124. Section B.6 of the EA discusses potential impacts on local economics, including employment, housing, tax revenue, and property values.<sup>164</sup> The EA finds that because the

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<sup>161</sup> *Id.* at 75.

<sup>162</sup> *Supra* note 80.

<sup>163</sup> EA at 95.

<sup>164</sup> *Id.* at 111-17.

existing property values account for the mainline and aboveground facilities, the Huguenot Loop and the modifications to the existing aboveground facilities will not result in any long-term changes that would negatively affect property values.<sup>165</sup> Further, the EA finds that the operation of the Highland Compressor Station will not significantly affect adjacent property values because the compressor station would be located on a large parcel of land containing natural buffers (trees and hills), and will be screened from roadways, reducing noise and visual impacts.<sup>166</sup>

125. The EA acknowledges that the presence of a pipeline and compressor station could influence a potential buyer's decision to purchase a property, but does not find that such effect would be significant.<sup>167</sup> The EA cites a 2015 case study prepared by Real Property Service, LLC for National Fuel Gas Supply Corporation that assessed historical sales data for properties in proximity to 1 of 7 compressor stations in New York, including Millennium's Hancock Compressor Station. That study found no quantifiable impact on property values or appreciation rates for homes located in close proximity to a compressor station.<sup>168</sup> Commission staff also reviewed all links and citations provided in comment letters filed in this proceeding. Many of the sources are internet articles, some of which lack citations, and others are inapplicable or anecdotal, including the Key-Log Economics LLC report, which relied on a poll based on personal opinions and no actual real estate sales data. Accordingly, we conclude here, as we have in other cases,<sup>169</sup> that the proposed project is not likely to significantly impact property values in the project area. As the EA states, those current landowners who believe their property values have been negatively impacted can appeal to the local tax agency for reappraisal and potential tax reductions. Nothing in the NGA, however, gives the Commission the authority to award damages to address property devaluation.<sup>170</sup>

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<sup>165</sup> *Id.* at 114-15.

<sup>166</sup> *Id.* at 115.

<sup>167</sup> *Id.* at 114-15.

<sup>168</sup> *Id.* at 115

<sup>169</sup> See, e.g., *Myersville*, 783 F.3d 1301 (finding the Commission's consideration of property values adequate); *Minisink Residents for Environmental Preservation & Safety v. FERC*, 762 F.3d 97 (D.C. Cir. 2014) (upholding Commission's analysis of property values and finding that property values would not be significantly impacted by the proposed project).

<sup>170</sup> *Californians for Renewable Energy, Inc. v. Williams Northwest Pipeline*, 133 FERC ¶ 61,194 (2010) (citing *South Carolina Public Service Commission v FERC*, 850

126. Regarding project impacts on tourism, sections B.5.3 and B.5.4 of the EA assess the potential land use and visual impacts from the project's construction and operation on public land and recreation in the project area.<sup>171</sup> The EA analyzes 14 special use areas identified within 0.25 mile of the project and additional areas identified by commenters (i.e., the Bethel Woods Center for the Arts, Catskills Park, and a museum in Livingston Manor, New York). The EA finds that the areas identified by the commenters are located outside the project area, the closest being about 7 miles north of the Highland Compressor Station site. The EA finds that project effects on recreation areas with forested land would be temporary, limited to the period of active construction and restoration, lasting a few weeks or months in any one area.<sup>172</sup> For recreation areas that are forested, which is less than 5.5 acres,<sup>173</sup> the EA finds that the project right-of-way would change the viewscape in the area.<sup>174</sup> Based on the minimal, and predominantly temporary, project effects on recreation, we find that the project will not significantly affect tourism.

## 12. Cultural Resources

127. The Delaware Tribe of Indians recommends that Millennium avoid pre-contact archaeological sites within the area of potential effects, or conduct a Phase II Cultural Resources Assessment if avoidance is not possible. Further, the tribe requests notification in the event of an unanticipated discovery of cultural resources. These recommendations will be accommodated. The project will avoid all sites that have the potential to provide information important to prehistory and/or history. Further, Millennium's *Procedures Guiding the Discovery of Unanticipated Cultural Resources and Human Remains Plan* provides for notification of Tribes in the event of any discovery.

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F.2d 288 (D.C. Cir. 1988) (Commission cannot award damages under analogous FPA)).

<sup>171</sup> EA at 99-111.

<sup>172</sup> *Id.* at 105, 107.

<sup>173</sup> Staff's estimate is based on the number of acres of recreation areas that could be permanently affected by the project. *Id.* at Table B-12. This number includes both forested and non-forested areas. Thus, the number of forested acres of recreation area could be considerably less than 5.5 acres.

<sup>174</sup> *Id.* at 106.

128. In June 2017, Millennium filed revised alignment sheets depicting modified construction workspace to support HDD construction across Rutgers Creek, a bore crossing of waterbody S-01, and construction of the Westtown Meter Station.<sup>175</sup> Commission staff is unable to verify whether all areas of additional temporary workspace included in the June 2017 alignment sheets between milepost 7.1 and the Westtown Meter Station are included in the Phase IA/IB Archaeological Surveys for the project. Environmental Condition 9 in the Appendix B to this order requires Millennium to file with the Secretary documentation that it has received all applicable project authorizations required under federal law. If the revised construction workspaces identified in June 2017 for the project are outside of the survey area for which the New York State Historic Preservation Officer (SHPO) concurred under section 106 of the National Historic Preservation Act, Millennium must file additional information, including documentation of SHPO comments.

### 13. Air Quality

129. Several commenters express concern over air emissions from the proposed compressor units, including emissions of hazardous air pollutants (HAPs), criteria pollutants, and greenhouse gases (GHG). One commenter asserts that the EA does not quantitatively assess air quality. Other commenters request that the Commission provide the assumptions, methods, emission factors, and model setup parameters used to support the EA's conclusions for the Highland Compressor Station.

130. Section B.8.1 of the EA quantifies the emissions of HAPs, criteria pollutants, and GHG that will result from construction and operation of the project facilities and quantifies the resulting concentration, or impact, of those emissions using air quality modeling.<sup>176</sup> Millennium's application, available in the public record, provided detailed emission calculations, which included underlying assumptions and methodologies, and an air quality assessment, which included the methodology, assumptions, parameters, and emissions used to model impacts.<sup>177</sup> The EA summarizes the quantitative results of a detailed air quality modeling assessment performed by Millennium, based on local topography and meteorological conditions, using the EPA's approved AERMOD program.<sup>178</sup> This modeling analysis incorporated existing background concentrations of

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<sup>175</sup> Millennium's modified construction workspaces require further consultations that it must satisfy under conditions 5, 9, and 19 in the appendix of this order.

<sup>176</sup> *Id.* at Tables B-16, B-17, and B-18.

<sup>177</sup> Millennium July 29, 2016 Application.

<sup>178</sup> EA at 132-33.

each criteria pollutant combined with emissions from the proposed compressor units.<sup>179</sup> The EA compares the air modeling results to the National Ambient Air Quality Standards (NAAQS), which the EPA established to protect human health and public welfare, and found that project emissions will not result in an exceedance of the NAAQS.<sup>180</sup>

131. Some commenters state that the Commission should not accept air modeling provided by Millennium as the basis for its findings. We disagree. Staff independently reviewed the model selection, input assumptions and data, and results to validate the conclusions. Accordingly, we find that Commission staff appropriately relied on Millennium's models to assess air emissions, and we concur in staff's assessment.

132. Commenters also argue that the findings in the EA should not influence New York DEC's review of air permit applications, and that a full impact assessment under the Clean Air Act should be completed before the Commission approves the project. New York DEC independently reviews air quality impact modeling results as part of its air permitting program under the Clean Air Act, and is responsible for ensuring Millennium's compliance with permitted emissions thresholds. Since issuance of the EA, Millennium has refined its air quality modeling results based on comments from New York DEC; the results continue to demonstrate impacts below the NAAQS.<sup>181</sup> On August 31, 2017, New York DEC issued its Clean Air Act permit. Further, the Commission is not required to wait to issue a certificate until New York DEC issues its air permit. The Commission routinely issues certificates for natural gas pipeline projects subject to the applicant's receipt of all other federal authorizations, a practice which has been upheld on judicial review.<sup>182</sup>

133. Commenters challenge the EA's conclusion that the project would have no significant impacts on human health because the Commission is not a health agency and the preparers of the EA lack medical or public health credentials. They request that the Commission convene a panel of independent experts to review current federal exposure standards around compressor stations, and hire public health experts to help prepare the Commission's environmental documents. Commenters also state that because the

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<sup>179</sup> *Id.* at Table B-18.

<sup>180</sup> *Id.* at 132-33.

<sup>181</sup> *See* Millennium May 19, 2017 Supplemental Filing.

<sup>182</sup> *See Myersville*, 783 F.3d 1301 (D.C. Cir. 2015) (finding that the Commission has not violated the NGA or the Clean Air Act by conditioning its approval of a new compressor station on the review process required by the Clean Air Act).

NAAQS addresses regional air quality concerns, it is inappropriate to use the NAAQS to address health risks, local air quality concerns, or variable emissions rates.

134. In carrying out its NEPA responsibilities, Commission staff relies on other agencies' expertise, including that of the EPA and New York DEC, which establish methodologies and standards for assessing air quality impacts.<sup>183</sup> EPA has established the NAAQS to include primary standards to protect human health (including sensitive populations such as children, the elderly, and asthmatics), and secondary standards to protect public welfare (including protection against reduced visibility and damage to crops, vegetation, animals, and buildings). Further, contrary to commenters' assertions, the NAAQS are national standards that apply to all locations, and address both short-term and long-term exposures.

135. The Clean Air Act requires the EPA to periodically review the NAAQS and the data used to develop the standards.<sup>184</sup> In performing this periodic review, the EPA develops Integrated Science Assessments and Risk/Exposure Assessments, which consider the relevant science and risks to human health, to establish short-term and long-term NAAQS. Accordingly, any request for review of exposure standards is more appropriately directed to the EPA. While the EPA may review the NAAQS in the future, Commission staff evaluated the project based on the current standards that EPA finalized following a proposed rulemaking and public comment period. Accordingly, the EA appropriately applied the NAAQS to assess the air quality effects of the project.<sup>185</sup>

136. Catskill Mountainkeeper states that there are studies that have documented health hazards associated with residing in proximity to natural gas infrastructure. Other commenters question the EA's dismissal of a report prepared by the Southwest Pennsylvania Environmental Health Project (Southwest PA Health Project), which documented such health hazards.

137. Most studies that Catskill Mountainkeeper cites focused on health effects for individuals living near natural gas production facilities that transport and process raw

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<sup>183</sup> See also *EMR Network v. Federal Communications Commission*, 391 F.3d 269 (D.C. Cir. 2004) (finding that agency properly relied outside agency expertise).

<sup>184</sup> 42 U.S. § 7409 (2012).

<sup>185</sup> See also *Edwardsen v. U.S. Department of the Interior*, 268 F.3d 781, 789 (9th Cir. 2001) (finding it reasonable to rely on compliance with NAAQS to find that a project will have minimal effect on air quality).

field gas.<sup>186</sup> Catskill Mountainkeeper provides no evidence to support its claim that transmission-quality natural gas contains substantial quantities of toxic pollutants. On the contrary, the EA estimates that the Highland and Hancock Compressor Stations would emit a total of hazardous air pollutants of 2.67 and 3.38 tons per year (tpy), respectively, which is well below the established permitting major source thresholds of 25 tpy.<sup>187</sup> Further, Catskill Mountainkeeper does not explain why reports on production facilities that process raw gas with more pollutants are applicable to the proposed facilities, which will use and transport transmission-quality natural gas. Many of the studies also acknowledge significant limitations to their conclusions; reporting the lack of a control group, minimal participants, selective participation, and bias. We conclude that these reports are not appropriate to rely on to assess health impacts from operating the Highland and Hancock Compressor Stations.

138. The remaining reports that Catskill Mountainkeeper cites<sup>188</sup> do assess facilities that transport interstate transmission pipeline-quality gas; however, those reports similarly do not persuade us that there would be significant health effects from the project's air emissions. The studies conducted by the Damascus Citizens for Sustainability<sup>189</sup> only provide information on methane concentrations before and after

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<sup>186</sup> Brown D, et al. "Understanding exposure from natural gas drilling puts current air standards to the test." *Reviews on Environmental Health*. 2014; Macey G, et al., "Air concentrations of volatile compounds near oil and gas production: A community-based exploratory study." *Environmental Health*. 2014; Earthworks, Gas Patch Roulette. October 2012; Steinzor, N W. Subra and L Sumi. "Investigating Links between Shale Gas Development and Health Impacts Through a Community Survey Project in Pennsylvania". *New Solutions: A Journal Of Environmental And Occupational Health Policy*, Vol 23:55-3. 2013; Pring M and Wilhemi J. Fort Worth Natural Gas Air Quality Study. Conference summary; Subra, W. "Results of Health Survey of Current and Former DISH/Clark, Texas Residents" December 2009.

<sup>187</sup> EA at Table B-17.

<sup>188</sup> These are reports prepared by the Damascus Citizens for Sustainability and the Southwest PA Health Project.

<sup>189</sup> Payne, Bryce F. Jr. and Robert Ackley, Report to Damascus Citizens for Sustainability, Baseline Methane Emissions in Town of Hancock, Delaware County, New York (2014), <http://www.damascuscitizensforsustainability.org/wp-content/uploads/2014/12/Hancock4.pdf>; Payne, Bryce F. Jr. and Robert Ackley, Addenda

commissioning of the Hancock Compressor Station, and do not quantify other pollutants or address specific health concerns.<sup>190</sup> The Southwest PA Health Project published information that summarizes the results of monitoring in the vicinity of one specific compressor station.<sup>191</sup> Each compressor station, however, is unique, with specific sizing, design, emissions, emission controls, and operating conditions. There are over 300,000 miles of natural gas transmission pipeline and hundreds of natural gas transmission compressor stations in the United States; the Southwest PA Health Project's report does not provide systemic evidence of conditions that occur regionally or from a general type of pollution source (i.e., compressor stations). Further, this publication is limited to a summary of results, and does not provide sufficient information on the methodology, assumptions, and quality control for Commission staff to consider whether this information is appropriate for consideration in evaluating the project.

139. Lastly, Catskill Mountainkeeper cites its own study on air quality monitoring at the Hancock Compressor Station. However, Catskill Mountainkeeper notes that this data is not yet published, and it provides no information on the methodology, assumptions, and quality control used. Therefore, we find that this information, which Commission staff cannot verify, unpersuasive.

140. Moreover, the EA quantifies hazardous air pollutants expected to be emitted by the proposed project and explains that transmission compressor stations utilizing gas-driven compressors emit low amounts of hazardous air pollutants and primarily emit criteria pollutants, particularly nitrous oxide (NO<sub>x</sub>) and carbon monoxide (CO). The air modeling analysis provided in the EA finds that emissions of these pollutants will result in concentrations within the limits established by EPA to be protective of human health. Further, Millennium conducted a toxic ambient air contaminant analysis as part of its air permit applications submitted to New York DEC for the Highland and Hancock

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to Baseline Methane Emissions in Town of Hancock, Delaware County, New York, <http://www.damascuscitizensforsustainability.org/wp-content/uploads/2014/12/Compressor-Addenda-to-Hancock-Report.pdf>.

<sup>190</sup> The EA states that methane is non-toxic and presents a slight inhalation risk, and that methane is buoyant and disperses upward rapidly in air. EA at 142.

<sup>191</sup> Southwest PA Health Project "Summary of Minisink Monitoring Results" <http://www.environmentalhealthproject.org/resources/3/click/5>. Catskill Mountainkeeper also cites Southwest PA Health Project's report titled, "EHP's Latest Findings Regarding Health Data." Commission staff, however, could not find a copy of this report, and thus it was not considered.

Compressor Stations.<sup>192</sup> New York DEC establishes annual guidelines to protect against adverse effects due to exposures lasting months or years, and short-term guidelines to protect the general population from adverse, acute one-hour exposures.<sup>193</sup> All maximum modeled toxic air pollutants assessed fall below New York DEC's annual and short-term guideline concentrations at both the Highland and Hancock Compressor Stations. Thus, we find that hazardous air pollutants and health impacts have been adequately considered.

141. Catskill Mountainkeeper recommends that the Commission require the Highland Compressor Station to use electric motor-driven compressors to reduce air emissions, noise, and vibration. The proposed gas-driven compressor units would not result in significant impacts on air quality, noise, or vibration.<sup>194</sup> Further, the EA provides extensive discussion of the use of electric-driven compression as an alternative, including of the additional environmental impacts associated with the construction and operation of a high voltage power line, substation, and transformer to supply electrical power to the electric-driven compressor units; the additional costs and time to permit such facilities; and the reduced reliability associated with electric supply. The EA finds, and we affirm, that electric driven compressor units would not offer significant environmental advantage over the proposed gas-driven turbines.<sup>195</sup>

142. Several commenters express concern over the health impacts of emissions from blowdowns. Commenters argue that the EA underestimates the frequency of blowdowns, given the potential for both planned and unplanned events and the frequency of blowdowns that occurred in 2014 and 2015 at Millennium's existing Hancock and Minisink Compressor Stations.<sup>196</sup>

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<sup>192</sup> EA at 133.

<sup>193</sup> New York DEC, Guidelines for the Evaluation and Control of Ambient Air Contaminants under Part 212, [http://www.dec.ny.gov/docs/air\\_pdf/dar1.pdf](http://www.dec.ny.gov/docs/air_pdf/dar1.pdf).

<sup>194</sup> EA at 130-33, 138-42.

<sup>195</sup> EA at 178.

<sup>196</sup> Commenters cite the EPA's Facility Level Information on GreenHouse Gases Tool (FLIGHT), which reports that the Minisink Compressor Station experienced 8 total blowdown events in 2015 and 97 total blowdown events in 2014, and the Hancock Compressor Station experienced 35 total blowdown events in 2015 and 11 total blowdown events in 2014.

143. The term blowdowns covers a range of venting activities, including: full station blowdowns for maintenance or testing; individual compressor unit blowdowns for maintenance, testing, or start-up/shutdown; emergency shutdown blowdowns; and other equipment/piping ventings. The majority of blowdowns are planned activities, where the pipeline operator typically reduces operating capacities and has the ability to contain the gas, minimizing the loss of gas and vented emissions. For example, here Millennium will install valves on the station blowdown piping at both the Highland and Hancock Compressor Stations to contain the majority of the gas typically vented to the atmosphere during blowdowns.<sup>197</sup> During unplanned, emergency events, the goal of the blowdown is to release the gas from the station to prevent or minimize an incident, and the gas in these circumstances is not contained within a facility on other parts of its system. However, staff cannot predict unplanned events because they occur based on unanticipated emergency conditions.

144. Commenters inappropriately try to equate the number of historical blowdown events that have occurred to a resulting impact of emissions. Although the EA indicates that planned full-station blowdowns could occur up to two times a year, the EA also estimates that the emissions from all types of planned blowdown events and ventings would be approximately 8,652 tpy of carbon dioxide equivalents (CO<sub>2e</sub>) from the Hancock Compressor Station and 8,466 tpy of CO<sub>2e</sub> from the Highland Compressor Stations.<sup>198</sup>

145. The frequency of actual blowdowns that have occurred previously at the Minisink and Hancock Compressor Stations is not predictive of the frequency of such events at the Eastern System Upgrade compressor facilities, or the amount of emissions that would occur during any given blowdown event. Each station operates under unique conditions, and under varying capacities throughout the day, week, and season, based on customer demand. Regardless, using the EPA's FLIGHT tool cited by commenters, the total GHG emissions reported from blowdown events at the Minisink Compressor Station was under 1,100 tons of CO<sub>2e</sub> in 2014 and in 2015, and was around 371 tons of CO<sub>2e</sub> in 2014 and 6,600 tons of CO<sub>2e</sub> in 2015 from the Hancock Compressor Station. The historical emissions from blowdowns is well below the amount of emissions estimated from the blowdown events/ventings presented in the EA. Based on the information available, we find the EA conservatively estimates the emissions that would occur from blowdowns during annual project operation.<sup>199</sup>

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<sup>197</sup> EA at 132.

<sup>198</sup> *Id.* at 130 and table B-17.

<sup>199</sup> *Id.* at 130.

146. Catskill Mountainkeeper states that the EA does not consider effects of increased radon and its decay progeny that may affect employees of the pipeline and nearby residents. In prior proceedings we have summarized the results of numerous studies<sup>200</sup> regarding radon and natural gas facilities, including Pennsylvania Department of Environmental Protection's *Technologically Enhanced Naturally Occurring Radioactive Materials Study Report* issued in January 2015.<sup>201</sup> The Commission has explained that radon exposure associated with delivered gas supply decreases due to radioactive decay over time; gas processing and removal of natural gas liquids; and commingling with other gas supplies.

147. Although the potential exists for radioactive solids to be present within the pipeline, natural gas pipeline operators routinely clean pipelines to remove any accumulated solids or liquids, and test the collected material before disposal. In the event that such debris contains radioactive materials, there are applicable federal, and potentially state and local, waste management regulations pertaining to these types of hazardous materials. Therefore, we find that any gas that is supplied by the project will not result in significant risk of exposure to radon or its progeny.

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<sup>200</sup> Rowan, E.L. and T.F. Kraemer. 2012. Radon-222 Content of Natural Gas Samples from Upper and Middle Devonian Sandstone and Shale Reservoirs in Pennsylvania: Preliminary Data. U.S. Geological Survey, Reston, Virginia. Available online at <http://pubs.usgs.gov/of/2012/1159/ofr2012-1159.pdf>.

Anspaugh, L.R. 2012. Scientific Issues Concerning Radon in Natural Gas, Texas Eastern Transmission, LP and Algonquin Gas Transmission, LLC, New Jersey-New York Expansion Project, Docket No. CP11-56. Prepared at Request of Counsel for Applicants, Henderson, Nevada. Available online at <http://energyindepth.org/wp-content/uploads/marcellus/2012/07/A-Anspaugh-Report.pdf>

Pennsylvania Department of Environmental Protection. 2015. Technologically Enhanced Naturally Occurring Radioactive Materials (TERNORM) Study Report. Available online at <http://www.dep.pa.gov/Business/Energy/OilandGasPrograms/OilandGasMgmt/Oil-and-Gas-Related-Topics/Pages/Radiation-Protection.aspx>.

<sup>201</sup> See *Algonquin Gas Transmission, LLC*, 158 FERC ¶ 61,061, at P 215 (2017); *Algonquin Gas Transmission, LLC*, 154 FERC ¶ 61,048, at PP 193-96 (2016); *Constitution Pipeline Co., LLC*, 154 FERC ¶ 61,046, at P 155 (2016); *Transcontinental Gas Pipe Line Co., LLC*, 155 FERC ¶ 61,016, at P 131 (2016); *Dominion Cove Point LNG, LP*, 148 FERC ¶ 61,244, at PP 160-61 (2014); *Texas Eastern Transmission, LP*, 139 FERC ¶ 61,138, at P 82 (2012).

#### 14. Greenhouse Gas Emissions and Climate Change

148. In its comments on the EA, Delaware Riverkeeper states that the EA fails to present a comprehensive analysis of the direct, indirect, and cumulative effects of the project on climate change. Other commenters express concerns that the EA assesses the impact of GHG emissions from the project based solely on carbon dioxide (CO<sub>2</sub>) emissions and did not address methane (CH<sub>4</sub>) emissions.

149. Over four months after the deadline for comments on the EA, Delaware Riverkeeper and Sierra Club filed comments asserting that, in light of the D.C. Circuit opinion in *Sierra Club v. FERC*, which vacated and remanded certificates authorizing the Southeast Market Pipelines Project because the EIS for that action failed to quantify downstream gas emissions from power plants, the EA for the Eastern System Upgrade inadequately assesses the cumulative impacts of downstream GHG emissions and fails to employ, or explain why it was not employing, the social cost of carbon.<sup>202</sup> In addition, Delaware Riverkeeper adds that the EA fails to consider the indirect effects of GHG emissions that will result from gas being delivered to the CPV Valley Energy Center and other natural gas power plant facilities.

##### a. Direct Effects of GHG Emissions

150. The EA discusses the direct GHG impacts from construction and operation of the project and the associated climate change impacts in the region.<sup>203</sup> The EA quantifies GHG emissions from the project construction (9,386 metric tons CO<sub>2e</sub>) and operation (294,539.5 metric tpy CO<sub>2e</sub>).<sup>204</sup> As stated in the EA,<sup>205</sup> emissions of GHG are typically quantified in terms of CO<sub>2e</sub> by multiplying emissions of each GHG by its respective global warming potential. Thus, Methane emissions are included in the total estimated CO<sub>2e</sub> emissions for the project.

##### b. Upstream and Downstream GHG Emissions

151. Several commenters raise concerns regarding the potential for increased upstream natural gas production associated with construction and operation of the project. Commenters request that the EA include the GHG emissions associated with the

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<sup>202</sup> Delaware Riverkeeper Network September 5, 2017 Comments; Sierra Club August 30, 2017 Comments.

<sup>203</sup> EA at 165-66.

<sup>204</sup> *Id.* at Table B-16, Table B-17.

<sup>205</sup> *Id.* at 122

upstream production and downstream combustion of the natural gas to be transported by the project.

152. CEQ's regulations direct federal agencies to examine the direct, indirect, and cumulative impacts of proposed actions.<sup>206</sup> Indirect impacts are defined as those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."<sup>207</sup> Further, indirect effects "may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."<sup>208</sup> Accordingly, to determine whether an impact should be studied as an indirect impact, the Commission must determine whether it: (1) is caused by the proposed action; and (2) is reasonably foreseeable.

153. With respect to causation, "NEPA requires 'a reasonably close causal relationship' between the environmental effect and the alleged cause"<sup>209</sup> in order "to make an agency responsible for a particular effect under NEPA."<sup>210</sup> As the Supreme Court explained, "a 'but for' causal relationship is insufficient [to establish cause for purposes of NEPA]."<sup>211</sup> Thus, "[s]ome effects that are 'caused by' a change in the physical environment in the sense of 'but for' causation," will not fall within NEPA if the causal chain is too attenuated.<sup>212</sup> Further, the Court has stated that "where an agency has no ability to

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<sup>206</sup> 40 C.F.R. § 1508.25(c) (2017).

<sup>207</sup> *Id.* § 1508.8(b).

<sup>208</sup> *Id.* § 1508.8(b).

<sup>209</sup> *U.S. Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 767 (2004) (quoting *Metropolitan Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766, 774 (1983)).

<sup>210</sup> *Id.*

<sup>211</sup> *Id.*; see also *Sierra Club v. Federal Energy Regulatory Commission*, 827 F.3d 36, 46 (D.C. Cir. 2016) (*Freeport LNG*) (FERC need not examine everything that could conceivably be a but-for cause of the project at issue); *Sierra Club v. FERC*, 827 F.3d 59, 68 (D.C. Cir. 2016) (*Sabine Pass LNG*) (FERC order authorizing construction of liquefied natural gas export facilities is not the legally relevant cause of increased production of natural gas).

<sup>212</sup> *Metro. Edison Co.*, 460 U.S. at 774.

prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant ‘cause’ of the effect.”<sup>213</sup>

154. An effect is “reasonably foreseeable” if it is “sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision.”<sup>214</sup> NEPA requires “reasonable forecasting,” but an agency is not required “to engage in speculative analysis” or “to do the impractical, if not enough information is available to permit meaningful consideration.”<sup>215</sup>

**i. Impacts from Upstream Natural Gas Production**

155. As we have previously concluded in natural gas infrastructure proceedings, the environmental effects resulting from natural gas production are generally neither caused by a proposed pipeline (or other natural gas infrastructure) project nor are they reasonably foreseeable consequences of our approval of an infrastructure project, as contemplated by CEQ regulations.<sup>216</sup> A causal relationship sufficient to warrant Commission NEPA analysis of the non-pipeline activity as an indirect impact would only exist if the proposed pipeline would transport new production from a specified production area and that production would not occur in the absence of the proposed pipeline (i.e., there will be no other way to move the gas).<sup>217</sup> To date, the Commission has not been

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<sup>213</sup> *Pub. Citizen*, 541 U.S. at 770; *see also Freeport LNG*, 827 F.3d at 49 (affirming that *Public Citizen* is explicit that FERC, in authorizing liquefied natural gas facilities, need not consider effects, including induced production, that could only occur after intervening action by the DOE); *Sabine Pass LNG*, 827 F.3d at 68 (same); *EarthReports, Inc. v. FERC*, 828 F.3d 949, 955-56 (D.C. Cir. 2016) (same).

<sup>214</sup> *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1st Cir. 1992); *see also City of Shoreacres v. Waterworth*, 420 F.3d 440, 453 (5th Cir. 2005).

<sup>215</sup> *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1078 (9th Cir. 2011).

<sup>216</sup> *See, e.g., Central New York Oil & Gas Co., LLC*, 137 FERC ¶ 61,121, at PP 81-101 (2011), *order on reh'g*, 138 FERC ¶ 61,104, at PP 33-49 (2012), *petition for review dismissed sub nom. Coal. for Responsible Growth v. FERC*, 485 Fed. Appx. 472, 474-75 (2012) (unpublished opinion).

<sup>217</sup> *See cf. Sylvester v. U.S. Army Corps of Engineers*, 884 F.2d 394, 400 (9th Cir. 1989) (upholding the environmental review of a golf course that excluded the impacts of an adjoining resort complex project). *See also Morongo Band of Mission Indians v. FAA*, 161 F.3d 569, 580 (9th Cir. 1998) (concluding that increased air traffic resulting from airport plan was not an indirect, “growth-inducing” impact); *City of Carmel-by-the-Sea v.*

presented with a proposed pipeline project that the record shows will cause the predictable development of gas reserves. In fact, the opposite causal relationship is more likely, i.e., once production begins in an area, shippers or end users will support the development of a pipeline to move the produced gas.

156. We note that the Department of Energy (DOE) has examined the potential environmental issues associated with unconventional natural gas production in order to provide the public with a more complete understanding of the potential impacts.<sup>218</sup> The DOE has concluded that such production, when conforming to regulatory requirements, implementing best management practices, and administering pollution prevention concepts, may have temporary, minor impacts on water resources.<sup>219</sup> With respect to air quality, the DOE found that natural gas development leads to both short- and long-term increases in local and regional air emissions.<sup>220</sup> It also found that such emissions may contribute to climate change.<sup>221</sup> But to the extent that natural gas production replaces the use of other carbon-based energy sources, the DOE found that there may be a net positive impact in terms of climate change.<sup>222</sup> We find the information provided in the DOE Addendum to be helpful to generally inform the public regarding potential impacts of increased natural gas production and therefore consider the DOE Addendum to be supplemental material to our environmental review.

157. The record in this proceeding does not demonstrate the requisite reasonably close causal relationship between the impacts of future natural gas production and the proposed

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*U.S. Dep't of Transportation.*, 123 F.3d 1142, 1162 (9th Cir. 1997) (acknowledging that existing development led to planned freeway, rather than the reverse, notwithstanding the project's potential to induce additional development).

<sup>218</sup> U.S. Department of Energy, *Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States*, 79 Fed. Reg. 48,132 (Aug. 15, 2014) (DOE Addendum), <http://energy.gov/sites/prod/files/2014/08/f18/Addendum.pdf>. The U.S. Court of Appeals for the D.C. Circuit upheld DOE's reliance on the DOE Addendum to supplement its environmental review of the proposed export of LNG. *See Sierra Club v. U.S. Department of Energy*, 867 F.3d 189, 195, 201 (D.C. Cir. 2017).

<sup>219</sup> DOE Addendum at 19.

<sup>220</sup> *Id.* at 32.

<sup>221</sup> *Id.* at 44.

<sup>222</sup> *Id.*

project that would necessitate further analysis. The fact that natural gas production and transportation facilities are all components of the general supply chain required to bring domestic natural gas to market is not in dispute. This does not mean, however, that approving this particular project will induce further shale gas production. Rather, as we have explained in other proceedings, a number of factors, such as domestic natural gas prices and production costs drive new drilling.<sup>223</sup> If this project was not constructed, it is reasonable to assume that any new production spurred by such factors would reach intended markets through alternate pipelines. Again, any such production would take place pursuant to the regulatory authority of state and local governments.<sup>224</sup>

158. Moreover, even if a causal relationship between our action here and additional production were presumed, the scope of the impacts from any induced production is not reasonably foreseeable under NEPA. That there may be incentives for producers to locate wells close to pipeline infrastructure does not change the fact that the location, scale, and timing of any additional wells are matters of speculation, particularly regarding their relationship to the proposed project.

159. As noted above, upstream impacts of the type described by commenters do not meet the definition of indirect impacts; therefore, they are not mandated as part of the Commission's NEPA review. However, to provide the public additional information,

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<sup>223</sup> *Rockies Express Pipeline LLC*, 150 FERC ¶ 61,161, at P 39 (2015). *See also Sierra Club v. Clinton*, 746 F. Supp. 2d 1025, 1045 (D. Minn. 2010) (holding that the U.S. Department of State, in its environmental analysis for an oil pipeline permit, properly decided not to assess the transboundary impacts associated with oil production because, among other things, oil production is driven by oil prices, concerns surrounding the global supply of oil, market potential, and cost of production); *Florida Wildlife Fed'n v. Goldschmidt*, 506 F. Supp. 350, 375 (S.D. Fla. 1981) (ruling that an agency properly considered indirect impacts when market demand, not a highway, would induce development).

<sup>224</sup> We acknowledge that NEPA may obligate an agency to evaluate the environmental impacts of non-jurisdictional activities. States, however, not the Commission, have jurisdiction over natural gas production and associated development (including siting and permitting), further supporting the conclusion that information about the scale, timing, and location of such development and potential environmental impacts are even more speculative. *See Sierra Club v. U.S. Department of Energy*, 867 F.3d 189, 200 (DOE's obligation under NEPA to "drill down into increasingly speculative projections about regional environmental impacts [of induced natural gas production] is also limited by the fact that it lacks any authority to control the locale or amount of export-induced gas production, much less any of its harmful effects") (citing *Pub. Citizen*, 541 U.S. at 768).

Commission staff, after reviewing publicly-available DOE and EPA methodologies, has prepared the following analyses regarding the potential impacts associated with unconventional natural gas production. As summarized below, these analyses provide an estimate of upstream effects using general Marcellus shale well information.

160. As noted previously, the EA discusses the direct GHG impacts from construction and operation of the project. The EA does not include upstream emissions. However, presuming all gas transported represents new, incremental production (as opposed, e.g., to production which would otherwise have been transported on another pipeline), Commission staff conservatively estimated the upstream GHG emissions as 180,000 metric tpy CO<sub>2e</sub> from extraction, 350,000 metric tpy CO<sub>2e</sub> from processing, and 57,000 metric tpy CO<sub>2e</sub> from the upstream non-project pipelines. Again, these are upper-bound estimates that involves a significant amount of uncertainty.

161. With respect to upstream impacts, Commission staff estimated the impacts associated with the production wells that would be required to provide 100 percent of the volume of natural gas to be transported by the project. Commission staff estimated land use and water use within the Marcellus shale basin for the life of the project. Commission staff estimated that approximately 1.48 acres of land is required for each natural gas well pad and associated infrastructure (i.e., road infrastructure, water impoundments, and pipelines). Based upon the project volume and the expected estimated ultimate recovery of Marcellus shale wells, between 320 and 630 wells would be required to provide the gas over the estimated 30-year lifespan of the project. Therefore, on a normalized basis, these assumptions result in an estimate of an additional 15 to 30 acres per year that may be impacted by well drilling.

162. Commission staff estimates the amount of water required for the drilling and development of these wells over the 30-year period using the same assumptions. Recent estimates show that an average Marcellus shale well requires between 3.88 and 5.69 million gallons of water for drilling and well development, depending on whether the producer uses a recycling process in the well development. Therefore, the production of wells required to supply the project could require the normalized consumptive use of as much as 40 to 120 million gallons of water per year over the 30-year life of the project.

ii. **Impacts from Downstream Combustion of Project-Transported Natural Gas**

163. The court in *Sabal Trail* held that where it is known that the natural gas transported by a project will be used for end-use combustion, the Commission should “estimate[] the amount of power-plant carbon emissions that the pipelines will make

possible.”<sup>225</sup> In the EA, we estimated the downstream GHG emissions.<sup>226</sup> Thus, the Commission and the public were fully informed of the potential impacts from the project.

164. The final EA conservatively estimates that if all 223,000 Dth/d of natural gas were transported to combustion end uses, downstream end-use would result in the emission of about 4.3 million metric tpy of CO<sub>2e</sub>.<sup>227</sup> We note that this CO<sub>2e</sub> estimate represents an upper bound for the amount of end-use combustion that could result from the gas transported by this project. This is because some of the gas may displace other fuels (i.e., fuel oil and coal) that could result in lower total CO<sub>2e</sub> emissions. It may also displace gas that otherwise would be transported via different systems, resulting in no change in CO<sub>2e</sub> emissions, or be used as a feedstock. This estimate also assumes the maximum capacity is transported 365 days per year, which is rarely the case because many projects are designed for peak use. Consequently, it is unlikely that this total amount of GHG emissions would occur, and emissions are likely to be significantly lower than the above estimate.

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<sup>225</sup> Sabal Trail, 867 F.3d 1357, 1371. The Commission’s environmental review of the Eastern System Upgrade project is distinguishable from its environmental review of the project at issue in Sabal Trail. In Sabal Trail, the court determined that the Commission should have examined the GHG impacts of burning the natural gas to be delivered by that project. In this case, the Commission has estimated the GHG emissions associated with burning the gas to be transported by the Eastern System Upgrade, consistent with the quantification that the Sabal Trail court required. The methodology used here is similar to that in a number of recent cases. See *NEXUS Gas Transmission, LLC*, 160 FERC ¶ 61,022 at PP 172-173 (NEXUS Project); *National Fuel Gas Supply Corp.*, 158 FERC ¶ 61,145, at PP 189-190 (Northern Access 2016 Project); *Dominion Carolina Gas Transmission, LLC*, 158 FERC ¶ 61,126, at P 81 (Transco to Charleston Project); *Transcontinental Gas Pipe Line Co., LLC*, 158 FERC ¶ 61,125, at P 143 (Atlantic Sunrise Project); *Tennessee Gas Pipeline Co.*, 158 FERC ¶ 61,110, at P 104 (Orion Project); and *Rover Pipeline, LLC*, 158 FERC ¶ 61,109, at P 274 (Rover Pipeline Project).

<sup>226</sup> EA at 165

<sup>227</sup> Staff estimated GHG using EPA’s GHG Equivalencies Calculator - Calculations and References, <https://www.epa.gov/energy/ghg-equivalencies-calculator-calculations-andreferences>.

165. In an effort to put these emissions in to context, we examined both the regional<sup>228</sup> and national emissions of GHG. If only the regions identified as potentially served by the project (via Algonquin) are considered, the volume of GHG emissions associated with the combustion of gas that could be transported by the project will result in about a 1.1 percent increase of GHG emissions from fossil fuel combustion in these states. From a national perspective, combustion of all the gas potentially transported by the project will result in a 0.1 percent increase of national GHG emissions. Based on the myriad existing and potential future interconnections with other pipeline systems, it is impossible to identify the states and the facilities that may ultimately consume gas transported by the project. From a practical sense, we know that as more states are considered, the percentage of increase contributed by the project would decline. Therefore, speculating on the ultimate distribution does little to clarify the impact.

**c. Cumulative Impacts of GHG Emissions**

166. Delaware Riverkeeper and Sierra Club argue that the EA provides no rationale for its conclusion that cumulative effects on climate would be insignificant and states that *Sabal Trail* requires that the Commission quantify cumulative effects of downstream GHG from past, present, and future gas projects in the region. Further, they argue that the EA prematurely discusses mitigation of methane emissions before quantifying the cumulative impacts of downstream GHG, and suggests that the Commission explore mitigation for combustion emissions associated with the project and similar projects in the region.

167. The CEQ regulations define cumulative impacts as “the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions.”<sup>229</sup> A cumulative impacts analysis may require an analysis of actions unrelated to the proposed project if they

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<sup>228</sup> Because the project would deliver gas to the Algonquin pipeline system, staff looked at the Algonquin system to identify the states the pipeline system serves. Given that the natural gas can move anywhere on Algonquin’s system, we used the combined inventory of states served by the Algonquin system: New Jersey, New York, Connecticut, Rhode Island, and Massachusetts. We compared the 2015 inventory of these states served by the project in comparison to the downstream emissions to arrive at the potential increase in GHG emissions.

<sup>229</sup> 40 C.F.R. § 1508.7 (2017).

occur in the project area or region of influence of the project being analyzed.<sup>230</sup> CEQ states that “it is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.”<sup>231</sup> An agency is only required to include “such information as appears to be reasonably necessary under the circumstances for evaluation of the project rather than to be so all-encompassing in scope that the task of preparing it would become either fruitless or well nigh impossible.”<sup>232</sup>

168. We could not find a suitable method to attribute discrete environmental effects to GHG emissions. The atmospheric modeling used by the Intergovernmental Panel on Climate Change, EPA, National Aeronautics and Space Administration and others is not reasonable for project-level analysis for a number of reasons. For example, these global models are not suited to determine the incremental impact of individual projects, due both to scale and overwhelming complexity. We reviewed simpler models and mathematical techniques to determine global physical effects caused by GHG emissions, such as increases in global atmospheric CO<sub>2</sub> concentrations, atmospheric forcing, or ocean CO<sub>2</sub> absorption. We could not identify a reliable, less complex model for this task and we are not aware of a tool to meaningfully attribute specific increases in global CO<sub>2</sub> concentrations, heat forcing, or similar global impacts to project GHG emissions. Similarly, it is not currently possible to determine localized or regional impacts from GHGs by use of these models.

169. As explained above, the EA identifies the total CO<sub>2e</sub> emissions that would be emitted by the project. Methane is a GHG that has a greater global warming potential than CO<sub>2</sub>, and emissions of methane were included as part of the total CO<sub>2e</sub> estimates. The EA acknowledged that the emissions would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources, and contribute incrementally to climate change.<sup>233</sup> However, as the EA explained, because the project’s incremental physical impacts on the environment caused by climate change

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<sup>230</sup> CEQ Guidance, Considering Cumulative Effects under the National Environmental Policy Act (January 1997).

<sup>231</sup> *Id.* at 8.

<sup>232</sup> *New York Natural Res. Def. Council, Inc. v. Kleppe*, 429 U.S. 1307, 1311 (1976) (citing *Natural Res. Def. Council v. Calloway*, 524 F.2d 79, 88 (2d Cir. 1975)).

<sup>233</sup> EA at 166.

cannot be determined, it also cannot be determined whether the projects' contribution to cumulative impacts on climate change would be significant.<sup>234</sup>

170. The EA discusses that Millennium voluntarily participates in the EPA's Natural Gas Star Program, implementing mitigation measures to minimize methane emissions.<sup>235</sup> The mitigation measures that Delaware Riverkeeper and Sierra Club request on the end-use combustion emissions would need to be applied to non-jurisdictional entities (i.e., power plants, commercial sources, residential heaters and stoves, etc.). Therefore, Commission staff appropriately limited reasonable mitigation measures to the project facilities within the Commission's jurisdiction.

**d. Social Cost of Carbon**

171. The EA appropriately does not assess the social cost of carbon. The Interagency Working Group on Social Cost of Carbon developed the social cost of carbon to quantify the comprehensive costs associated with a project's CO<sub>2</sub> emissions and provide monetized values for addressing climate change impacts on a global level. The social cost of carbon only addresses impacts from CO<sub>2</sub>, not methane, N<sub>2</sub>O or other GHGs.<sup>236</sup>

172. While we recognize the availability of this tool, it is not appropriate for use in any project-level NEPA review for the following reasons: (1) EPA states that "no consensus exists on the appropriate [discount] rate to use for analyses spanning multiple generations"<sup>237</sup> and consequently, significant variation in output can result; (2) the tool does not measure the actual incremental impacts of a project on the environment; and (3) there are no established criteria identifying the monetized values that are to be considered significant for NEPA reviews. The social cost of carbon tool may be useful for rulemakings or comparing regulatory alternatives using cost-benefit analyses where

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<sup>234</sup> *Id.*

<sup>235</sup> *Id.* at 132.

<sup>236</sup> In March 2017, Executive Order 13783, Promoting Energy Independence and Economic Growth, disbanded the Interagency Working Group on Social Cost of Greenhouse Gases and directed the withdrawal of all technical support documents and instructions regarding the Social Cost of Carbon tool, stating that the documents are "no longer representative of governmental policy. *See* Exec. Order No. 13783, 82 Fed. Reg. 16093 (Mar. 28, 2017).

<sup>237</sup> *See* Fact Sheet: Social Cost of Carbon issued by EPA in November 2013, available at <http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf>.

the same discount rate is consistently applied; however, it is not appropriate for estimating a specific project's impacts or informing our analysis under NEPA.

## 15. Noise

173. Commenters express concern regarding noise from blowdowns and routine operations associated with the proposed compressor units. The EA explains that the new compressor units will each be outfitted with a blowdown silencer, and that the sound level from blowdowns will be below the Commission's day-night sound level criterion of 55 decibels on the A-weighted scale at the nearest noise sensitive areas.<sup>238</sup> Given the non-routine nature and short-term duration of blowdown events, the EA appropriately finds that blowdowns would not significantly contribute to operational sound levels from the project.<sup>239</sup> The EA also provides the results of acoustical analyses, including background noise levels and noise from operating the compressor stations, demonstrating that noise impacts on nearby noise sensitive areas would not be significant.<sup>240</sup> Further, Environmental Conditions 16 and 17 of Appendix B of this order require Millennium to file noise surveys with the Commission to verify the accuracy of Millennium's acoustical analyses and ensure sound levels do not exceed the 55 decibel noise criterion.

174. One commenter states that the EA does not address potential environmental and health impacts related to vibration.<sup>241</sup> The EA finds that Millennium's noise control measures will minimize vibration from operating the compressor stations.<sup>242</sup>

## 16. Safety

175. Several commenters raise safety concerns, primarily regarding pipeline rupture and evacuations. The risk of an incident at any given location on a pipeline is low.<sup>243</sup> The EA explains that the pipeline and aboveground facilities associated with the project must be designed, constructed, operated, and maintained in accordance with the U.S.

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<sup>238</sup> EA at 140

<sup>239</sup> *Id.*

<sup>240</sup> *Id.* at 138-39.

<sup>241</sup> Catskill Mountainkeeper May 2, 2017 Comments at 4.

<sup>242</sup> EA at 139.

<sup>243</sup> EA at 141, 148.

DOT's *Minimum Federal Safety Standards*.<sup>244</sup> These regulations, which are intended to protect the public and to prevent natural gas facility accidents and failures, include specifications for material selection and qualification; minimum design requirements; and protection of the pipeline from internal, external, and atmospheric corrosion. Further, the EA states that the DOT requires pipelines to establish an emergency plan.<sup>245</sup> Key elements of the required emergency plan include procedures for establishing communication with local response officials and protecting people first.

## 17. Alternatives

176. Commenters contend that the Commission should have considered renewable energy sources, energy efficiency, and the Wagoner Alternative from the Minisink Compressor Project in Docket No. CP11-515<sup>246</sup> as alternatives to the project.

177. Section 102(C)(iii) of NEPA requires an agency to discuss alternatives to the proposed action in an environmental document.<sup>247</sup> All reasonable alternatives must be evaluated, including alternatives not within the lead agency's jurisdiction and no-action alternatives.<sup>248</sup> In determining which alternatives to consider, agencies must adopt a rule of reason.<sup>249</sup> Only feasible alternatives need to be considered.<sup>250</sup> Alternatives that are

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<sup>244</sup> *Id.* at 21 (citing 49 C.F.R. pt. 192 (2017)).

<sup>245</sup> *Id.* at 145.

<sup>246</sup> The Wagoner Alternative to the Minisink Compressor Station consisted of a 5,100-horsepower compressor station located at a site adjacent to Millennium's existing Wagoner Meter Station facility in Sparrowbush, New York, and replacement of the 7.2-mile-long Huguenot-to-Westtown segment beneath the Neversink River.

<sup>247</sup> 42 U.S.C. § 4332(C)(iii) (2012). Section 102(E) of NEPA also requires agencies "to study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." *Id.* § 4332(E).

<sup>248</sup> 40 C.F.R. § 1502.14 (2017).

<sup>249</sup> *See Natural Resource Defense Council, Inc. v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972) ("the requirement as to alternatives is subject to a construction or reasonableness . . .").

<sup>250</sup> CEQ, *Guidance Regarding NEPA Regulations* at 9 (1983), [http://energy.gov/sites/prod/files/nepapub/nepa\\_documents/RedDont/G-CEQGuidanceRegulations.pdf](http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQGuidanceRegulations.pdf); *see also* "Forty Most Asked Questions Concerning CEQ's

remote, conjectural, or do not meet the purpose or need of the proposed action may be eliminated so long as the agency briefly discusses the reasons for the elimination.<sup>251</sup>

178. The EA appropriately did not consider renewable energy sources or energy efficiency as alternatives to the Eastern System Upgrade because they would be unable to meet the project's purpose to provide 223,000 Dth/d of firm natural gas transportation service as requested by the project shippers. Similarly, the Wagoner Alternative is not a feasible alternative to the Eastern System Upgrade. Millennium states that the location of the proposed compressor station in the Wagoner Alternative would not support the additional flows to meet the purpose of the Eastern System Upgrade.<sup>252</sup> Commission staff has reviewed the engineering data provide by Millennium and concurs that the Wagoner Alternative would be unable to provide the contracted for transportation service to the project shippers. We agree.

#### **IV. Conclusion**

179. Based on the analysis in the EA, and as supplemented herein, we conclude that if constructed and operated in accordance with Millennium's application and supplements, and in compliance with the environmental conditions in Appendix B to this order, our approval of this proposal will not constitute a major federal action significantly affecting the quality of the human environment.

180. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate. The Commission encourages cooperation between interstate pipelines and local authorities. However, this does not mean that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.<sup>253</sup>

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National Environmental Policy Act Regulations," 46 Fed. Reg. 18,026, 18,038 (1981). ("Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense.").

<sup>251</sup> 40 C.F.R. § 1502.14(a) (2017).

<sup>252</sup> Millennium September 15, 2017 Filing at 3-4; Millennium May 16, 2017 Filing at 29-31.

<sup>253</sup> See 15 U.S.C. § 717r(d) (2012) (state or federal agency's failure to act on a permit considered to be inconsistent with Federal law); see also *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 310 (1988) (state regulation that interferes with FERC's regulatory authority over the transportation of natural gas is preempted) and *Dominion*

181. The Commission on its own motion received and made a part of the record in this proceeding all evidence, including the application, and exhibits, and all comments and upon consideration of the record,

The Commission orders:

(A) A certificate of public convenience and necessity is issued to Millennium, authorizing it to construct and operate the proposed Eastern System Upgrade Project, as described and conditioned herein, and as more fully described in the application.

(B) The certificate authority issued in Ordering Paragraph (A) is conditioned on:

(1) Millennium's proposed Eastern System Upgrade Project being constructed and made available for service within two years of the date of this order, pursuant to section 157.20(b) of the Commission's regulations;

(2) Millennium's compliance with all applicable Commission regulations, particularly the general terms and conditions set forth in Parts 154, 157, and 284, and paragraphs (a), (c), (e), and (f) of section 157.20 of the Commission's regulations; and

(3) Millennium's compliance with the environmental conditions listed in Appendix B to this order.

(C) Millennium shall file a written statement affirming that it has executed firm contracts for the capacity levels and terms of service represented in signed precedent agreements, prior to commencing construction.

(D) Millennium's proposal to use its generally applicable reservation charge under Rate Schedule FT-1 is approved.

(E) Millennium's proposed incremental fuel retainage percentage for the Eastern System Upgrade Project is approved.

(F) Millennium shall file revised actual tariff records no earlier than 60 days

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*Transmission, Inc. v. Summers*, 723 F.3d 238, 245 (D.C. Cir. 2013) (noting that state and local regulation is preempted by the NGA to the extent it conflicts with federal regulation, or would delay the construction and operation of facilities approved by the Commission).

and no later than 30 days, prior to the date the project facilities go into service.

(G) Millennium shall keep separate books and accounts of costs attributable to the proposed incremental services, as described above.

(H) Millennium shall notify the Commission's environmental staff by telephone, e-mail, and/or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Millennium. Millennium shall file written confirmation of such notification with the Secretary of the Commission (Secretary) within 24 hours.

By the Commission.

( S E A L )

Kimberly D. Bose,  
Secretary.

**Appendix A****List of Timely, Unopposed Intervenors**

- Allison, Jeffrey C.
- Arney, Dorothy
- Back, John
- Bay State Gas Company d/b/a Columbia Gas of Massachusetts
- Beck, Bernard
- Bemak, Mitchell B.
- Benzenberg, Darlene
- Bilger, Joseph
- Billard, George
- Binkowski, Audrey R.
- Borow, Stacey
- Burns, Sarah and King, Amanda L.
- Bushell, K.
- Butler, Jennifer Q.
- Cabot Oil & Gas Corporation
- Cahill, Shawn
- Champion, Anne Marie
- Champion, James
- Caplan, John
- City of Norwich Department of Public Utilities
- Clemente, Jeffrey P. Esq.
- Comstock, Jack
- Consolidated Edison Company of New York, Inc.
- Conway, Debra R.
- Conway, John
- Damascus Citizens for Sustainability, Inc.
- Delaware Riverkeeper Network
- Delord, Nicolas
- Dolgin, Elaine S.
- Donofrio, Jeanne
- Dorosh, Daria
- Dorr, Cheri L.
- Duke, Dana A.
- Dusenbury, B.
- Dyrszka, Larysa M.
- Egan, Mark T. and Alycia Glide
- Falkson, Michael

- Finneran, Ann L.
- Fleissig, Harriet S.
- Flood, Karen
- Giglio, Terriesa
- Gilmore, Nancy
- Goodman, Chryse
- Gough, Trisha
- Gregory, Richard
- Guiroy, Jessica
- Guiroy, Pablo
- Gutekunst, James P.
- Hall, Mary Lou
- Hall, Nonna
- Heath, Janie
- Hesse, Star D.
- Hoffman-Pletter, Susan
- Horn, Jennifer Leighty
- Hoshour, Robert
- Irish, Jessica
- Israel, Joseph J.
- Israel, Paula
- Jones, Laurie
- Kearns, Allison
- Kearns, Robert
- Kelley, Eric O.
- Kennedy, Edward
- Khan, Judith P.
- Kidney, Sonia
- Klausner, Stuart
- Klewan, Suzanne
- Krause, Robert
- Landstorm, Ruth
- Lang, Shawn
- Leighty, Jill
- Lerner, Barbara
- Levine, Jeffrey
- Levine, Pam
- Lobmeyer, Veronica
- London, Karen
- Lotorto, Gregory

- MacKechnie, Jeremy
- MacKechnie, Russell W., Jr.
- Malick, Pramilla
- Matthews, Laquita
- McDonnell, Mary
- Metts, Stephen
- Misner, Elizabeth
- Mojica, Michael
- Catskill Mountainkeeper
- Nagy, Shari
- National Grid Gas Delivery Companies<sup>254</sup>
- New Jersey Natural Gas Company
- New York State Department of Environmental Conservation
- NJR Energy Services Company
- Nordanger, Henning
- Novick, Scott
- O'Neill, Lynne
- Ozdan Development, LLC and Amytra Development, LLC
- Parkinson, Richard
- Petkus, Maureen A.
- Popkin, Karen
- Protect Orange County
- Reik, Linda
- Riedel, Sandra
- Riggle, Yolanda
- Robins, Lenore
- Robinson, Wendy
- Rodgers, Gail
- Roig, Carol A.
- Rosenblatt, Alan
- Rossum, Maya K.
- Rowe, Sally
- Ryan, Kelly
- Sapanaro, John
- Sarka, Stephanie

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<sup>254</sup> National Grid Gas Delivery Companies include Brooklyn Union Gas Company; KeySpan Gas East Corporation; Boston Gas Company; Colonial Gas Company; Niagara Mohawk Power Corporation; and The Narragansett Electric Company.

- Schwartz, Eric C.
- Scoppa, Martha
- Seigel, Brian
- Serrano, Randy
- Sidney, Mara
- Siegel, Melissa
- Silverman, Laura
- Smith, Linda Z.
- Stanley, Anie
- Starr, Norman
- Stevens, Walter A.
- Stringer, Lizbeth
- Sudol, Mary
- Thompson-Handler, Nancy
- Todd, Barbara A.
- Tomlinson, John
- Town of Bethel, New York
- Town of Highland, New York
- Town of Tusten, New York
- Turoff, Howard
- Turoff, Lori
- Valand, Theodore L.
- Varney, Thomas
- Walsh, Anneke Lies
- Warner, Dorene
- Werneke, Anthony
- Wilkin, Charles
- Winkler, Suzy
- Wolchok, Jedd
- Wolf, Terry
- Wood, David A.
- Worzel, Heather and Brian
- Young, Jennifer L.
- Zigmund, Sean

## Appendix B

### Environmental Conditions

As recommended in the environmental assessment (EA), this authorization includes the following conditions:

1. Millennium shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the order. Millennium must:
  - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) before using that modification.
2. The Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the order, and take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the project. This authority shall allow:
  - a. the modification of conditions of the order;
  - b. stop-work authority; and
  - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from project construction and operation.
3. **Prior to any construction**, Millennium shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EI), and contractor personnel would be informed of the EIs' authority and have been or would be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
4. The authorized facility locations shall be as shown in the EA, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, Millennium shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for

all facilities approved by the order. All requests for modifications of environmental conditions of the order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

Millennium's exercise of eminent domain authority granted under Natural Gas Act (NGA) section 7(h) in any condemnation proceedings related to the order must be consistent with these authorized facilities and locations. Millennium's right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas pipelines or aboveground facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. Millennium shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, contractor/pipe yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**. This requirement does not apply to extra workspace allowed by the FERC's *Erosion Control, Revegetation, and Maintenance Plan*, and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
  - b. implementation of endangered, threatened, or special concern species mitigation measures;
  - c. recommendations by state regulatory authorities; and
  - d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
6. **Within 60 days of the acceptance of the Certificate and before construction begins**, Millennium shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Millennium must file revisions to the plan as schedules change. The plan shall identify:

- a. how Millennium will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the order;
  - b. how Millennium will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
  - c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
  - d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
  - e. the location and dates of the environmental compliance training and instructions Millennium will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);
  - f. the company personnel and specific portion of Millennium's organization having responsibility for compliance;
  - g. the procedures (including use of contract penalties) Millennium will follow if noncompliance occurs; and
  - h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
    - (1) completion of all required surveys and reports;
    - (2) the environmental compliance training of onsite personnel;
    - (3) the start of construction; and
    - (4) the start and completion of restoration.
7. Millennium shall employ at least one EI per construction spread. The EIs shall be:
- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the order and other grants, permits, certificates, or other authorizing documents;
  - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see Condition 6(2) above) and any other authorizing document;
  - c. empowered to order the correction of acts that violate the environmental conditions of the order, and any other authorizing document;
  - d. a full-time position, separate from all other activity inspectors;
  - e. responsible for documenting compliance with the environmental conditions of that order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and

- f. responsible for maintaining status reports.
8. Beginning with the filing of its Implementation Plan, Millennium shall file updated status reports with the Secretary on a **biweekly basis until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
  - a. an update on Millennium's efforts to obtain the necessary federal authorizations;
  - b. the construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
  - c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
  - d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
  - e. the effectiveness of all corrective actions implemented;
  - f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the order, and the measures taken to satisfy their concerns; and
  - g. copies of any correspondence received by Millennium from other federal, state, or local permitting agencies concerning instances of noncompliance, and Millennium's response.
9. **Millennium must receive written authorization from the Director of OEP before commencing construction of any project facilities. To obtain such authorization**, Millennium must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. Millennium must receive written authorization from the Director of OEP **before placing the project into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the project are proceeding satisfactorily.
11. **Within 30 days of placing the authorized facilities in service**, Millennium shall file an affirmative statement with the Secretary, certified by a senior company official:
  - a. that the facilities have been constructed and installed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or

- b. identifying which of the conditions in the order Millennium has complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
12. Millennium shall offer to conduct, with the well owner's permission, pre- and post-construction monitoring of well yield and water quality for wells within 150 feet of construction workspace.
13. **Prior to construction**, Millennium shall file with the Secretary documentation of its consultation regarding project construction and operation within the Huckleberry Ridge State Forest, including any specific procedures Millennium will implement or permits identified by the New York State Department of Environmental Conservation.
14. **Prior to construction**, Millennium shall file with the Secretary documentation of its consultation regarding project construction and operation within private parcels protected under conservation easements, including any specific procedures Millennium will implement as identified in coordination with The Nature Conservancy.
15. **Prior to construction using any drilling equipment or performing entry-side activity at milepost (MP) 3.8 of the Mountain Road/Bedell Drive horizontal directional drill (HDD)**, Millennium shall file with the Secretary, for review and written approval by the Director of the OEP, a revised HDD noise assessment for entry-side activity at MP 3.8 and an estimate of the number of days/weeks/months required to complete the HDD. If the results of the assessment show that noise levels will exceed 55 day-night sound level day-night ( $L_{dn}$ ) decibels on the A-weighted scale (dBA) at any noise sensitive area (NSA), Millennium shall file a noise mitigation plan that identifies all reasonable measures Millennium commits to implementing to reduce noise levels attributable to the proposed drilling operations at NSAs, and the resulting noise levels at each NSA with mitigation.
16. Millennium shall make all reasonable efforts to ensure its predicted impact on noise levels from the new Highland Compressor Station and modified Hancock Compressor Station are not exceeded at nearby NSAs, and file noise surveys showing this with the Secretary **no later than 60 days** after placing each station into service. If a full load condition noise survey of the entire station is not possible, Millennium shall file an interim survey at the maximum possible horsepower and file the full load survey **within 6 months**. If the noise attributable to the operation all of the equipment at either compressor station under full or interim horsepower load conditions exceeds an  $L_{dn}$  of 55 dBA at any nearby NSA, Millennium shall file a report on what changes are needed and shall install additional noise controls measures to meet the level **within 1 year** of the in-service date. Millennium shall confirm compliance with this requirement by filing

- a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.
17. Millennium shall file noise surveys with the Secretary **no later than 60 days** after placing the modified Ramapo and Huguenot Meter Stations in service. If the noise attributable to the operation of either meter station exceeds the previously existing noise levels at any nearby NSAs that are currently at or above an  $L_{dn}$  of 55 dBA, or exceeds 55 dBA  $L_{dn}$  at any nearby NSAs that are currently below 55 dBA  $L_{dn}$ , Millennium shall file a report on what changes are needed and shall install the additional noise controls to meet the requirements **within 1 year** of the in-service date. Millennium shall confirm compliance with the above requirement by filing a second sound level survey with the Secretary **no later than 60 days** after it installs the additional noise controls.
  18. **Prior to any unanticipated open-cut construction across the Neversink River**, Millennium shall file with the Secretary, for review and written approval from the Director of the OEP, documentation of its consultation with the U.S. Army Corps of Engineers, New York State Department of Environmental Conservation, and the U.S. Fish and Wildlife Service to determine the need for mitigation measures that will avoid and/or minimize potential impacts on the dwarf wedgemussel.
  19. **Prior to construction of the Rutgers Creek HDD** between mileposts 7.2 and 7.4, Millennium shall file with the Secretary for review and written approval by the Director of the OEP:
    - a. documentation of geotechnical investigations that support the feasibility of HDD construction at this location; and
    - b. an HDD noise assessment and an estimate of the number of days/weeks/months required to complete the HDD. If the results of the assessment show that noise levels will exceed an  $L_{dn}$  of 55 dBA at any NSA, Millennium shall file a noise mitigation plan that identifies all reasonable measures Millennium commits to implementing to reduce noise levels attributable to the proposed drilling operations at NSAs, and the resulting noise levels at each NSA with mitigation.

# Exhibit D

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Permits  
625 Broadway, Albany, New York 12233-3505  
P: (518) 402-8111 ; F: (518) 402-9029  
www.dec.ny.gov

8/30/2017

Millennium Pipeline Company, L.L.C.  
Ron Happach  
109 North Post Oak Lane Suite 210  
Houston, TX 77024

**Re ACKNOWLEDGMENT of NOTICE of INTENT for  
Coverage Under SPDES General Permit for  
Storm Water Discharges from CONSTRUCTION  
ACTIVITY General Permit No. GP-0-15-002**

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-15-002 for the construction activities located at:

**Eastern System Upgrade - Ramapo M&R  
Sky Meadow Road  
Ramapo, NY 10901**

County: **ROCKLAND**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-0-15-002 from the above construction site will be authorized 5 business days from **08/30/2017**, which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: **NYR11C669**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **08/30/2017** is accurate and complete.
2. You have developed a Stormwater Pollution Prevention Plan (SWPPP) that complies with GP-0-15-002 which must be implemented as the first element of construction at the above-noted construction site.
3. Activities related to the above construction site comply with all other requirements of GP-0-15-002.

4. Payment of the annual \$110 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year. In addition, since September 1, 2004, construction stormwater permittees have been assessed an initial authorization fee which is now \$110 per acre of land disturbed and \$675 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. Your SWPPP has been reviewed by the regulated, traditional land use control MS4 where your project is located and has been determined to be in substantive conformance with the requirements in the SPDES General Permit for Stormwater Discharges from MS4s.

6. Before disturbing greater than 5 acres of soil at any one time, you have obtained written authorization from the regulated, traditional land use control MS4 that has jurisdiction over the project.

7. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

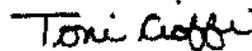
8. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

**\*Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.**

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-0-15-002, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,



Toni Cioffi

Environmental Program Specialist 1

**PLEASE NOTE: EPA HAS FINALIZED THE eREPORTING RULE; AND, IN THE NEAR FUTURE, ALL NOIs WILL HAVE TO BE SUBMITTED ELECTRONICALLY. BY FILING AN NOI ELECTRONICALLY, A PROJECT CAN TYPICALLY GAIN COVERAGE IN 5 BUSINESS DAYS COMPARED TO 10 BUSINESS DAYS FOR THE PAPER NOI. INFORMATION ON THE eNOI CAN BE FOUND ON OUR WEBSITE AT: <http://www.dec.ny.gov/chemical/43133.html> UNDER "FORMS."**

cc RWE - 3

SWPPP Preparer

C.T. Male Associates, D.P.C.

Guillet, Paul

50 Century Hill Drive

Latham, NY 12110

AD133

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

## Division of Water, Bureau of Permits

625 Broadway, Albany, New York 12233-3506

P: (518) 402-8111 | F: (518) 402-9029

www.dec.ny.gov

8/30/2017

Millennium Pipeline Company, L.L.C.  
Ron Happach  
109 North Post Oak Lane Suite 210  
Houston, TX 77024

**Re ACKNOWLEDGMENT of NOTICE of INTENT for  
Coverage Under SPDES General Permit for  
Storm Water Discharges from CONSTRUCTION  
ACTIVITY General Permit No. GP-0-15-002**

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-15-002 for the construction activities located at:

**Eastern System Upgrade - Highland CS  
Route 55  
Highland, NY 12732**

County: **SULLIVAN**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-0-15-002 from the above construction site will be authorized **5** business days from **08/30/2017**, which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: **NYR11C670**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **08/30/2017** is accurate and complete.
2. You have developed a Stormwater Pollution Prevention Plan (SWPPP) that complies with GP-0-15-002 which must be implemented as the first element of construction at the above-noted construction site.
3. Activities related to the above construction site comply with all other requirements of GP-0-15-002.

4. Payment of the annual \$110 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year. In addition, since September 1, 2004, construction stormwater permittees have been assessed an initial authorization fee which is now \$110 per acre of land disturbed and \$675 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

6. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

**\*Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.**

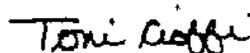
7. Before disturbing greater than 5 acres of soil at any one time, you have obtained approval from our regional office. You should contact the regional office listed below to have your construction sequencing plan reviewed.

Natalie Browne  
NYS Department of Environmental Conservation - Region 3  
100 Hillside Avenue, Suite 1W  
White Plains, NY 10603-2860

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-0-15-002, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,



Toni Cioffi

Environmental Program Specialist 1

**PLEASE NOTE: EPA HAS FINALIZED THE eREPORTING RULE; AND, IN THE NEAR FUTURE, ALL NOIs WILL HAVE TO BE SUBMITTED ELECTRONICALLY. BY FILING AN NOI ELECTRONICALLY, A PROJECT CAN TYPICALLY GAIN COVERAGE IN 5 BUSINESS DAYS COMPARED TO 10 BUSINESS DAYS FOR THE PAPER NOI. INFORMATION ON THE eNOI CAN BE FOUND ON OUR WEBSITE AT: <http://www.dec.ny.gov/chemical/43133.html> UNDER "FORMS."**

cc RWE - 3  
SWPPP Preparer  
C.T. Male Associates, D.P.C.  
Guillet, Paul  
50 Century Hill Drive  
Latham, NY 12110

AD135

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Permits  
625 Broadway, Albany, New York 12233-3505  
P: (518) 402-8111 | F: (518) 402-9029  
www.dec.ny.gov

8/30/2017

Millennium Pipeline Company, L.L.C.  
Ron Happach  
109 North Post Oak Lane Suite 210  
Houston, TX 77024

**Re ACKNOWLEDGMENT of NOTICE of INTENT for  
Coverage Under SPDES General Permit for  
Storm Water Discharges from CONSTRUCTION  
ACTIVITY General Permit No. GP-0-15-002**

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-15-002 for the construction activities located at:

**Eastern System Upgrade - Orange County Faciliti  
Not Applicable - Linear Project  
Deerpk, Greenville, Unionvi, NY 12746, 12771, 1099**

County: **ORANGE**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-0-15-002 from the above construction site will be authorized **5** business days from **08/30/2017**, which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: **NYR11C671**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **08/30/2017** is accurate and complete.
2. You have developed a Stormwater Pollution Prevention Plan (SWPPP) that complies with GP-0-15-002 which must be implemented as the first element of construction at the above-noted construction site.
3. Activities related to the above construction site comply with all other requirements of GP-0-15-002.

4. Payment of the annual \$110 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year. In addition, since September 1, 2004, construction stormwater permittees have been assessed an initial authorization fee which is now \$110 per acre of land disturbed and \$675 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

6. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

**\*Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.**

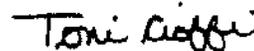
7. Before disturbing greater than 5 acres of soil at any one time, you have obtained approval from our regional office. You should contact the regional office listed below to have your construction sequencing plan reviewed.

Natalie Browne  
 NYS Department of Environmental Conservation - Region 3  
 100 Hillside Avenue, Suite 1W  
 White Plains, NY 10603-2860

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-0-15-002, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,



Toni Cioffi

Environmental Program Specialist 1

**PLEASE NOTE: EPA HAS FINALIZED THE eREPORTING RULE; AND, IN THE NEAR FUTURE, ALL NOIs WILL HAVE TO BE SUBMITTED ELECTRONICALLY. BY FILING AN NOI ELECTRONICALLY, A PROJECT CAN TYPICALLY GAIN COVERAGE IN 5 BUSINESS DAYS COMPARED TO 10 BUSINESS DAYS FOR THE PAPER NOI. INFORMATION ON THE eNOI CAN BE FOUND ON OUR WEBSITE AT: <http://www.dec.ny.gov/chemical/43133.html> UNDER "FORMS."**

cc RWE - 3

SWPPP Preparer

TRC Environmental Corporation

Loss, Stephen

300 N. Second Street 6th Floor

Harrisburg, PA 17101

AD137

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Water, Bureau of Permits  
625 Broadway, Albany, New York 12233-3505  
P: (518) 402-8111 | F: (518) 402-9029  
www.dec.ny.gov

8/30/2017

Millennium Pipeline Company, L.L.C.  
Ron Happach  
109 North Post Oak Lane Suite 210  
Houston, TX 77024

**Re ACKNOWLEDGMENT of NOTICE of INTENT for  
Coverage Under SPDES General Permit for  
Storm Water Discharges from CONSTRUCTION  
ACTIVITY General Permit No. GP-0-15-002**

Dear Prospective Permittee:

This is to acknowledge that the New York State Department of Environmental Conservation (Department) has received a complete Notice of Intent (NOI) for coverage under General Permit No. GP-0-15-002 for the construction activities located at:

**Eastern System Upgrade - Hancock CS  
1579 Hungry Hill Road  
Hancock, NY 12760**

County: **DELAWARE**

Pursuant to Environmental Conservation Law (ECL) Article 17, Titles 7 and 8, ECL Article 70, discharges in accordance with GP-0-15-002 from the above construction site will be authorized 5 business days from **08/30/2017**, which is the date we received your final NOI, unless notified differently by the Department.

The permit identification number for this site is: **NYR11C672**. Be sure to include this permit identification number on any forms or correspondence you send us. When coverage under the permit is no longer needed, you must submit a Notice of Termination to the Department.

This authorization is conditioned upon the following:

1. The information submitted in the NOI received by the Department on **08/30/2017** is accurate and complete.
2. You have developed a Stormwater Pollution Prevention Plan (SWPPP) that complies with GP-0-15-002 which must be implemented as the first element of construction at the above-noted construction site.
3. Activities related to the above construction site comply with all other requirements of GP-0-15-002.

4. Payment of the annual \$110 regulatory fee, which is billed separately by the Department in the late fall. The regulatory fee covers a period of one calendar year. In addition, since September 1, 2004, construction stormwater permittees have been assessed an initial authorization fee which is now \$110 per acre of land disturbed and \$675 per acre of future impervious area. The initial authorization fee covers the duration of the authorized disturbance.

5. When applicable, project review pursuant to the State Environmental Quality Review Act (SEQRA) has been satisfied.

6. You have obtained all necessary Department permits subject to the Uniform Procedures Act (UPA). You should check with your Regional Permit Administrator for further information.

**\*Note: Construction activities cannot commence until project review pursuant to SEQRA has been satisfied, when SEQRA is applicable; and, where required, all necessary Department permits subject to the UPA have been obtained.**

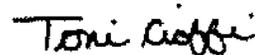
7. Before disturbing greater than 5 acres of soil at any one time, you have obtained approval from our regional office. You should contact the regional office listed below to have your construction sequencing plan reviewed.

Jeff McCullough  
NYS Department of Environmental Conservation - Region 4  
1130 N. Westcott Road  
Schenectady, NY 12306-2014

Please be advised that the Department may request a copy of your SWPPP for review.

Should you have any questions regarding any aspect of the requirements specified in GP-0-15-002, please contact Dave Gasper at (518) 402-8114 or the undersigned at (518) 402-8109.

Sincerely,



Toni Cioffi

Environmental Program Specialist 1

**PLEASE NOTE: EPA HAS FINALIZED THE eREPORTING RULE; AND, IN THE NEAR FUTURE, ALL NOIs WILL HAVE TO BE SUBMITTED ELECTRONICALLY. BY FILING AN NOI ELECTRONICALLY, A PROJECT CAN TYPICALLY GAIN COVERAGE IN 5 BUSINESS DAYS COMPARED TO 10 BUSINESS DAYS FOR THE PAPER NOI. INFORMATION ON THE eNOI CAN BE FOUND ON OUR WEBSITE AT: <http://www.dec.ny.gov/chemical/43133.html> UNDER "FORMS."**

cc RWE - 4  
SWPPP Preparer  
C.T. Male Associates, D.P.C  
Guillet, Paul  
50 Century Hill Drive  
Latham, NY 12110

AD139

# Exhibit E



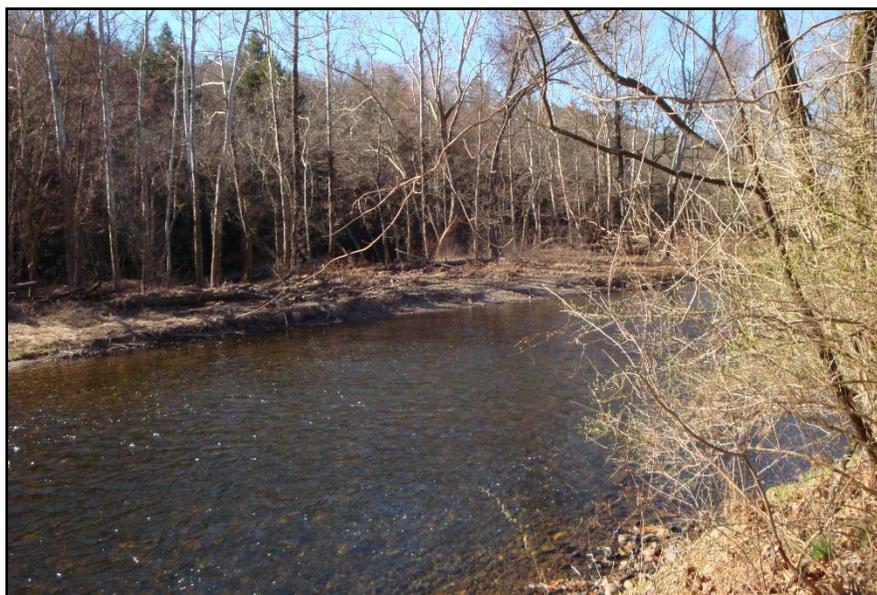
**Federal Energy Regulatory Commission  
Office of Energy Projects**

**March 2017**

**Millennium Pipeline Company, L.L.C.**

**Docket No. CP16-486-000**

**Eastern System Upgrade  
Project  
Environmental Assessment**



Cooperating Agencies



**Agriculture  
and Markets**



Washington, DC 20426

FEDERAL ENERGY REGULATORY COMMISSION  
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:  
OEP/DG2E/Gas 2  
Millennium Pipeline Company,  
LLC  
Eastern System Upgrade Project  
Docket No. CP16-486-000

TO THE PARTY ADDRESSED:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared this Environmental Assessment (EA) of the Eastern System Upgrade Project (Project) proposed by Millennium Pipeline Company, LLC (Millennium) in the above-referenced docket. Millennium requests authorization to construct, operate, and maintain new natural gas facilities in New York consisting of (i) approximately 7.8 miles of 30- and 36-inch-diameter pipeline loop in Orange County; (ii) a new 22,400 horsepower (hp) compressor station in Sullivan County; (iii) additional 22,400 hp at the existing Hancock Compressor Station in Delaware County; (iv) modifications to the existing Ramapo Meter Station in Rockland County; (v) modifications to the Wagoner Interconnect in Orange County; (vi) additional pipeline appurtenant facilities at the Huguenot and Westtown Meter Stations in Orange County; and (vii) an alternate interconnect to the 16-inch-diameter Valley Lateral at milepost 7.6 of the Project.

The EA assesses the potential environmental effects of the construction and operation of the Project in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA). The FERC staff concludes that approval of the Project, with appropriate mitigating measures, would not constitute a major federal action significantly affecting the quality of the human environment.

The Stockbridge-Munsee Band of Mohicans, Delaware Tribe of Indians, U.S. Environmental Protection Agency and New York State Department of Agriculture and Markets participated as cooperating agencies in the preparation of the EA. Cooperating agencies have jurisdiction by law or special expertise with respect to resources potentially affected by the proposal and participate in the NEPA analysis.

The FERC staff mailed copies of the EA to federal, state, and local government representatives and agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners and other interested individuals and groups; and newspapers and libraries in the Project area. In addition, the EA is available for public viewing on the FERC's website ([www.ferc.gov](http://www.ferc.gov)) using the eLibrary link.

A limited number of copies of the EA are also available for distribution and public inspection at:

Federal Energy Regulatory Commission  
Public Reference Room  
888 First Street, NE, Room 2A  
Washington, DC 20426  
(202) 502-8371

Any person wishing to comment on the EA may do so. Your comments should focus on the potential environmental effects, reasonable alternatives, and measures to avoid or lessen environmental impacts. The more specific your comments, the more useful they will be. To ensure that your comments are properly recorded and considered prior to a Commission decision on the proposal, it is important that the FERC receives your comments in Washington, DC on or before **May 1, 2017**.

For your convenience, there are three methods you can use to submit your comments to the Commission. In all instances, please reference the Project docket number (CP16-486-000) with your submission. The Commission encourages electronic filing of comments and has dedicated eFiling expert staff available to assist you at 202- 502-8258 or [efiling@ferc.gov](mailto:efiling@ferc.gov).

- (1) You may file your comments electronically by using the eComment feature, which is located on the Commission's website at [www.ferc.gov](http://www.ferc.gov) under the link to [Documents and Filings](#). An eComment is an easy method for interested persons to submit text-only comments on a project;
- (2) You may file your comments electronically by using the eFiling feature, which is located on the Commission's website at [www.ferc.gov](http://www.ferc.gov) under the link to [Documents and Filings](#). With eFiling you can provide comments in a variety of formats by attaching them as a file with your submission. New eFiling users must first create an account by clicking on “[eRegister](#).” You will be asked to select the type of filing you are making. A comment on a particular project is considered a “Comment on a Filing”; or
- (3) You may file a paper copy of your comments at the following address:

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE, Room 1A  
Washington, DC 20426

Although your comments will be considered by the Commission, simply filing comments will not serve to make the commentor a party to the proceeding. Any person seeking to become a party to the proceeding must file a motion to intervene pursuant to Rule 214 of the Commission's Rules of Practice and Procedures (Title 18 Code of Federal Regulations Part 385.214).<sup>1</sup> Only intervenors have the right to seek rehearing of the Commission's decision. Affected landowners and parties with environmental concerns may be granted intervenor status upon showing good cause by stating that they have a clear and direct interest in this proceeding that would not be adequately represented by any other parties. **You do not need intervenor status to have your comments considered.**

Additional information about the Project is available from the Commission's Office of External Affairs, at **1-866-208-FERC (3372)** or on the FERC website ([www.ferc.gov](http://www.ferc.gov)) using the eLibrary link. Click on the eLibrary link, click on "General Search," and enter the docket number excluding the last three digits in the Docket Number field (i.e., CP16-486). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at [FercOnlineSupport@ferc.gov](mailto:FercOnlineSupport@ferc.gov) or toll free at 1-866-208-3676, or for TTY, contact 1-202-502-8659. The eLibrary link also provides access to the texts of formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission offers a free service called eSubscription, which allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. Go to [www.ferc.gov/docs-filing/esubscription.asp](http://www.ferc.gov/docs-filing/esubscription.asp).

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<sup>1</sup> Interventions may also be filed electronically via the Internet in lieu of paper. See the previous discussion on filing comments electronically.

**TABLE OF CONTENTS**  
**MILLENNIUM PIPELINE COMPANY, L.L.C.**  
**EASTERN SYSTEM UPGRADE PROJECT**

<b>A.</b>	<b>PROPOSED ACTION .....</b>	<b>1</b>
1.	Introduction .....	1
2.	Purpose and Need .....	2
3.	Scope of the Environmental Assessment .....	2
4.	Public Review and Comment .....	3
5.	Proposed Facilities and Location .....	8
5.1	Pipeline Facilities .....	10
5.1	Aboveground Facilities.....	10
6.	Land Requirements.....	13
6.1	Pipeline Facilities .....	15
6.2	Aboveground Facilities.....	18
6.3	Contractor/Pipe Yards and Staging Areas .....	19
6.4	Access Roads.....	19
7.	Construction Schedule and Workforce .....	21
8.	Construction, Operations, and Maintenance Procedures .....	21
8.1	General Pipeline Construction Procedures .....	22
8.2	Special Pipeline Construction Procedures .....	25
8.3	Aboveground Facility Construction Procedures .....	36
8.4	Environmental Compliance Inspection and Monitoring .....	36
8.5	Operations and Maintenance .....	37
9.	Non-jurisdictional Facilities .....	38
10.	Permits and Approvals .....	38
<b>B.</b>	<b>ENVIRONMENTAL ANALYSIS .....</b>	<b>41</b>
1.	Geology and Soils .....	41
1.1	Geology.....	41
1.2	Soils .....	47
2.	Water Resources and Wetlands.....	53
2.1	Groundwater Resources.....	53
2.2	Surface Water Resources.....	58
2.3	Wetlands .....	66
3.	Vegetation, Aquatic Resources, and Wildlife .....	70
3.1	Vegetation.....	70
3.2	Aquatic Resources .....	76
3.3	Wildlife Resources .....	79
4.	Threatened and Endangered Species.....	84
4.1	Birds.....	85
4.2	Mammals .....	88
4.3	Mussels .....	89
4.4	Reptiles .....	90

5.	Land Use and Visual Resources .....	92
5.2	Planned Developments .....	99
5.3	Public Land, Recreation, and Special Interest Areas .....	99
5.4	Visual Resources .....	107
6.	Socioeconomics.....	111
6.1	Employment.....	111
6.2	Transportation.....	112
6.3	Housing.....	113
6.4	Tax Revenue .....	113
6.5	Property Values and Insurance .....	114
6.6	Environmental Justice.....	116
7.	Cultural Resources .....	117
7.1	Cultural Resource Investigations.....	117
7.2	Survey Results .....	118
7.3	Tribal Consultation .....	120
7.4	Unanticipated Discoveries.....	120
7.5	Compliance with the National Historic Preservation Act .....	121
8.	Air and Noise.....	121
8.1	Air Quality .....	121
8.2	Noise .....	134
9.	Reliability and Safety .....	142
9.1	Safety Standards .....	142
9.2	Pipeline Accident Data .....	146
9.3	Impact on Public Safety.....	148
10.	Cumulative Impacts.....	151
10.1	Geology and Soils.....	156
10.2	Water Resources and Wetlands .....	157
10.3	Vegetation and Wildlife.....	158
10.4	Land Use and Visual Resources .....	159
10.5	Air Quality .....	160
10.6	Noise .....	163
10.7	Climate Change .....	164
10.8	Conclusions on Cumulative Impacts .....	166
<b>C.</b>	<b>ALTERNATIVES.....</b>	<b>167</b>
1.	No-Action Alternative .....	168
2.	System Alternatives.....	168
3.	Major Route Alternatives .....	170
4.	Looping Only Alternative .....	171
5.	Minor Route Variations.....	172
6.	Aboveground Facility Alternatives .....	175
6.1	New Compressor Station Site Alternative.....	175
6.2	Compression Design Alternatives .....	176
<b>D.</b>	<b>STAFF CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>179</b>

<b>E.</b>	<b>REFERENCES .....</b>	<b>185</b>
<b>F.</b>	<b>LIST OF PREPARERS .....</b>	<b>196</b>
1.	FERC .....	196
2.	Edge Engineering and Science, LLC .....	196

### LIST OF TABLES

Table A-1	Issues Identified During the Public Scoping Process .....	4
Table A-2	Proposed Aboveground Facilities for the Eastern System Upgrade Project ....	11
Table A-3	Summary of Land Requirements for the Eastern System Upgrade Project .....	14
Table A-4	Collocation of the Huguenot Loop with Millennium’s Existing Pipeline .....	17
Table A-5	Contractor/Pipe Yards and Staging Areas along the Eastern System Upgrade Project .....	19
Table A-6	Access Roads Proposed for Use on the Eastern System Upgrade Project .....	20
Table A-7	Summary of Horizontal Directional Drill Locations for the Eastern System Upgrade Project.....	27
Table A-8	Road and Railroad Crossings Associated with the Eastern System Upgrade Project .....	30
Table A-9	Foreign Utilities Crossed by the Eastern System Upgrade Project .....	32
Table A-10	Areas of Steep Slopes Crossed by the Eastern System Upgrade Project .....	34
Table A-11	Environmental Permits, Approvals, and Consultations for the Eastern System Upgrade Project.....	39
Table B-1	Soil Characteristics and Limitations for the Eastern System Upgrade Project .....	48
Table B-2	Principal Aquifers and Sole Source Aquifers Crossed by the Eastern System Upgrade Project.....	54
Table B-3	Water Supply Wells, Springs, and Seeps within 150 feet of Project Construction Work Areas .....	56
Table B-4	Watersheds Crossed by the Eastern System Upgrade Project .....	59
Table B-5	100-Year Flood Zones Crossed by the Eastern System Upgrade Project.....	61
Table B-6	Total Water Use for Construction of the Eastern System Upgrade Project.....	65
Table B-7	Wetland Impact Summary of the Eastern System Upgrade Project .....	67
Table B-8	Acreage of Construction and Operation Impacts of the Eastern System Upgrade Project on Vegetation .....	72
Table B-9	Federal and State Threatened and Endangered Species and Species of Concern Potentially Occurring in the Project Area .....	86
Table B-10	Land Use Affected by Construction and Operation of the Eastern System Upgrade Project .....	93

Table B-11 Orange County Agricultural District Parcels Within the Project's Permanent Easement.....	97
Table B-12 Public Land and Designated Recreation or Scenic Areas within 0.25 Mile of the Proposed Eastern System Upgrade Project.....	100
Table B-13 Existing Economic Conditions by County/State for the Eastern System Upgrade Project .....	111
Table B-14 Socioeconomic Impact Resulting from Construction and Operation of the Eastern System Upgrade Project.....	113
Table B-15 Comparison of Emissions for the Eastern System Upgrade Project to General Conformity Thresholds .....	126
Table B-16 Summary of Estimated Emissions from Construction of the Eastern System Upgrade Project.....	128
Table B-17 Summary of Annual Operational Emissions .....	131
Table B-18 Summary of Predicted Air Quality Impacts for the Eastern System Upgrade Project .....	133
Table B-19 Acoustical Survey and Analysis Summary for Horizontal Directional Drills .....	137
Table B-20 Acoustical Analysis of the Highland and Hancock Compressor Stations ....	139
Table B-21 Acoustical Analysis of the Ramapo and Huguenot Meter Stations .....	141
Table B-22 Natural Gas Transmission Pipeline Significant Incidents by Cause 1996- 2015 .....	147
Table B-23 Outside Forces Incidents by Cause 1996-2015.....	149
Table B-24 Injuries and Fatalities - Natural Gas Transmission Pipelines .....	150
Table B-25 Nationwide Accidental Deaths .....	150
Table B-26 Existing or Proposed Projects with Potential Cumulative Impacts in the Region of Influence .....	153
Table B-27 Summary of Estimated Emissions from Construction of the Eastern System Upgrade Project, Valley Lateral Project, and CPV Valley Energy Center in Orange County, New York.....	162
Table C-1 Looping Only Alternative to the Eastern System Upgrade Project .....	172
Table C-2 Neversink River Route Variations .....	173

**LIST OF FIGURES**

Figure 1	Eastern System Upgrade Project Overview.....	9
Figure 2	Project Typical Pipeline Construction Diagram .....	15
Figure 3	Typical Pipeline Construction Sequence .....	23
Figure 4	Existing System Alternatives to the Project.....	169
Figure 5	Route Variations for the Neversink River Crossing .....	174
Figure 6	Highland Compressor Station Alternative .....	177

**LIST OF APPENDICES**

Appendix A	Topographic Maps of the Project
Appendix B	Location of Additional Temporary Workspaces for the Project
Appendix C	Proposed Alternative Measures to the FERC Procedures for the Project
Appendix D	Residences within 50 Feet of the Project
Appendix E	Waterbodies Crossed by the Project
Appendix F	Wetlands Crossed by the Project
Appendix G	Nearest Noise Sensitive Areas to the Aboveground Facilities

## TECHNICAL ABBREVIATIONS AND ACRONYMS

APE	area of potential effects
Algonquin	Algonquin Gas Transmission, LLC
ATWS	additional temporary workspace
AQCR	Air Quality Control Region
BGEPA	Bald and Golden Eagle Protection Act
CEC	Commission for Environmental Cooperation
Certificate	Certificate of Public Convenience and Necessity
CEII	Critical Energy Infrastructure Information
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2e</sub>	carbon dioxide equivalents
COE	U.S. Army Corps of Engineers
Columbia	Columbia Gas Transmission, LLC
Columbia Pipeline	Columbia Pipeline Group
Commission	Federal Energy Regulatory Commission
Concentric	Concentric Energy Advisors
CWA	Clean Water Act
CPV	CPV Valley, LLC
dba	decibels on the A-weighted scale
DOT	U.S. Department of Transportation
DRN	Delaware Riverkeeper Network
Dth/d	dekatherms per day
EA	environmental assessment
ECS	Environmental Construction Standards
EI	environmental inspector
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FWS	U.S. Fish and Wildlife Service
GHG	greenhouse gas
GWP	global warming potential
HAP	hazardous air pollutant
HCA	high consequence area
HDD	horizontal directional drill
HDD Plan	Horizontal Directional Drill Contingency Plan
hp	horsepower

HUC	hydrologic unit code
IPCC	Intergovernmental Panel on Climate Change
L <sub>dn</sub>	day-night sound level
L <sub>eq</sub>	equivalent sound level
m <sup>3</sup>	cubic meter
MAOP	maximum allowable operating pressure
MBTA	Migratory Bird Treaty Act
Millennium	Millennium Pipeline Company, L.L.C.
MOU	Memorandum of Understanding
MP	milepost
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emission Standards for Hazardous Air Pollutants
NGA	Natural Gas Act
NHPA	National Historic Preservation Act
NNSR	Nonattainment New Source Review
NOI	Notice of Intent
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSA	noise sensitive area
NWI	National Wetlands Inventory
NYCRR	New York Codes, Rules, and Regulations
NYNHP	New York Natural Heritage Program
NYSDAM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
NYSGIS	New York State Geographic Information System
NYSGS	New York State Geologic Survey
NYSOEJ	New York State Office of Environmental Justice
OEP	Office of Energy Projects
PEM	palustrine emergent
PFO	palustrine forested
PGA	peak ground acceleration
PHMSA	Pipeline and Hazardous Materials Safety Administration

Plan	FERC's <i>Upland Erosion Control, Revegetation, and Maintenance Plan</i>
PM	particulate matter
PM <sub>2.5</sub>	particles with an aerodynamic diameter less than or equal to 2.5 microns
PM <sub>10</sub>	particles with an aerodynamic diameter less than or equal to 10 microns
Princeton Hydro Procedures	Princeton Hydro, LLC FERC's <i>Wetland and Waterbody Construction and Mitigation Procedures</i>
Project	Eastern System Upgrade Project
ppb	parts per billion
ppm	parts per million
psig	pounds per square inch gauge
PSD	Prevention of Significant Deterioration
PSS	palustrine scrub-shrub
Secretary	Secretary of the Federal Energy Regulatory Commission
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
SPRP	Spill Prevention and Response Procedures
SWAP	Source Water Assessment Program
tpy	metric tons per year
USDA	U.S. Department of Agriculture
USGCRP	U.S. Global Change Research Program
USGS	U.S. Geological Survey
VOC	volatile organic compounds
WMA	wildlife management area
µg	microgram

## A. PROPOSED ACTION

### 1. Introduction

On July 20, 2016, Millennium Pipeline Company, L.L.C. (Millennium) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) in Docket No. CP16-486-000. Millennium is seeking a Certificate of Public Convenience and Necessity (Certificate) under Section 7(c) of the Natural Gas Act (NGA) to construct and operate approximately 7.8 miles of 30- and 36-inch-diameter pipeline loop (Huguenot Loop) in Orange County, New York. This Eastern System Upgrade Project (Project) would also involve construction of a new compressor station in Sullivan County, New York on land owned by Millennium; additional compression at the Hancock Compressor Station in Delaware County, New York; modifications at the Westtown Meter Station and Wagoner Interconnect in Orange County, New York; modifications at the Ramapo Meter Station in Rockland County, New York; and other appurtenant facilities. The Project would provide approximately 223,000 dekatherms per day (Dth/d) of firm transportation service from Millennium's existing Corning Compressor Station to an interconnect with Algonquin Gas Transmission, LLC (Algonquin) in Ramapo, New York. Prior to filing its application, Millennium participated in the Commission's pre-filing review process under Docket No. PF16-3-000.

We<sup>1</sup> prepared this environmental assessment (EA) in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality regulations for implementing NEPA under Title 40 of the Code of Federal Regulations (CFR) Parts 1500-1508 (40 CFR 1500-1508), and the Commission's implementing regulations under 18 CFR 380.

The FERC is the lead federal agency for authorizing interstate natural gas transmission facilities under the NGA, and the lead federal agency for preparation of this EA. Consistent with NEPA and its respective responsibilities and regulations, the Stockbridge-Munsee Band of Mohicans, Delaware Tribe of Indians, U.S. Environmental Protection Agency (EPA), and New York State Department of Agriculture and Markets (NYSDAM) participated as cooperating agencies in the preparation of this EA. Cooperating agencies have jurisdiction by law or special expertise with respect to the environmental impacts associated with Millennium's proposal.

The assessment of environmental impacts is an integral part of FERC's decision on whether to issue Millennium a Certificate to construct and operate the proposed facilities. Our principal purposes in preparing this EA are to:

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<sup>1</sup> "We," "us," and "our" refer to the environmental staff of the Office of Energy Projects.

- identify and assess potential impacts on the natural and human environment that would result from the proposed action;
- assess reasonable alternatives to avoid or minimize adverse effects to the environment; and
- identify and recommend mitigation measures, as necessary, to minimize environmental impacts.

Approval would be granted if, after consideration of both environmental and non-environmental issues, the Commission finds that the Project is in the public interest.

## **2. Purpose and Need**

Millennium states that the purpose of the Project is to provide 223,000 Dth/d of firm natural gas transportation capacity from Millennium's Corning Compressor Station to an existing interconnect with Algonquin in Ramapo, New York. Millennium states that the Project facilities would also ensure that current customer demand along Millennium's system is met during the summer months and that current deliveries to interconnecting pipelines continue. A total of 202,500 Dth/d, or 91 percent of the Project capacity, is subscribed under long-term, firm contracts with local distribution companies and municipalities; as of its July 20, 2016 application, Millennium was marketing the remaining 20,500 Dth/d.

Under Section 7 (c) of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The FERC's Certificate Policy Statement<sup>2</sup> provides guidance as to how the Commission evaluates proposals for new construction, and establishes criteria for determining whether there is a need for a proposed project and whether it would serve the public interest. The Commission bases its decision on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project. The Commission does not direct the development of the gas industry's infrastructure regionally or on a project-by-project basis, or redefine an applicant's stated purpose.

## **3. Scope of the Environmental Assessment**

The topics addressed in this EA include geology, soils, groundwater, surface water, wetlands, vegetation, aquatic resources, wildlife, threatened and endangered

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<sup>2</sup> The Policy Statement can be found on our website at <http://www.ferc.gov/legal/maj-ord-reg/PL99-3-000.pdf>. Clarifying statements can be found by replacing "000" in the URL with "001" and "002."

species, land use, visual resources, socioeconomics, cultural resources, air quality, noise, reliability and safety, cumulative impacts, and alternatives. The EA describes the affected environment as it currently exists, discusses the environmental consequences of the Project, and compares the Project's potential impact with that of various alternatives. The EA also presents our recommended mitigation measures.

#### **4. Public Review and Comment**

On February 5, 2016, the Commission granted Millennium's request to use the FERC's pre-filing review process in Docket No. PF16-3-000. The pre-filing process was established to encourage early involvement by citizens, government entities, non-governmental organizations, and other interested parties in the development of planned natural gas transmission projects. During the pre-filing process, FERC staff worked with Millennium, cooperating agencies and interested stakeholders, including federal and state agencies, to identify and resolve Project-related issues.

Millennium hosted two open house meetings in New York to inform stakeholders about the Eastern System Upgrade Project and provide an opportunity for stakeholders to ask questions and express concerns. These meetings were held on March 30, 2016 in Orange County and on March 31, 2016 in Sullivan County. Additionally, we attended the open house meetings and conducted site visits in the Project area. Millennium also held an outreach meeting with the Town of Hancock, at the town's request, on March 29, 2016.

It should be recognized that the currently proposed route reflects modifications to the originally planned route and workspaces that Millennium incorporated during the pre-filing and application review based on discussions with landowners, land managing agencies, Project engineers, and FERC staff to avoid or minimize impacts on sensitive resources, reduce or eliminate engineering and constructability concerns, and/or avoid or minimize conflicts with existing land uses. These route variations were incorporated into the Project route and are considered part of the Project. Their associated environmental consequences were included in our environmental analysis in section B.

On May 11, 2016, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment for the Planned Eastern System Upgrade Project and Request for Comments on Environmental Issues* (NOI). The NOI was published in the Federal Register<sup>3</sup> and was mailed to 513 interested parties, including federal, state, and local government representatives and agencies; elected officials; affected landowners; environmental and public interest groups; potentially interested Native American tribes; other interested parties; and local libraries and newspapers. The NOI also established a 30-day scoping period and requested that the public provide written comments on

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<sup>3</sup> 81 Federal Register 31922

specific concerns about the planned Eastern System Upgrade Project or issues that should be considered during preparation of the EA.

In response to the NOI, the Commission received 452 comment letters during the public scoping period (May 11 through June 10, 2016); in addition, 66 letters were filed prior to issuance of the NOI. The environmental comments received in response to the NOI are summarized below and addressed, as applicable, in relevant sections of this EA as shown in table A-1.

<b>Table A-1 Issues Identified During the Public Scoping Process</b>	
<b>Issue</b>	<b>EA Section Addressing Issue</b>
Air quality, GHG, climate change	section B.8.1
Alternatives (including pipeline routing alternatives)	section C
Cultural resources	section B.7
Cumulative impacts (including those associated with Millennium's existing Hancock and Minisink Compressor Stations)	section B.10
Health risks associated with air emissions from the Project	section B.8.1
Land use, recreation, and visual impacts (including impacts on the Excelsior Sportsman's Club and former Eldred Preserve)	section B.5
Millennium's ECS	sections A.7, B.2, B.3, and B.5
Project purpose and need	section A.2
Safety	section B.9
Socioeconomic impacts (including impacts on property values and environmental justice)	section B.6
Soils (including erosion and compaction)	section B.1.2
Surface water (including floodplains and the Neversink River), groundwater, and wetlands	section B.2
Vegetation and wildlife (including migratory birds and the Mongaup Valley Wildlife Management Area)	section B.3
Threatened and endangered species	section B.4
GHG = greenhouse gas; ECS = Environmental Construction Standards	

Most comments received are in opposition to the Eastern System Upgrade Project, and many express opposition specific to the emissions associated with the Highland Compressor Station and asked that electric motor-driven compressor units be considered in lieu of the proposed natural gas-fired compressor units. Commentors question the need for the Project; express opposition to fossil fuels in favor of renewable energy; and

raise concerns regarding health risks associated with air emissions from Millennium's existing compressor stations, the proposed Highland Compressor Station, and natural gas sourced from hydraulic fracturing. The development of natural gas in shale plays by hydraulic fracturing is not the subject of this EA nor is the issue directly related to the Project. Commentors also raise concerns regarding cumulative impacts of the Eastern System Upgrade Project, Millennium's existing compressor stations, the Valley Lateral Project, and the CPV Valley, LLC (CPV) Valley Energy Center. These projects are discussed in more detail in section B.10, Cumulative Impacts.

Commentors raise concern for the siting of the Highland Compressor Station in proximity to schools. The closest school is about 3.9 south of the of the proposed compressor station; as such, potential impacts at this location would be associated with air emissions, which are discussed in section B.8.1.

Commentors also express concerns regarding Project impacts on surface and groundwater quality; wetlands; floodplains; wildlife and vegetation; threatened and endangered species; cultural resources and historic structures; soils; property values; land use; safety, including strains on local emergency services; pollution prevention practices; air quality; methane leaks and greenhouse gas (GHG) emissions; and climate change.

The EPA comments that Rockland County is designated as a nonattainment area and that the EA should include an evaluation of alternatives; cumulative, safety, direct and secondary impacts; greenhouse gas emissions; and climate change. The EPA also asks that the EA include an analysis of environmental justice based on the 1993 Council on Environmental Quality (CEQ) Guidance and a health impact assessment. NYSDAM comments are regarding Millennium's Environmental Construction Standards (ECS).

The Nature Conservancy provides comments raising concerns for Project impacts on the Neversink River ecosystem and floodplain, including wetland habitat and the dwarf wedgemussel. The Delaware Riverkeeper Network (DRN) provides a list of projects that should be included in the cumulative analysis and asks that the environmental assessment include an assessment of air quality impacts and associated public safety and health effect. The DRN also questions the need for a new compressor station in proximity to Millennium's existing compressor stations; and expresses concerns for Project impacts on wildlife, water resources, including the Upper Delaware River and Halfway Brook, and the local economies.

Commentors state that the Project would violate local zoning laws for certain municipalities in the Project area, and several towns passed resolutions opposing the Project. As discussed in section A.1, FERC is lead federal agency with siting authority under the NGA, which preempts local zoning laws.

Several commentors request access to Project materials that Millennium filed to the FERC docket as Critical Energy Infrastructure Information (CEII) and that the

scoping period be extended to allow adequate time for review of these materials. Materials filed as CEII contain specific engineering, vulnerability, and detailed design about a project, and are exempt from mandatory disclosure under the Freedom of Information Act. However, the Commission has established procedures for gaining access to CEII materials, which is subject to the Commission's policy regarding CEII: Order Nos. 702, 630, 630-A, 643, 649, and 683 under the CEII Regulations Section.<sup>4</sup> In response to these comments, we requested in our environmental data request issued on October 7, 2016, that Millennium file public versions of the figures depicting the temporary workspace and permanent facility boundaries of the proposed compressor stations; the figures were filed on October 27, 2016. Regarding the extension of the scoping period, we have reviewed all comment letters received prior to issuance of this EA, regardless of whether comments were received during the scoping period. After the scoping period, we received 235 additional comment letters. The nature of these comments was generally similar to those comments received during the scoping period, opposing the Project, with specific opposition related to impacts associated with the Highland Compressor Station.

The New York State Department of Environmental Conservation (NYSDEC) comments on the state permits that would be required for the Project and its reliance on the EA in assessing whether or not the Project complies with permit standards. Permits and approvals for the Project are summarized in table A-11.

In response to a letter sent by Millennium, the Delaware River Basin Commission filed a letter to the FERC docket that describes their examination of the Project and the determination that the Project would not require its review and approval because substantial effects on water resources would not likely occur.<sup>5</sup>

Audubon New York raises concerns for the siting of the Highland Compressor Station within the Mongaup Valley Wildlife Management Area (WMA), which is designated as an Important Bird Area and which provides habitat for bald eagles and other species that use forested habitat. Audubon New York recommends that bird surveys be conducted at the Highland Compressor Station site. Because Millennium has committed to avoid impacts on migratory birds through construction timing restrictions, as described in section 3.3, and would continue to consult with the FWS regarding impacts on migratory birds, we do not recommend that bird surveys be conducted.

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<sup>4</sup> Available on FERC's website, located at <https://www.ferc.gov/legal//maj-ord-reg/land-docs/ceii-rule.asp>.

<sup>5</sup> Comment letter provided as part of the public record for Docket No. PF16-3-000 on the FERC website at <http://www.ferc.gov/docs-filing/elibrary.asp>, in accession 20161206-0100.

We also received comments from the Stockbridge-Munsee Tribal Historic Preservation Office pursuant to Section 106 of the National Historic Preservation Act (NHPA).

Two reports commissioned by the DRN were filed to the docket. Princeton Hydro, LLC (Princeton Hydro) provides a report on their findings of the environmental impacts of the Project and Key-Log Economics conducted an analysis of economic effects of the Project. The report by Princeton Hydro included several comments regarding erosion and sediment control, soil compaction, the potential for wetland and waterbody impacts (including stream erosion), impacts from trench dewatering, and clearing of vegetation and associated habitat fragmentation. The Princeton Hydro report also expresses concern regarding impacts from the discharge of hydrostatic test water and water used for horizontal directional drill (HDD) operation at the Neversink River crossing.

The report by Key-Log Economics includes a review of Concentric Energy Advisors' (Concentric) analysis of the economic benefits of the Project. Key-Log Economics believes that the Concentric analysis overstates the economic benefits of the Project and fails to consider the economic costs of the Project (i.e., the social cost of carbon, public health, and reduced property values). While the Concentric analysis was prepared for Millennium, this report was not filed with the formal FERC application, nor does it appear to be the source of the economic data reported in Resource Report 5 – Socioeconomics. As such, the Concentric report and the data within were not used in the preparation of this EA.

Comments were also filed by landowners in proximity to the proposed Highland Compressor Station expressing concerns for impacts on property values and the potential increased rates for homeowner's insurance. Impacts on property values and homeowner's insurance are discussed in section B.6.5. Several comments were filed identifying specific special use areas that could be impacted by the Project, including the Bethel Woods Center for the Arts, Catskills Park, a museum in Livingston Manor, and the former Eldred Preserve. These areas are discussed in section B.5.3. We also received comments related to safety concerns for residences in proximity to the new compressor station, in the event of a fire or explosion, including Chapin Estates, Ozdan Development, and Amytra Development, and members of the Excelsior Sportsman's Club. The potential impacts of the proposed Highland Compressor Station are described further throughout section B of this EA, as well as an alternatives analysis in section C.6. See section B.9 for a discussion of safety standards for the Project. Also, Chapin Estates, Ozdan Development, and Amytra Development, and the Excelsior Sportsman's Club are discussed in section B.5.2 and B.5.3, respectively.

One landowner near milepost (MP) 3.4 of the Huguenot Loop filed a comment stating that the proposed pipeline route across his property would result in the removal of 1 acre of forested land, and that removal of these trees would significantly alter the

viewshed and diminish privacy. Since this comment was filed, Millennium has incorporated an HDD for installation of the pipeline that would mitigate impacts on this and the neighboring parcels between MP 2.9 and 3.8 (see section A.8.2).

## 5. Proposed Facilities and Location

The natural gas facilities proposed for the Eastern System Upgrade Project would include the following, all located in New York:

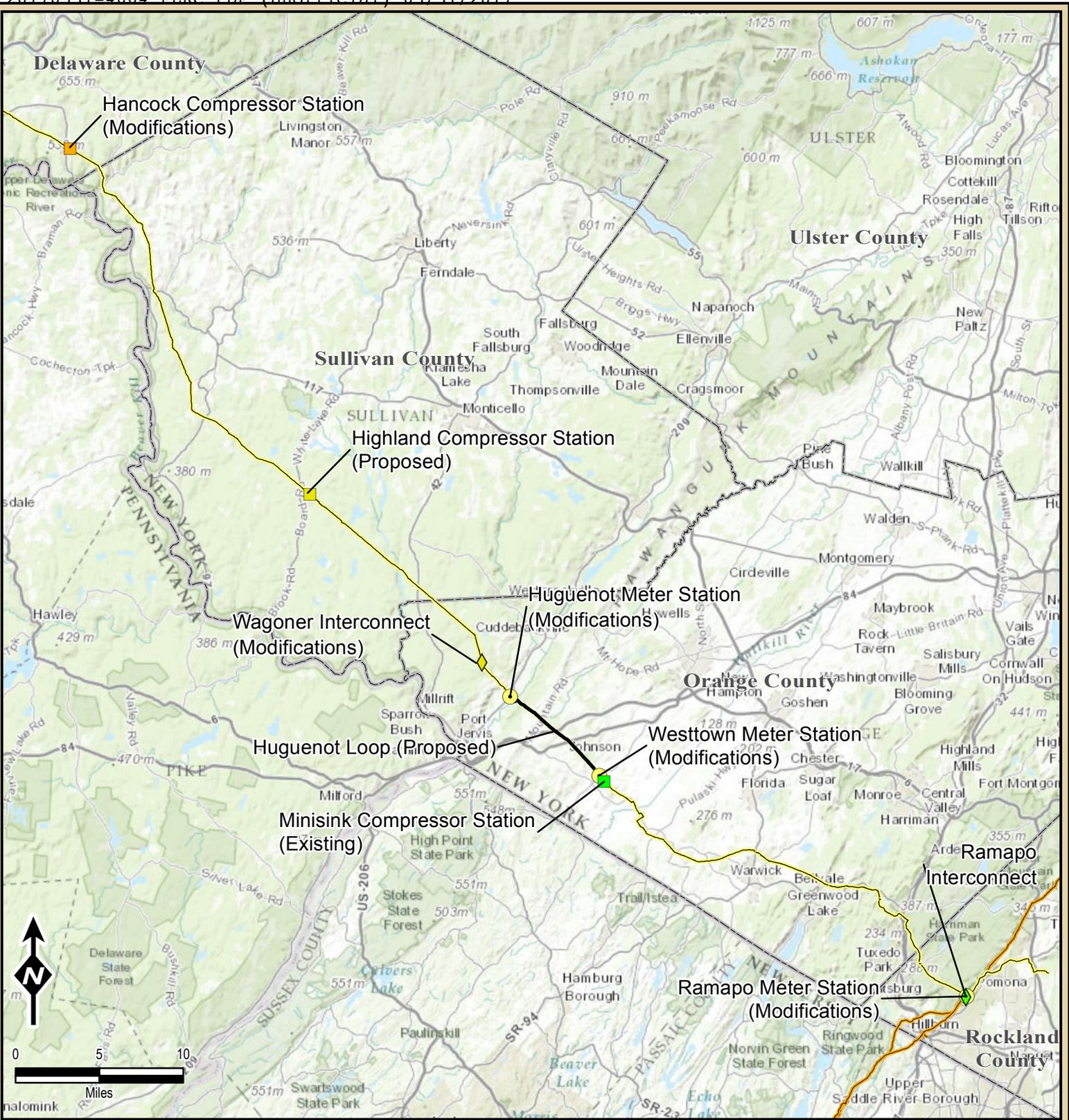
- about 7.8 miles of new, 30- and 36-inch-diameter pipeline looping along Millennium’s existing mainline right-of-way in Orange County (Huguenot Loop);
- a new 22,400 horsepower (hp) compressor station in Sullivan County (Highland Compressor Station);
- an additional 22,400 hp of compression at the existing Hancock Compressor Station in Delaware County;
- modifications to the Ramapo Meter Station in Rockland County;
- modifications to the Wagoner Interconnect in Orange County;
- an alternate interconnect to the 16-inch Valley Lateral Pipeline<sup>6</sup> at MP 7.6 of the Huguenot Loop (Alternate Interconnect); and
- appurtenant facilities including pig<sup>7</sup> launcher/receivers at MP 0.1 of the Huguenot Loop and at the Huguenot and Westtown Meter Stations in Orange County.

Additionally, 12 temporary access roads, 8 permanent access roads, 4 contractor/pipe yards, and 3 staging areas are proposed for use during the Project. The general location of the Project is shown in figure 1, and U.S. Geological Survey (USGS) 7.5-minute quadrangle topographic maps are included in appendix A.

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<sup>6</sup> The Valley Lateral Pipeline would provide transportation capacity for 130,000 Dth/d of natural gas to serve the new 650 megawatt gas-powered CPV Valley Energy Center in Orange County, New York. The Valley Lateral Project (CP16-17-000) was issued a Certificate on November 9, 2016.

<sup>7</sup> A pipeline “pig” is a device to clean or inspect the pipeline. A pig launcher/receiver is an aboveground facility where pigs are inserted or retrieved from the pipeline.



- Existing CS (Modifications)
- Proposed CS
- Existing CS
- ◆ Existing Interconnect
- ◆ Interconnect (Modifications)
- Existing MS (Modifications)
- Proposed Loop
- Existing Millennium Pipeline
- Existing Algonquin Gas

**Eastern System Upgrade Project Overview**

**Figure 11**

## 5.1 Pipeline Facilities

Millennium proposes to construct about 0.1 mile of new 30-inch-diameter pipeline and 7.7 miles of new 36-inch-diameter pipeline looping along its existing mainline right-of-way in Orange County, New York. The Huguenot Loop would interconnect with Millennium's existing mainline at the existing Huguenot Meter Station in Deer Park, New York (MP 0.0) and the Westtown Meter Station in Minisink, New York (MP 7.8). The current maximum allowable operating pressure (MAOP) of Millennium's existing 24-inch mainline in this location is 936 pounds per square inch gauge (psig). The Huguenot Loop would be constructed to have a MAOP of 1,350 psig and a maximum operating pressure of 1,200 psig. In addition to the pipeline loop, Millennium would expand its existing cathodic protection<sup>8</sup> system by installing below-grade rectifiers along the Huguenot Loop that would rely on large anode beds to protect long segments of pipe from corrosion. One new cathodic protection groundbed is proposed outside of Millennium's permanent right-of-way near MP 5.0, where anodes would be installed at a depth of five feet of cover. Following construction, the groundbed would be maintained as open land. Existing power lines would be used for the groundbed, and no new power poles would be required.

### 5.1 Aboveground Facilities

Table A-2 summarizes the aboveground facilities that would be constructed or modified for the Project.

#### Compressor Stations

##### Highland Compressor Station

Millennium proposes to construct a new compressor station with one 22,400 hp Solar Titan 130E gas-fired compressor unit housed within a compressor building. The compressor facilities would include valves, filtering, and a fuel gas heater. The Highland Compressor Station site would also include an auxiliary building for station controls, communication equipment, a compressed air system, emergency electrical power generation, parking and access areas, and an on-site water well and sanitary sewer system. The facility would be fenced. Millennium would construct stormwater management facilities, including bioretention and detention basins, to treat runoff during frequent storm events and store runoff during major storm events, to ensure that the

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<sup>8</sup> Cathodic protection is a technique to reduce corrosion (rust) of the natural gas pipeline through the use of an induced current or a sacrificial anode (like zinc) that corrodes at a faster rate to reduce corrosion. A rectifier is a device that converts alternating current, which periodically reverses direction, to direct current, which flows in only one direction.

operational footprint of the Highland Compressor Station would not increase stormwater discharge rates and volumes off the property.

<b>Table A-2 Proposed Aboveground Facilities for the Eastern System Upgrade Project</b>			
<b>Facility Type and Name</b>	<b>Approximate MP</b>	<b>Town, County</b>	<b>Description</b>
<b>Compressor Stations</b>			
Highland Compressor Station	N/A	Highland, Sullivan	Construction of a new compressor station with one 22,400 hp Solar Titan 130E compressor unit.
Hancock Compressor Station	N/A	Hancock, Delaware	Installation of a new Solar Titan 130E compressor unit, totaling 22,400 hp, and re-staging the existing Solar Mars compressors (15,900 hp), for a total of 38,300 hp.
<b>Meter Stations</b>			
Wagoner Interconnect	N/A	Deerpark, Orange	Removal of an existing indirect heater.
Huguenot Meter Station	0.0	Deerpark, Orange	Removal of an existing 30-inch-diameter pig receiver and extension of a 30-inch-diameter Millennium Pipeline. Installation of new regulator facilities and a new 24-inch-diameter pig barrel for the existing 24-inch-diameter Millennium Pipeline. Installation of an indirect heater, moved from the Wagoner Interconnect.
Westtown Meter Station	7.8	Minisink, Orange	Installation of a new 36-inch-diameter pig receiver for the Huguenot Loop. Installation of a new 24-inch-diameter receiver barrel to the existing 24-inch-diameter Millennium Pipeline and a new 30-inch pig barrel for the existing 30-inch-diameter Millennium Pipeline. Addition of overpressure to protect the 24-inch-diameter, 920 pounds per square inch MAOP pipeline.
Ramapo Meter Station	N/A	Ramapo, Rockland	Installation of new filter/separators, meters, heater, and flow and pressure control regulation at the existing Ramapo Meter Station.
<b>Other Appurtenant Facilities</b>			
Pig launcher/receiver	0.1	Deerpark, Orange	Installation of a new 30-inch-diameter pig receiver facility and a new 36-inch-diameter pig launcher facility for the Huguenot Loop.
Alternate Interconnect	7.6	Minisink, Orange	Installation of a 12-inch-diameter side tap on the 36-inch-diameter Huguenot Loop, construction of a 12-inch-diameter lateral and tie-in to the 16-inch-diameter Valley Lateral Pipeline.

Electric power and communications utilities would be supplied by local utility companies; no new utility rights-of-way are planned to support the facility. Non-jurisdictional facilities are further addressed in section A.9.

### **Hancock Compressor Station**

At the existing Hancock Compressor Station in Delaware County, New York, Millennium proposes to install a new 22,400 hp Solar Titan 130E gas-fired compressor unit housed within a new compressor building and re-stage its existing Solar Mars compressor units, which total 15,900 hp. The compressor facilities would include valves, filtering, gas after-coolers, an emergency generator, and a fuel gas heater. A new auxiliary building would also be constructed. Millennium would modify its existing stormwater management facilities and construct a new bioretention area to accommodate stormwater runoff at the modified Hancock Compressor Station.

Upgrades would be required on the existing electric power utility lines that supply the facility; no new utility rights-of-way are planned to support the facility. Non-jurisdictional facilities are further addressed in section A.9.

### **Meter Stations**

#### **Wagoner Interconnect**

Modifications to the Wagoner Interconnect in Orange County, New York would involve removal of one aboveground in-line heater, which would be moved to the Huguenot Meter Station to heat gas before it enters Millennium's existing mainline. All work at the Wagoner Interconnect would occur above ground and an existing permanent access road would be used at the site, without modification.

#### **Huguenot Meter Station**

At the Huguenot Meter Station, Millennium would remove the existing 30-inch pig receiver piping assembly and would extend Millennium's 30-inch-diameter pipeline to the planned new 30-inch pig receiver facility described below. In addition, Millennium would install regulator facilities, a 24-inch pig launcher on the existing piping assembly, and install the heater moved from the Wagoner Interconnect along the existing mainline.

#### **Westtown Meter Station**

Millennium would install a new pig receiver at the terminus of the proposed new Huguenot Loop at its existing Westtown Meter Station in Orange County, New York. Millennium would also install a new 24-inch pig receiver and 30-inch launcher on existing piping assemblies associated with its existing mainline pipeline, and would add overpressure protection to the existing 24-inch-diameter mainline.

## **Ramapo Meter Station**

The Ramapo Meter Station in Rockland County, New York is located where Millennium's existing mainline interconnects with Algonquin's pipeline. Millennium and Algonquin both independently own and operate facilities within the Ramapo Meter Station site; Millennium would modify the existing facility to install a new in-line heater, over pressure protection, filter, metering facilities, and valves. Millennium would use the existing permanent access road to the Ramapo Meter Station for construction and operation of the Project, and plans to clear trees for maintenance along the existing road and widen the access road entrance as part of the Project.

## **Other Appurtenant Facilities**

Millennium proposes to install a 30-inch pig receiver and 36-inch pig launcher facility at MP 0.1 along the Huguenot Loop. The pigging facilities would be within a new fenced boundary within Millennium's existing permanent right-of-way.

In addition, Millennium would construct an Alternate Interconnect to its Valley Lateral Pipeline at MP 7.6. The Alternate Interconnect would consist of a 12-inch-diameter side tap and associated 300-foot-long pipeline installed on the proposed 36-inch Huguenot Loop that would supply natural gas to the Valley Lateral Pipeline if service were interrupted on Millennium's existing mainline.

## **6. Land Requirements**

Construction of the Project would affect 209.2 acres of land, including additional temporary workspace (ATWS), staging areas, access roads, and aboveground facilities. Following construction, about 139.9 acres would revert to pre-construction conditions and uses. The remaining 69.3 acres, including the permanent pipeline easement and aboveground facility sites, would be retained for operation of the Project. Table A-3 provides acreage requirements for each of the Project facilities. Environmental surveys are complete for all workspaces proposed for construction and operation of the Project.

**Table A-3  
Summary of Land Requirements for the Eastern System Upgrade Project<sup>a</sup>**

Facility	Land Affected During Construction <sup>b</sup> (acres)		Land Affected During Operation (acres)	
	Within Existing Right-of-Way/ Facility Boundaries	Outside Existing Right-of-Way/ Facility Boundaries	Within Existing ROW/ Facility Boundaries	Outside Existing ROW/ Facility Boundaries
<b>Pipeline Facilities<sup>c</sup></b>				
Pipeline right-of-way	28.0	54.1	16.3	18.8
ATWS	1.3	28.4	0.0	0.0
Access roads	0.0	6.4	0.0	2.3
Contractor/pipe yards and staging areas	0.0	37.2	0.0	0.0
Cathodic protection groundbed	0.0	0.2	0.0	0.2
<b>Aboveground Facilities</b>				
Highland Compressor Station	0.0	17.7	0.0	5.5
Hancock Compressor Station	0.7	12.2	0.6	5.0
Wagoner Interconnect	2.2	0.0	2.2	0.0
Huguenot Meter Station	0.4	<0.1	0.4	<0.1
Westtown Meter Station	0.4	0.2	0.4	0.2
Ramapo Meter Station	1.9	4.4	1.9	1.8
Pig launcher/receiver	0.1	0.3	0.1	0.3
Alternate Interconnect <sup>d</sup>	0.2	0.0	0.2	0.0
Access roads <sup>e</sup>	2.8	10.2	2.8	10.2
<b>Project Total</b>	<b>38.0</b>	<b>171.3</b>	<b>24.9</b>	<b>44.3</b>
<b>Combined Total</b>	<b>209.2</b>	<b>69.3</b>		

<sup>a</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.

<sup>b</sup> Land affected during construction includes both temporary and permanent work areas.

<sup>c</sup> The operational land requirements for the pipeline facilities include the new permanent easement for the Huguenot Loop and the existing permanent easement for the Millennium Pipeline where collocated

<sup>d</sup> The Alternate Interconnect would be constructed within the pig launcher/receiver facility associated with Millennium's Valley Lateral Project.

<sup>e</sup> Land affected during operation for the permanent access road at the Highland Compressor Station site includes areas for post-construction stormwater management.

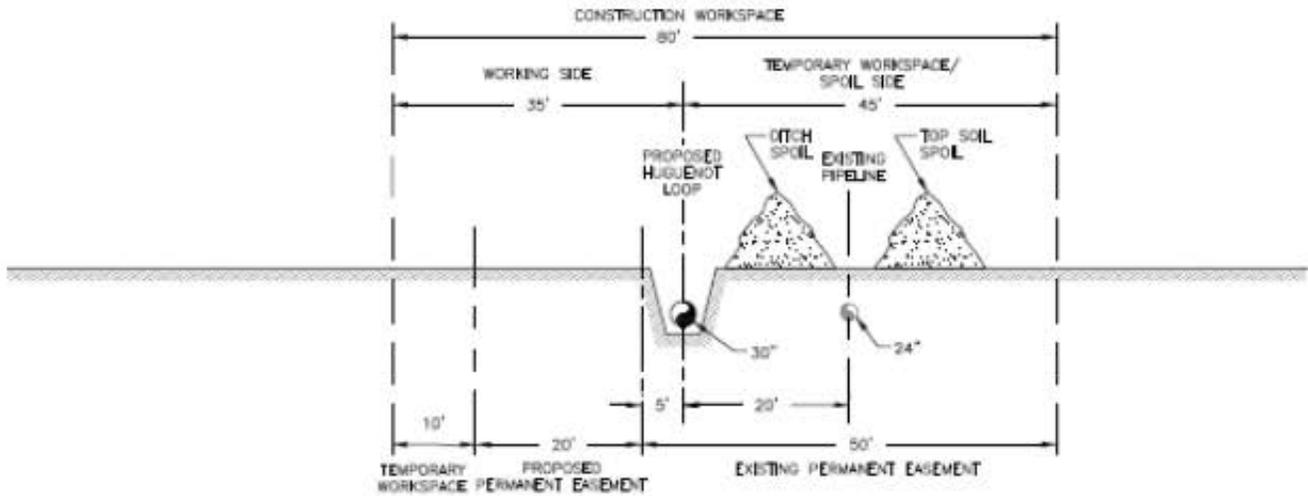
## 6.1 Pipeline Facilities

The construction right-of-way for the 30-inch-diameter pipeline (between MP 0.0 and 0.1) would range from 80 and 125-feet-wide. The construction right-of-way for the 36-inch-diameter pipeline would typically be 125-feet-wide in upland areas and 75-feet-wide at wetland and waterbody crossings, but would vary for site-specific conditions. In some locations, Millennium would reduce the pipeline right-of-way to avoid or minimize impacts on residences or other sensitive resources. We conducted an analysis of Millennium's proposed 125-foot-wide typical construction right-of-way and with consideration of collocation with its existing pipeline, requirements for construction in agricultural land, locations of steep side slopes, and other site-specific constraints, we conclude that the 125-foot right-of-way is justified. The land requirements for the Project are provided in table A-3 and figure 2 provides a typical construction diagram for the Project.

About 88 percent, or 6.9 miles, of the pipeline would be collocated with Millennium's existing mainline right-of-way. Where collocated, the Huguenot Loop would typically be offset 25 feet from the existing mainline, and Millennium would use 45 feet of the existing, maintained permanent easement as construction workspace for the Huguenot Loop. However, the offset would vary for site-specific conditions as depicted in the typical construction drawings included in Millennium's ECS. The ECS is more fully described in section A.8.

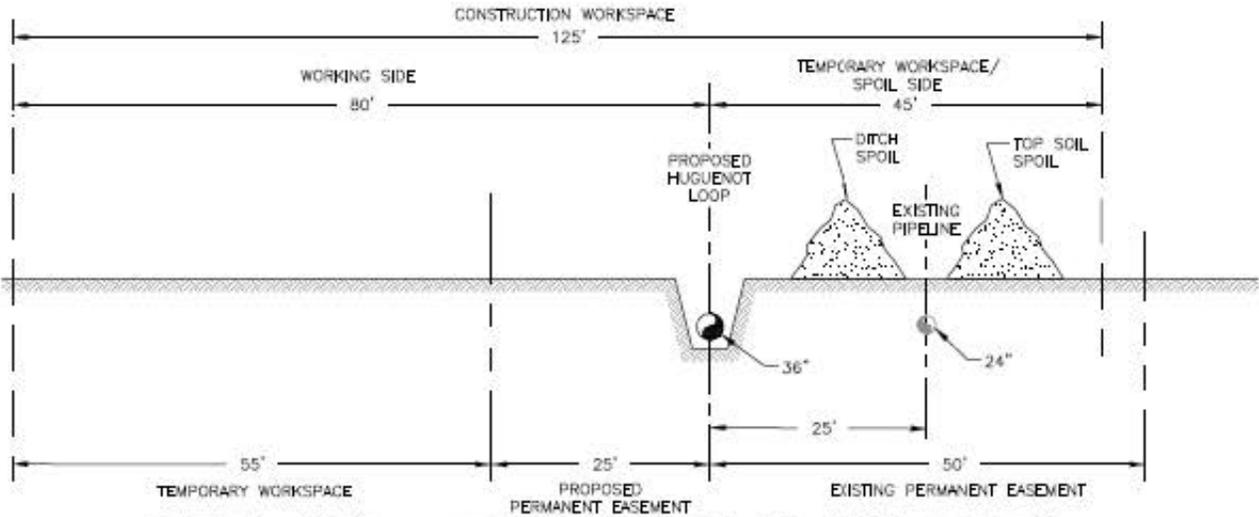
Table A-4 summarizes the right-of-way collocation along the Huguenot Loop, including the maximum distance between the Huguenot Loop and Millennium's existing mainline, and provides justification where the distance between the pipelines would be greater than 25 feet. The proposed permanent right-of-way for the Huguenot Loop would generally be 50-feet-wide. Where collocated with Millennium's existing mainline right-of-way, Millennium proposes to retain 25 feet of permanent easement in addition to its existing easement. The Huguenot Loop alignment is not proposed to be collocated with the existing mainline along the HDD crossing of the Neversink River (MP 0.2 to 1.1). HDD construction is discussed in section A.8.2.

### TYPICAL CONSTRUCTION WORKSPACE



**DETAIL "C" – WORKING SIDE TO THE NORTH**

MP 0.05 TO 0.07



**DETAIL "D" – WORKING SIDE TO THE NORTH**

MP 0.11 TO 0.16	MP 1.69 TO 2.48	MP 4.66 TO 4.86	MP 5.82 TO 5.93
MP 1.08 TO 1.42	MP 2.50 TO 2.85	MP 4.94 TO 5.15	MP 5.95 TO 5.99
MP 1.46 TO 1.61	MP 3.77 TO 3.85	MP 5.25 TO 5.64	MP 6.02 TO 6.35
MP 1.63 TO 1.64	MP 3.90 TO 3.97	MP 5.65 TO 5.79	MP 6.37 TO 6.74

Eastern System Upgrade  
Project  
Typical Pipeline  
Construction Diagrams

Figure 2

<b>Table A-4 Collocation of the Huguenot Loop with Millennium's Existing Pipeline</b>				
<b>Location (MP)</b>	<b>Total Length (feet)</b>	<b>Maximum Distance between Existing Pipeline and Loop (feet)</b>	<b>Collocated with Existing Pipeline</b>	<b>Justification for Deviation from the Existing Pipeline</b>
0.0	158	70	Yes	Pipeline entering Huguenot Meter Station
0.0 – 0.2	792	25	Yes	N/A
0.2 – 1.1	4,752	1,513	No	Neversink River HDD
1.1 – 1.8	3,379	25	Yes	N/A
1.7 – 1.8	211	28	Yes	Slight variations
1.8 – 1.9	528	25	Yes	N/A
1.9 – 4.1	11,986	25	Yes	N/A
4.1 – 4.8	3,590	36	Yes	Interstate Highway 84 HDD
4.8 – 6.1	6,547	25	Yes	N/A
6.1 – 7.8	9,187	25	Yes	N/A

Millennium would require ATWS outside the construction right-of-way for road, wetland, and waterbody crossings; at HDD entry and exit points; for storage of segregated topsoil; in areas with steep side slopes; for storage of construction materials; for equipment movement and turn-arounds; and for other site-specific constraints (see appendix B). Millennium would generally locate ATWS a minimum of 50 feet from waterbody and wetland edges, as required by FERC's *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures), except where a reduced set-back is necessary for site-specific reasons (see appendix C). In addition, Millennium would not stockpile vegetation within 100 feet from NYSDEC-regulated or eligible wetlands. Although Millennium has identified all areas where ATWS would be currently required, additional or alternative areas could be identified in the future because of changes in construction requirements at specific sites, and Millennium would be required to file information on each of those areas for Commission review and approval prior to use in accordance with recommendation 5 in section D of this document. Millennium would restore all ATWS to pre-construction conditions, to the extent practicable, and allow these areas revert to previous uses following construction.

## **6.2 Aboveground Facilities**

### **Compressor Stations**

Millennium has purchased an 81-acre site for construction of the Highland Compressor Station in Sullivan County, New York; construction of this compressor station would temporarily require 17.7 acres and 5.5 acres would be permanently affected by station operations.

Millennium's existing Hancock Compressor Station is within a 76-acre site owned by Millennium in Delaware County, New York; expansion of the compressor station would require 12.9 acres of construction workspace. Operation of new facilities would require a 5.0-acre permanent facility expansion. To accommodate the facility expansion, Millennium is negotiating the purchase of an additional 15 acres of land adjacent to its existing facility site, most of which would not be affected by construction and operation.

### **Meter Stations**

Modification of the Ramapo Meter Station would require 6.3 acres for construction and a 1.8-acre permanent facility expansion. The expansion would be on land owned by Rockland County within Kakiat County Park (see section B.5.3).

Installation of a new pig receiver at the existing Westtown Meter Station would require a total of 0.6 acre for construction and a permanent extension of 0.2 acre to the existing fenced facility.

Installation of the heater moved from Millennium's existing Wagoner Interconnect to the Huguenot Meter Station would require less than 0.1 acre expansion of the existing Huguenot Meter Station; the total construction and operation workspace at this site would be 0.4 acre. All work at the Wagoner Interconnect would occur within the existing fenced facility boundary.

### **Other Appurtenant Facilities**

Millennium's proposed new pig launcher/receiver at MP 0.1 would require a 0.4-acre area for construction and operation, of which 0.1 acre is within the permanent easement for Millennium's existing pipeline. The Alternate Interconnect would be constructed within the pig launcher/receiver proposed for the Valley Lateral Project, and within property owned by Millennium that would be permanently maintained as open land.

### 6.3 Contractor/Pipe Yards and Staging Areas

Millennium has identified four contractor/pipe yards and three staging areas that would be used for storage of pipe and contractor materials, staging construction operations, and temporary construction offices; these areas are located off the proposed pipeline right-of-way (see table A-5). Contractor/Pipe Yards 2 and 3 are on land owned by Millennium; all other contractor/pipe yards and staging areas would be on land leased by Millennium for use during construction. Upon completion of construction, these areas would be restored to preconstruction conditions to the extent practicable and allowed to revert to previous land uses.

Name	Location (Nearest MP)	Size (acres)	Current Land Use
Contractor/Pipe Yard 4	0.7 mile northwest of MP 0.1	9.6	Open land
Contractor/Pipe Yard 1	0.1 mile southwest of MP 0.1	8.6	Open land
Staging Area 2	MP 4.7	4.5	Agricultural land
Contractor/Pipe Yard 2	MP 7.5 (northeast)	3.6	Open land
Contractor/Pipe Yard 3	MP 7.5 (southwest)	6.4	Open land, industrial/commercial, upland forest
Staging Area 3	MP 7.7 (west)	2.4	Agricultural land, open land
Staging Area 4	MP 7.7 (east)	2.0	Open land, agricultural land
<b>Total</b>		<b>37.2</b>	

### 6.4 Access Roads

Existing public and private roads would be used to the extent feasible to access the pipeline right-of-way and aboveground facilities. Millennium has identified 20 access roads proposed for use, including 12 temporary access roads for use during construction and 8 permanent roads for use during construction and operation (see table A-6). Of those, 16 are existing roads and 4 are proposed new for the Project.

Modifications or improvements would be required for existing roads proposed for temporary use, including widening and gravelling. After construction, Millennium would remove the new temporary access roads and return them to pre-construction conditions. The existing and new roads proposed for permanent use would be paved, and would be maintained for the life of the Project to access the Project facilities.

**Table A-6  
Access Roads Proposed for Use on the Eastern System Upgrade Project**

<b>Access Road</b>	<b>Nearest MP</b>	<b>Construction Status</b>	<b>Existing or New</b>	<b>Modifications</b>	<b>Length (feet)</b>	<b>Area (acres)<sup>a</sup></b>
<b>Huguenot Loop</b>						
TAR-0012	Contractor/ Pipe Yard	Temporary	Existing	None	954	0.3
TAR-0001	0.0	Temporary	Existing	None	68	0.2
PAR-0001	0.0 to 0.1	Permanent	New	Clear, grade, and gravel.	689	0.2
PAR-0002	0.0	Permanent	New	Grade, widen, and add gravel	144	0.1
PAR-002A	0.0	Permanent	New	Grade and add gravel	248	0.1
TAR-0011	0.3	Temporary	Existing	Trim vegetation, add gravel	969	0.3
TAR-0002	0.4	Temporary	Existing	Widen, add gravel	1,252	0.4
TAR-0009	0.9	Temporary	Existing	Trim vegetation, add gravel	385	0.3
TAR-0010	0.9	Temporary	Existing	Trim vegetation, add gravel	111	0.1
TAR-0003	0.9 to 1.1	Temporary	Existing	Clear/trim, widen, add gravel	2,272	1.0
TAR-0004	2.9	Temporary	Existing	Clear, grade, gravel.	135	0.1
TAR-0005	3.9	Temporary	Existing	Widen, add gravel	1,212	0.4
TAR-0006	4.8	Temporary	Existing (extend 70- feet)	Extend, widen, add gravel	969	0.3
TAR-0007	7.2	Temporary	Existing	Grade, gravel	883	0.3
PAR-0003	7.6	Permanent	Existing	None	3,147	1.9
TAR-0008	7.8	Temporary	Existing	None	375	0.4
<b>Highland Compressor Station</b>						
Highland PAR	N/A	Permanent	New	Clear, cut and fill, grade, gravel, pave, install stormwater controls	3,487	10.2
<b>Hancock Compressor Station</b>						
Hancock PAR	N/A	Permanent	Existing	None	653	0.3
<b>Ramapo Meter Station</b>						
Ramapo PAR	N/A	Permanent	Existing	Tree clearing only; entrance widening	2,359	1.1
<b>Wagoner Interconnect</b>						
PAR- 0004	N/A	Permanent	Existing	None	4,795	1.4
TAR = temporary access road; PAR = permanent access road.						
<sup>a</sup> Access road widths are typically 15 to 30-feet-wide but would be as narrow as 12-feet-wide (PAR-0004) and as wide as 98- foot-wide (portions of TAR-0008).						

## 7. Construction Schedule and Workforce

Millennium anticipates that construction of the Project would commence in September 2017, pending the Commission's approval and receipt of all other necessary permits and regulatory approvals; construction of the Project would occur over a one-year period. Millennium's projected in-service date is September 2018. As discussed in sections B.3.3 and B.4, Millennium plans to clear trees between October 1 and March 31 to minimize potential impacts on nesting migratory birds and state and federally listed bats. Millennium is proposing to complete Project construction using one construction "spread" (spreads are construction areas with separate crews), as well as smaller work crews at HDD, meter station, and pig launcher/receiver locations.

A separate construction crew would be used for each compressor station. Construction of the new Highland Compressor Station is anticipated to require between 8 and 10 months; modifications at the Hancock Compressor Station and Ramapo Meter Station is expected to require between 4 and 8 months. The estimated peak construction work force required for the Project is 325 workers; in addition, two new staff would be required for operation of the Highland Compressor Station.

## 8. Construction, Operations, and Maintenance Procedures

The Project would be designed, constructed, operated, and maintained in accordance with applicable requirements defined by U.S. Department of Transportation (DOT) regulations in 49 CFR 192, *Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards*; the Commission's Siting and Maintenance Requirements with 18 CFR 380.15; and other applicable federal and state safety regulations. Among other design standards, Part 192 specifies pipeline material and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion.

Generally, the pipeline would be installed using conventional overland pipeline construction techniques, during which the construction spread proceeds along the pipeline right-of-way in one continuous operation, with the entire process coordinated to minimize the total time a tract of land is disturbed. Millennium would implement its ECS, which meets or exceeds FERC's guidelines in the *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and Procedures. The FERC's Plan<sup>9</sup> and Procedures<sup>10</sup> are a set of baseline construction and mitigation measures developed in collaboration with other federal and state agencies and the natural gas pipeline industry to

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<sup>9</sup> A copy of the FERC Plan is available at [www.ferc.gov/industries/gas/enviro/plan.pdf](http://www.ferc.gov/industries/gas/enviro/plan.pdf).

<sup>10</sup> A copy of the FERC Procedures is available online at: [www.ferc.gov/industries/gas/enviro/procedures.pdf](http://www.ferc.gov/industries/gas/enviro/procedures.pdf).

minimize the potential environmental impacts of the construction of pipeline projects in general.

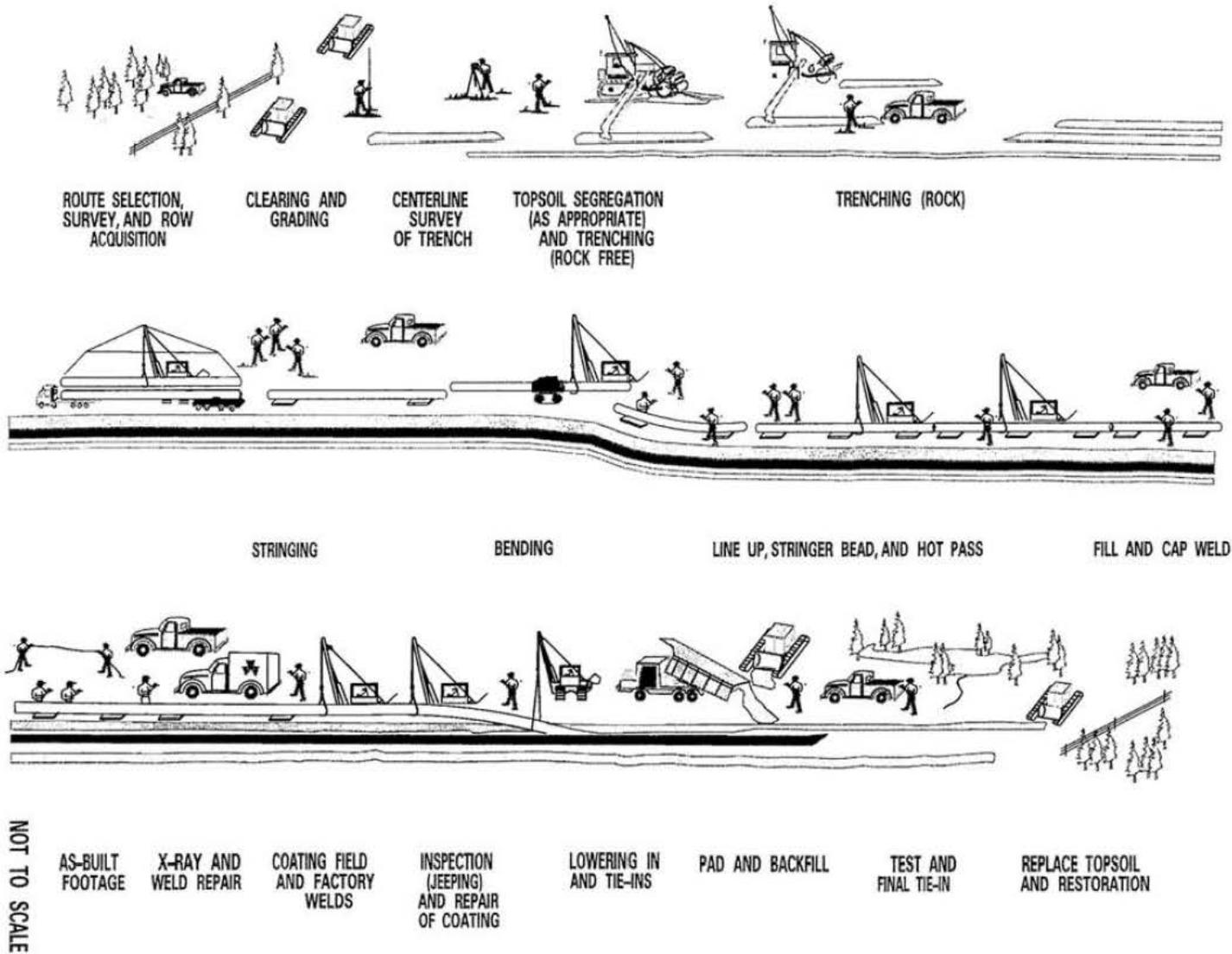
Millennium has requested alternative measures from FERC's Procedures, including deviations from ATWS setback requirements from wetlands and waterbodies (see appendix C); we have reviewed these measures and find them acceptable. Millennium's ECS includes its Spill Prevention and Response Procedures (SPRP), Unanticipated Discovery of Contamination Plan, and Winter Construction Plan. Millennium's ECS also incorporates provisions of the NYSDAM pipeline construction guidance document on agricultural land (NYSDAM 2011).

Millennium would also implement additional construction, restoration, and mitigation plans prepared for the Project, including its Horizontal Directional Drill Contingency Plan (HDD Plan), Procedures Guiding the Discovery of Unanticipated Cultural Resources and Human Remains, Bedrock Blasting Plan, and Fugitive Dust Control Plan. These plans are available for review on our website (eLibrary under Docket No. CP16-486-000). We have reviewed these construction and mitigation plans and find them acceptable.

## **8.1 General Pipeline Construction Procedures**

Figure 3 depicts the typical pipeline construction sequence. Prior to construction, Millennium's survey crew would stake the pipeline centerline and limits of the construction right-of-way, ATWS, highway and railroad crossings, and access roads. Millennium would also mark wetland boundaries and other environmentally sensitive areas. Millennium would contact the State One-Call system to identify and mark existing underground utilities within the construction workspace to minimize the potential for accidental damage during pipeline construction.

After marking the construction areas, clearing crews would clear workspaces of vegetation and obstructions including trees, rocks, brush, and logs. Cleared vegetation and stumps would be burned, chipped for use as mulch (except in wetlands), or otherwise handled per individual landowner agreements and applicable regulations and ordinances. Millennium would install temporary soil erosion and sedimentation control devices as needed in accordance with its ECS prior to grading near wetlands and waterbodies and in the 100-year floodplain, and immediately after initial soil disturbance in all other areas. These erosion and sediment controls would be inspected and maintained throughout construction and restoration of the Project. Following clearing, Millennium would grade the construction right-of-way and ATWS areas where necessary to provide a level work surface. Topsoil would be segregated in accordance with the Millennium's ECS.



NOT TO SCALE

Eastern System Upgrade  
Project  
Typical Pipeline Construction  
Sequence

Figure 3

AD175

Millennium would construct the trench with a backhoe or ditching machine. Large stones or bedrock would be broken using conventional rock-trenching methods where possible; however, Millennium anticipates that blasting would be required at some locations along the pipeline where bedrock is encountered at depths that interfere with conventional rock-trenching methods (see section A.8.2). Millennium would stockpile excavated soils along the right-of-way, typically on the side of the trench away from the construction traffic and pipe assembly area (on the “spoil side”).

Where the Huguenot Loop is collocated with Millennium’s existing mainline, topsoil would be stored on the same side of the trench as the existing pipeline. Where applicable in agricultural, residential, and non-saturated wetland areas, subsoil would be stored separately from topsoil piles. The trench would be excavated at least 12 inches wider than the diameter of the pipe and to a sufficient depth to allow a minimum of 3 feet of soil cover between the top of the pipe and the final graded land surface after construction. Pipeline cover may be greater than 3 feet at road, railroad, stream, wetland, foreign utility, and agricultural land crossings. In compliance with 49 CFR 192, the depth of cover would be a minimum of 2 feet in areas of consolidated bedrock.

Individual sections of pipe would be trucked to the construction right-of-way and strung along the trenchline in a single, continuous line. Typically, a track-mounted, hydraulic pipe-bending machine would tailor the shape of the pipe to conform to the contours of the terrain. The pipe segments would then be placed on temporary supports and welded together into long ‘strings’. Millennium would weld its pipeline in compliance with 49 CFR 192 (*Transportation of Natural and Other Gas by Pipeline Minimum Federal Safety Standards*), American Petroleum Institute Standard 1104 (*Welding of Pipelines and Related Facilities*), and Millennium’s specifications. Completed welds would be coated to prevent corrosion and the coating would be inspected for defects; if necessary, the coating would be repaired prior to lowering the pipeline into the trench.

Prior to lowering in the pipe, Millennium would inspect the trench to ensure it is free of rocks and other debris that could damage the pipe or its protective coating. The pipe would then be lifted from the temporary supports and lowered into the trench using sideboom tractors. In rocky areas, a layer of soil or sand would be placed on the bottom of the trench to protect the pipe. Once the pipe has been lowered and set in place, the trench would be backfilled with previously excavated materials. If excavated materials are not suitable (in other words, they are too rocky), the pipeline would be covered with more suitable fill or protected with a rock shield (padding placed around the pipe). Topsoil would not be used to provide padding around the pipe. Excess soil may be spread evenly within upland areas in the right-of-way, and in accordance with landowner and agency requirements.

After backfilling, Millennium would hydrostatically test pipeline segments to ensure the system is free from leaks and meets safety requirements at operating pressures.

Water would be obtained for testing from both commercially available and surface water sources, as described in section B.2.2. The water in the pipe segments would be pressurized and held for a minimum of eight hours in accordance with 49 CFR 192 and applicable permit conditions. Millennium would repair any leaks detected and retest the pipe segment. Upon completion of hydrostatic testing, the water would be discharged in accordance with Millennium's ECS within the same watershed from which it was obtained, as well as federal and state requirements. Refer to section B.2.2 of this report for additional information on hydrostatic testing.

Final cleanup would begin after backfilling and as soon as weather and site conditions permit. In accordance with the FERC's Plan, weather and season permitting, Millennium would complete final cleanup (including removal of construction debris, replacement of topsoil where applicable, final grading, and installation of permanent erosion control devices) within 20 days after the trench is backfilled. In residential areas, cleanup and restoration would occur within 10 days of backfilling. When final cleanup would be prevented by winter snowfall, Millennium would implement its Winter Construction Plan, which includes measures to temporarily stabilize the right-of-way and avoid erosion until spring thaw conditions (see section A.8.2).

Millennium would implement restoration guidelines in accordance with its ECS and applicable permit requirements. Areas disturbed by construction would be graded to match original contours and surrounding drainage patterns, except where permanent drainage changes in would be required to prevent scour or erosion. A slight crown on top of the trench may be left to allow for settling of soil air pockets. Temporary and permanent erosion and sediment control measures, including silt fencing, water bars, and vegetation would be installed. Fences, gates, driveways, and roads disturbed by pipeline construction would be restored to pre-construction conditions or better, as practicable. Markers showing the location of the pipeline would be installed at fence and road crossings to convey emergency information in accordance with applicable government regulations, including DOT safety requirements.

In most upland locations, Millennium would revegetate areas disturbed by construction with a grass seed mixture and apply mulch as appropriate to avoid erosion. Millennium developed its seed mixture in accordance with NYSDEC's *New York State Standards and Specification for Erosion and Sediment Control* (NYSDEC 2005). At the landowner's request, actively cultivated cropland may be left unseeded.

## **8.2 Special Pipeline Construction Procedures**

### **Waterbody Crossings**

Millennium proposes to cross streams using open-cut, dry-ditch (dam-and-pump or flume), and trenchless (HDD or conventional bore) crossing methods. Millennium would implement the measures specified in the FERC Procedures, its ECS, and any

additional requirements that may be specified in federal or state waterbody crossing permits.

### **Open-Cut Method**

An open-cut crossing method is proposed at waterbodies that are dry or have no perceptible flow at the time of crossing. Millennium would conduct this crossing method using backhoe-type excavators operating from the banks of the waterbody, unless the waterbody width requires equipment to operate within the dry streambed. Spoil excavated from the trench would be placed at least 10 feet upland from the bank (where possible) for use as backfill. A prefabricated segment of pipeline would then be placed into the trench using sideboom tractors. Millennium would use concrete coated pipe or set-on weights, as necessary, to provide negative buoyancy for the pipeline. The pipeline would be installed at a depth sufficient to allow a minimum of 5 feet of cover under waterbodies. Once the trench is backfilled, the banks would be restored as near as practicable to pre-construction contours and stabilized. Stabilization measures would include seeding, installation of erosion control blankets, use of native woody vegetation, or installation of riprap materials, as appropriate. Millennium would consult the appropriate regulatory agencies prior to using non-vegetative materials, such as riprap, for stream stabilization. Because waterbodies crossed using the open-cut method would be dry at the time of crossing, impacts on water quality would be minimized. If conditions changed during construction such that perceptible flow was present, or likely to become present, Millennium would implement contingency measures including installing a culvert to maintain flow, or moving equipment and material out of the stream channel and temporarily stabilizing the crossing if a storm event is predicted.

### **Dam-and-Pump Crossing Method**

A dam-and-pump crossing diverts or isolates flow during pipe installation. The dam-and-pump method involves installing temporary dams upstream and downstream of the proposed waterbody crossing, typically using sandbags. Following dam installation, pumps with hoses transport the streamflow around the construction work area and trench. Additional pumps dewater the area between the dams. Intake screens installed at the pump inlets prevent or limit entrainment of aquatic life, and energy-dissipating devices at the pump discharge point minimize erosion and streambed scour. Trench excavation and pipe installation would then commence through the dewatered and relatively dry portion of the waterbody channel. After pipe installation, Millennium would backfill the trench, and restore the stream banks, prior to removing the temporary dams to restore flow through the construction work.

### **Flume Crossing Method**

The flume method is similar to the dam-and-pump crossing method but uses flumes instead of pumps to maintain water flow and fish passage during pipeline

construction. During a typical flume crossing, water would be diverted across the trenching area through one or more flume pipes of suitable diameter to convey the maximum water flow. Temporary sandbag and plastic sheeting dams would support and seal the ends of the flume to direct stream flow into the flume and over the construction area. These temporary dams at both the upstream and downstream sections of the flume would create a containment area where turbid water would be confined. Millennium would pump the trench water through an upland dewatering structure to create a dry work area for trench excavation and pipe installation. Immediately after backfilling, Millennium would re-contour the stream bottom and restore the stream banks. Then the flume and temporary dams would be removed and flow through the construction work area would be restored.

### Conventional Bore Crossing Method

Millennium proposes to use the conventional bore construction method at two waterbody crossings. This method eliminates impacts on the bed and banks of the waterbody. The conventional bore crossings typically consist of excavating a pit on each side of the waterbody; placing boring equipment within the pits; boring a hole under the feature and pulling a section of pipe through the hole. Dewatering the bore pits would be similar to dewatering the trench described above for the dam-and-pump and flume crossing methods. For long crossings, pipe sections could be welded into a pipe string before being pulled through the borehole.

### HDD Crossing Method

Millennium proposes to use the HDD method of construction at three locations along the proposed pipeline route (see table A-7). The HDD method involves drilling a pilot borehole under the waterbody, or targeted feature, then enlarging that borehole through successive reaming until the borehole is large enough to accommodate the pipe. For a 36-inch-diameter pipeline, the borehole diameter would be about 52 inches.

<b>HDD</b>	<b>Begin (Entry) MP</b>	<b>End (Exit) MP</b>	<b>Length (feet)</b>	<b>Primary Features Avoided</b>
Neversink River HDD	0.9	0.4	2,302	Neversink River and Wetland W-27
Mountain Road/Bedell Drive HDD	3.8	2.9	3,052	Mountain Road, Schoolhouse Road, Fort Van Tyle Road, Bedell Drive, Wetland W-20, Wetland W-21, residential development
Interstate Highway-84 HDD	3.9	4.7	4,093	Interstate Highway 84, Wetland W-17

Throughout the process of drilling and enlarging the borehole, drilling mud (made of a naturally occurring non-toxic bentonite clay material and water) would be circulated through the drilling tools to lubricate the drill bit, remove drill cuttings, and stabilize the borehole during reaming and during placement of the pipeline.

Pipe sections long enough to span the entire crossing would be staged and welded along the construction work area and then pulled through the drilled borehole. This crossing method requires ATWS for the HDD entry and exit points, but generally avoids impacts on the feature being crossed, with the exception of hand-clearing minimal vegetation (a 2-to 3-foot-wide path) to lay the HDD guide wire and for personnel and equipment to access and monitor the drill path from the potential inadvertent return of drilling mud to the surface. Millennium has provided an HDD Plan with its application that addresses the prevention, detection, required notifications, and response to inadvertent returns in upland areas, wetlands, and waterbodies. In response to inadvertent returns of drilling mud to the surface, on-site personnel would assess the volume and discharge location to inform appropriate containment and response measures. In the event an inadvertent release enters a flowing waterbody, Millennium would work to stop the flow and isolate the release, and would develop a clean-up plan based on site-specific conditions, in consultation with appropriate agencies.

Millennium conducted geotechnical investigations at each proposed HDD location, the results of which indicate that the subsurface materials appear to be favorable for the HDD installation. Analysis conducted to evaluate the potential for an inadvertent release of drilling fluids shows that the potential for a release is low for drilling along each of the planned crossings. To further minimize the potential for an inadvertent return in a waterbody that would be crossed by an HDD, Millennium may implement the intersect method at the Neversink River, Mountain Road/Bedell Drive, and Interstate Highway 84 HDDs, which would require two drill rigs set up on opposite sides of the crossing, and pilot holes drilled from each side of the waterbody with the intersection of these drilled boreholes at a predetermined point beneath the waterbody. In the event of a failed HDD attempt, Millennium would re-evaluate and re-locate HDD entry and exit points to an adjacent area and attempt the HDD again. Millennium has developed an alternate open-cut crossing plan for the HDD crossing of the Neversink River in the event that HDD attempt fails. Implementation of the alternative open-cut crossing would require extra ATWS to support construction of a coffer dam and for staging construction equipment and material. The coffer dam would protect downstream water quality during the open-cut crossing by minimizing sedimentation. In the event that the HDD of the Neversink River fails, Millennium would consult with applicable agencies and obtain necessary approvals prior to implementing the alternative open-cut crossing. See section B.2.2 for further information on waterbodies crossed by the Project.

## **Wetland Crossings**

Millennium would delineate and mark wetland boundaries in the field prior to construction activities. Wetlands would be crossed via conventional bore, HDD, or open-cut methods. Conventional bore and HDD crossing methods would be the same as those described above for waterbody crossings, and the locations where HDD construction would cross wetlands are shown in table A-7 above. At open-cut wetland crossings, woody vegetation within the construction right-of-way would be cut off at ground level and removed from the wetlands, generally leaving the root systems intact; the pulling of tree stumps and grading activities would be limited to the area directly over the trenchline unless it is determined that safety-related construction constraints require otherwise. Millennium would install temporary sediment control devices prior to grading near wetlands and, as necessary, after initial disturbance of wetlands or adjacent upland areas to prevent sediment flow into wetlands in accordance with its ECS. Millennium would maintain these devices until revegetation of the wetlands is complete. Construction equipment operating in wetland areas would be limited to that needed to clear the right-of-way, dig the trenches, install the pipeline, backfill the trenches, and restore the right-of-way. In addition, Millennium would install trench plugs to maintain wetland hydrology and use timber mats (or similar measures) in saturated wetlands or other wetland areas where rutting could occur.

Millennium would determine the method of pipeline construction within each wetland by soil stability and saturation at the time of construction. Where soils are stable and are not saturated at the time of crossing, the pipeline would be installed using methods similar to those in upland areas. Other methods identified in our Procedures could be used where wetland soils are saturated and/or inundated, if applicable. Stringing and welding of the pipe would be conducted prior to trenching in wetlands per FERC's Procedures, which are incorporated in Millennium's ECS.

Topsoil would be stripped from the area directly over the trenchline (except in areas of standing water or in saturated conditions) and stockpiled separately from the subsoil. Following pipeline installation, Millennium would backfill the trench with subsoil then topsoil, and install permanent erosion control measures in accordance with its ECS. Saturated wetlands would typically be allowed to revegetate naturally. Per Millennium's ECS, unsaturated wetlands would be seeded with annual rye grass and forested and NYSDEC-regulated wetlands would be revegetated with a native seed mix. Millennium would use hay or straw as mulch in wetlands only if required in writing by state and federal agencies per its ECS.

During field surveys, Millennium identified man-made features crossed by the Project that could be designated as wetlands due to the presence of wetland hydrology, hydrophytic vegetation, and hydric soils. In the event that flowing water is present in these features during construction, Millennium would use a dry crossing technique to protect water quality and prevent downstream sedimentation (see section B.2.3).

Some staging areas may be required adjacent to wetlands for the assembly and fabrication of the pipeline to perform a wetland crossing. These ATWS would be at least 50 feet from the edge of the wetland except in cases where this is not feasible (for example, near HDD entry and exit locations). In these cases, Millennium has requested alternative measures from the FERC's Procedures that would allow a setback less than 50 feet from wetlands (see appendix C). Appendix C identifies the location and rationale for changes in setback distances at wetland crossings. We have reviewed these ATWS locations, and Millennium's justifications for them, and have found them acceptable. See section B.2.3 for further information on wetlands.

### **Road and Railroad Crossings**

Millennium would construct across local, state, federal, and private roads using the open cut, conventional bore or HDD crossing methods (see table A-8). One private road, a paved driveway associated with a residence at MP 5.2, would be crossed by the Project via open-cut. Millennium has provided a site-specific plan for this residence, which specifies that the trench would not be excavated until the pipe is ready for installation, and backfilling of the trench would occur shortly thereafter, or within the same day (see appendix D). The remaining 19 public and private road and railroad crossings would be conducted using trenchless techniques which would avoid direct impacts on the road surface and associated transportation using these features. Seven paved roads, one active railroad, and one abandoned railroad would be crossed by conventional bore. Ten paved roads would be crossed by HDD.

<b>Road or Railroad Name</b>	<b>MP</b>	<b>Crossing Method</b>	<b>Surface Type</b>
Route 209	0.0	Bore	Paved
Tufano Lane <sup>a</sup>	0.0	Bore	Paved
Shinhollow Road	1.6	Bore	Paved
Norfolk Southern Railroad	1.7	Bore	N/A
Mountain Road (35)	2.9	HDD	Paved
Schoolhouse Road	3.2	HDD	Paved
Fort Van Tyle Road	3.4	HDD	Paved
Bedell Drive	3.5	HDD	Paved
Bedell Drive	3.6	HDD	Paved
Interstate 84 southbound	4.0	HDD	Paved
Interstate 84 northbound	4.1	HDD	Paved
Greenville Turnpike	4.1	HDD	Paved

<b>Table A-8 (continued)</b>			
<b>Road and Railroad Crossings Associated with the Eastern System Upgrade Project</b>			
<b>Road or Railroad Name</b>	<b>MP</b>	<b>Crossing Method</b>	<b>Surface Type</b>
Fudel Drive	4.2	HDD	Paved
Tapstone Lane	4.3	HDD	Paved
Route 6	5.0	Bore	Paved
Mi Bar Lane <sup>a, b</sup>	5.2	Open cut	Paved
Toad Pasture Road	5.7	Bore	Paved
Ridge Road	7.0	Bore	Paved
South Plank Road	7.1	Bore	Paved
Abandoned railroad	7.6	Bore	N/A
<sup>a</sup> Private road. <sup>b</sup> Where crossed by the Project, Mi Bar Lane is a private, paved driveway.			

### **Foreign Utility Crossing**

The Huguenot Loop would require crossings of existing utilities including 10 overhead electric utilities, 5 telephone lines, and 3 pipelines (see table A-9). Millennium would use field instrumentation or excavation of test pits by hand to locate existing utilities within construction work areas. Where trenching would occur near a buried utility, soft digging methods, such as hand digging or use of an excavator with teeth or side cutters, would be implemented. If foreign utilities are accidentally damaged during construction, Millennium would stop work and evacuate the immediate area. To aid in immediate response in the event of accidental damage, Millennium would coordinate with the utility company to have a representative on-site during excavation.

Where the Huguenot Loop crosses existing pipeline(s), it would typically be installed under existing pipelines to maintain the required soil cover over the pipelines along with a safe separation between the pipelines during construction and operation. Therefore, trench depths would be 15 feet or greater.

In addition to the foreign utilities identified in table A-9, Millennium may encounter Columbia Gas Transmission, LLC's (Columbia) abandoned A5 Line, a 10- and 12-inch natural gas pipeline that was abandoned in-place in 1988 and that partially occurs within Millennium's existing permanent right-of-way (see FERC Docket No. CP87-339-000). Millennium plans to leave the A5 Line in place if encountered during construction; however, if it is necessary to remove portions of the A5 Line for installation of the Huguenot Loop, Millennium would excavate a trench over the abandoned pipeline for its removal, cut the pipe, and dispose of the removed pipeline segment of at an approved facility. Based on coordination with Columbia and Millennium regarding the A5 Line,

we do not anticipate that the abandoned pipeline is contaminated with polychlorinated biphenyls.

<b>Table A-9 Foreign Utilities Crossed by the Eastern System Upgrade Project</b>		
<b>MP</b>	<b>Utility Type</b>	<b>Operator</b>
0.0	Pipeline	Orange & Rockland
0.0	Pipeline	Orange & Rockland
0.0	Pipeline	Orange & Rockland
1.6	Telephone line	Frontier Communications
1.6	Telephone line	Frontier Communications
1.8	Telephone line	Frontier Communications
2.9	Telephone line	Frontier Communications
3.2	Overhead electric	Orange & Rockland
3.4	Overhead electric	Orange & Rockland
3.5	Overhead electric	Orange & Rockland
3.6	Telephone line	Frontier Communications
4.2	Overhead electric	Orange & Rockland
4.3	Overhead electric	Orange & Rockland
5.0	Overhead electric	Orange & Rockland
5.0	Overhead electric	Orange & Rockland
5.2	Overhead electric	Orange & Rockland
5.7	Overhead electric	Orange & Rockland
7.1	Overhead electric	Orange & Rockland

### **Agricultural Areas**

Agricultural areas would be crossed by the Eastern System Upgrade Project. Millennium would implement measures in its ECS, which incorporates measures from the NYSDAM pipeline construction guidance document (NYSDAM 2011) and the FERC Plan to minimize impacts on agricultural areas, including requirements regarding minimum depth of pipeline cover, topsoil segregation, and post-construction monitoring and remediation. Construction in these areas would be conducted in a manner similar to conventional pipeline construction; however, Millennium would not segregate the topsoil over its existing mainline right-of-way. Millennium would protect the topsoil over the existing pipeline from the movement of equipment and construction activities by matting the areas where construction equipment would cross the existing pipeline. Where topsoil segregation would occur, the full depth of topsoil, up to 12 inches, would be segregated and stored separately from subsoil. Millennium would use a construction right-of-way up to 125-feet-wide; however, additional temporary workspace may be needed in agricultural areas for topsoil stockpiling where agricultural land occurs in areas of steep

side slopes. During backfill operations, subsoil would be used to initially backfill the trench, and then the topsoil would be reapplied to the top of the trench and the graded right-of-way.

Millennium has not identified any agricultural drainage systems that would be crossed by the Project. If any are located during construction or through landowner discussions, site-specific measures would be implemented to minimize impacts on the systems. In the event of damage by Project-related activities, Millennium would repair or replace these systems. Per the FERC Plan, seeding would not be required in cultivated cropland unless requested by the landowner. Revegetation of agricultural land would be considered successful when, upon visual survey, crop growth and vigor were similar to adjacent undisturbed portions of the same field. Millennium would conduct post-construction monitoring in accordance with the NYSDAM pipeline construction guidance document on agricultural land. Soils would be decompacted, if required, in accordance with Millennium's ECS and the NYSDAM pipeline construction guidance document (NYSDAM 2011). See section B.5.1 for further information on agricultural areas.

### **Residential Areas**

Seven residences and three businesses are within 50 feet of proposed construction workspaces. Millennium has provided site-specific plans for these residences within 50 feet of work areas (see appendix D). Where the pipeline would cross residential yards, Millennium would either segregate and conserve topsoil or have topsoil imported. After construction, final grading would be conducted within 10 days of backfilling the trench and all turf, ornamental shrubs, and specialized landscaping would be restored in accordance with landowner agreements. See section B.5.1 for additional information on residential areas.

### **Rugged Terrain**

Portions of the Project would cross areas with steep side slopes (see table A-10). These areas can be susceptible to landslides, or slips, during construction following trench backfill (see section B.1.1). In these areas, Millennium may use cut-and-fill construction to provide for safe working conditions. Grading activities would remove the upslope side of the construction right-of-way, which would then be used to fill the downslope side of the construction right-of-way to create a safe and level surface for travel lanes and equipment operation. Potential impacts associated with steep slopes and rugged terrain, as well as associated mitigation measures, are further discussed in section B.1.1.

**Table A-10**  
**Areas of Steep Slopes Crossed by the Eastern System Upgrade Project**

<b>Location (MP)</b>	<b>Slope Percent<sup>a</sup></b>	<b>Mitigation</b>
<b>Huguenot Loop</b>		
0.7 - 0.7	50%	
0.7 - 0.8	130%	
0.8 - 0.8	40%	
0.8 - 0.8	130%	HDD
0.9 - 0.9	65%	
0.9 - 1.0	40%	Construction of temporary swales and sediment traps during construction. Millennium modified construction workspace to avoid direct impacts on spring/wetland features in this area.
0.9 - 1.1	55%	
1.2 - 1.2	50%	
1.2 - 1.2	30%	
1.2 - 1.2	30%	
1.3 - 1.3	35%	
1.3 - 1.3	30%	
1.3 - 1.4	40%	
1.8 - 1.8	40%	Installation of temporary swales and sediment traps during construction. Restoration with trench breakers, compacted backfill, slope breakers, jute matting, and other erosion and sedimentation controls.
2.0 - 2.0	40%	
2.1 - 2.1	35%	
2.1 - 2.2	35%	
2.5 - 2.5	30%	
2.7 - 2.7	40%	
2.8 - 2.8	40%	
3.0 - 3.0	30%	
3.0 - 3.0	35%	
3.1 - 3.1	35%	HDD
4.1 - 4.1	40%	
4.3 - 4.3	30%	
5.3 - 5.3	40%	
5.4 - 5.4	30%	Installation of temporary swales and sediment traps during construction. Restoration with trench breakers, compacted backfill, slope breakers, jute matting, and other erosion and sedimentation controls.
6.4 - 6.4	40%	
6.4 - 6.5	45%	

<b>Table A-10 (continued)</b> <b>Areas of Steep Slopes Crossed by the Eastern System Upgrade Project</b>		
<b>Location (MP)</b>	<b>Slope Percent<sup>a</sup></b>	<b>Mitigation</b>
<b>Highland Compressor Station</b>		
N/A	40-50%	Redirecting surface flow around steep slopes by installing temporary diversion swales uphill from the steep slope. Depth to rock is relatively shallow such that once the rock face is exposed the potential for erosion is very limited.
<b>Hancock Compressor Station</b>		
N/A	40-50%	Redirecting surface flow around steep slopes by installing temporary diversion swales uphill from the steep slope. In most areas of steep slopes, controlled fill would be placed in compacted lifts to reduce the potential for erosion.
N/A = not applicable		
<sup>a</sup> Millennium identified steep slopes using photogrammetric mapping data collected using Global Positioning System observations in November, 2015. Slopes of 130 percent indicate overhangs near the Neversink River crossing.		

### **Blasting**

Where possible, Millennium would attempt to avoid blasting on the Project by breaking apart large stones or bedrock using mechanical rock breaking methods such as mechanically ripping the rock with a backhoe or using a hydraulic hammering attachment operated from a backhoe. However, blasting may be necessary in areas where bedrock is encountered at depths (typically less than 5 feet) that interfere with conventional rock-trenching methods. Blasting would be conducted in accordance with state and local regulations and Millennium's Bedrock Blasting Plan to minimize the effects of blasting and mitigate any impact caused by blasting. Millennium would conduct pre- and post-blast testing of occupied structures, groundwater wells, springs, and seeps, and utilities within 150 feet of blasting. Blasting is further discussed in section B.1.1.

### **Winter Construction**

In the event that weather conditions result in snowfall events greater than 6 inches or frozen soils during Project construction, Millennium would implement measures in its Winter Construction Plan, including methods of snow handling and removal; snow removal would be limited to construction work areas. In frozen soil conditions, Millennium would limit topsoil stripping to equipment that can accurately strip variable topsoil depths; if topsoil segregation is not possible, Millennium would stop topsoil removal activities until soil conditions improve. As discussed in section A.7, when final cleanup would be prevented by winter snowfall, Millennium would implement measures to temporarily stabilize the right-of-way and avoid erosion until spring thaw conditions.

### **8.3 Aboveground Facility Construction Procedures**

Aboveground facility construction would be conducted in accordance with Millennium's ECS and construction plans, our Plan and Procedures, and federal and state approvals, as applicable. In general, construction of new facilities or expansion of existing facilities would begin with clearing and grading the area to be fenced. Millennium anticipates that blasting may be required for site preparation at the Highland Compressor Station site. As described in section A.8.2, Millennium would implement its Bedrock Blasting Plan in the event that blasting is required. Subsequent activities would include preparing foundations, installing underground piping, erecting and installing buildings, installing aboveground piping and machinery, testing the piping, testing the control equipment, cleaning up, and stabilizing the work area.

### **8.4 Environmental Compliance Inspection and Monitoring**

Prior to construction, Millennium would conduct environmental training for the appropriate construction personnel. Construction contractors typically receive environmental training applicable to their job duties and construction management and the environmental inspectors (EI) receive all Project-specific information. The training program would focus on the ECS; Project-specific Certificate and other permit conditions; regulatory requirements, such as those pertaining to endangered species, cultural resources, or wetlands; and other Project-specific mitigation plans.

Millennium would be represented during construction by its Chief Construction Inspector, Craft Inspectors, and a minimum of one EI. The EI would report directly to the Chief Construction Inspector; EI responsibilities would include monitoring compliance with environmental measures required by the Project-specific Certificate and other permit conditions; documenting compliance with environmental requirements; and identifying and overseeing corrective actions where necessary. The EI would have the authority to stop activities that violate the Project's environmental conditions and to order appropriate corrective action.

Millennium would conduct post-construction monitoring to document restoration and revegetation of the right-of-way and other disturbed areas. Millennium would monitor wetlands for a period of at least three years until revegetation is successful in accordance with its ECS. Millennium would monitor upland areas after the first and second growing seasons following restoration or until revegetation is successful in accordance with its ECS. In agricultural areas, Millennium would conduct post-construction monitoring in accordance with the NYSDAM pipeline construction guidance document on agricultural land. Millennium would also file quarterly monitoring reports with FERC to document the status of revegetation in disturbed areas. These reports would describe the results of post-construction inspections, any problem areas, and corrective actions taken. Monitoring would cease if an area meets performance standards at the end of the second year (or in any subsequent year).

Within three years of construction, Millennium would file with FERC a wetland revegetation monitoring report. Millennium would continue to file wetland revegetation monitoring reports on an annual basis thereafter until revegetation efforts are considered successful. In addition, FERC staff would inspect the Project throughout construction to independently verify compliance with the Commission's order. FERC staff would continue to monitor and inspect the vegetation along the Project route until restoration and revegetation are deemed successful.

## **8.5 Operations and Maintenance**

Millennium would operate and maintain the new pipeline, aboveground facilities, and modified facilities in accordance with all applicable federal and state regulations, including 49 CFR 192. Millennium would periodically inspect the pipeline from the air and/or ground, in accordance with applicable regulatory requirements, to identify potential concerns that may affect the safety and operation of the pipeline. If pipeline patrols or vegetation maintenance identify areas on the right-of-way where erosion is occurring, Millennium would repair existing erosion control devices or install additional devices as necessary (including vegetation) to stabilize the area and prevent future erosion, throughout the life of the Project.

To maintain accessibility to the right-of-way and accommodate pipeline integrity surveys, vegetation along the permanent pipeline right-of-way would be cleared periodically, using mechanical mowing or cutting where necessary, and in accordance with the ECS. Millennium would not conduct routine vegetation maintenance in upland areas more frequently than every three years, with the exception of a 10-foot-wide corridor centered on the pipeline that Millennium would maintain in an herbaceous state to allow for periodic corrosion and leak surveys. In no case would routine vegetation maintenance clearing occur between April 15 and August 1 of any year to minimize potential impacts on migratory birds during operation of the pipeline facilities. In accordance with FERC's Procedures, included in Millennium's ECS, routine maintenance would not be conducted in wetlands and waterbody riparian areas between HDD entry and exit points.

Active cropland would be allowed to revert to pre-construction use for the full width of the right-of-way. In non-cultivated upland areas, routine vegetation maintenance clearing would be done in accordance with the FERC Plan. In wetlands, a 10-foot-wide corridor centered over the pipeline could be maintained in an herbaceous state, and trees within 15 feet of the pipeline with roots that may compromise the pipeline integrity may be selectively cut and removed from the right-of-way.

Millennium would also perform regular operation and maintenance activities on equipment at the aboveground facilities associated with the Project. These activities would include calibration, inspection, and scheduled routine maintenance. Operational

testing would be performed on safety equipment to ensure proper functioning, and problems would be corrected.

## **9. Non-jurisdictional Facilities**

Under Section 7 of the NGA and as part of its decision regarding whether or not to approve the facilities under its jurisdiction, the Commission is required to consider all factors bearing on the public convenience and necessity. Occasionally, proposed projects have associated facilities that do not come under the jurisdiction of the FERC. These non-jurisdictional facilities may be integral to a project (for instance, a natural gas-fueled power plant at the end of a jurisdictional pipeline) or they may be minor, non-integral components of the jurisdictional facilities that would be constructed and operated because of a project.

The Highland Compressor Station would require a new transmission line to connect the existing electric transmission line along Route 55. The final specifications for 1.5-mile-long overhead medium- or high-voltage transmission line would be determined by the New York State Electric and Gas Corporation, and Millennium would provide a figure depicting the potential route for the overhead electric line to FERC when available. Additionally, the Hancock Compressor Station would require minor upgrades to its existing electrical connection, within the facility boundary. These electric transmission lines would be under the jurisdiction of New York State; however, we have included these non-jurisdictional facilities in our cumulative impacts analysis (see section B.10).

## **10. Permits and Approvals**

As discussed, in section A.1, the EPA and NYSDAM participated as cooperating agencies in the preparation of this EA. The EPA has delegated water quality certification, under Section 401 of the Clean Water Act (CWA), to NYSDEC. The EPA also oversees the issuance of a National Pollutant Discharge Elimination System permit by the state agency, under Section 402 of the CWA, for point-source discharge of used water into waterbodies.

The NYSDAM is a state agency that works to promote a viable agricultural industry, foster agricultural environmental stewardship, and safeguard the food supply of New York. The NYSDAM has prepared guidance documents for construction of pipelines within agricultural areas. Millennium's ECS also incorporates provisions of the NYSDAM pipeline construction guidance document on agricultural land (NYSDAM 2011). In addition to the state and federal cooperating agencies, two federally-recognized Native American Tribes participated in the preparation of this EA, the Stockbridge-Munsee Band of Mohicans and the Delaware Tribe of Indians. Table A-11 provides a list of federal and state permits related to construction and operation of the Project.

<b>Table A-11</b>		
<b>Environmental Permits, Approvals, and Consultations for the Eastern System Upgrade Project</b>		
<b>Administering Agency</b>	<b>Permit/Approval/Consultation</b>	<b>Status</b>
<b>Federal</b>		
FERC	Certificate of Public Convenience and Necessity	Application submitted July 2016
U.S. Army Corps of Engineers (COE) - New York District	CWA, Section 404	Application submitted August and September 2016
U.S. Fish and Wildlife Service (FWS) - New York Ecological Services Field Office	The Endangered Species Act of 1973, (ESA) Section 7 Consultation Migratory Bird Treaty Act (MBTA) Consultation Bald and Golden Eagle Protection Act (BGEPA) Consultation	Initial consultation submitted January 2016; Information for Planning and Conservation package submitted August 2016. Consultation is ongoing.
<b>State of New York</b>		
	Section 401 CWA Water Quality Certification	Application submitted August and September 2016
	NYSDEC/COE Joint Permit Application: Freshwater Wetlands Permit and Protection of Waters Permit	Application submitted August and September 2016
New York State Department of Environmental Conservation (NYSDEC)	State Pollutant Discharge Elimination System Permits for Construction Activities	Applications submitted August and September 2016
	Air State Facility Permit: Highland Compressor Station	Application submitted July 2016
	Air State Facility Permit: Hancock Compressor Station modification	Application submitted July 2016
New York Natural Heritage Program (NYNHP)	Threatened and Endangered Species Occurrence Data Request	List of sensitive species and vegetation communities in the Project area received February 2016
New York Bureau of Parks, Recreation, and Historic Preservation (the New York State Historic Preservation Office [SHPO])	Section 106 of the National Historic Preservation Act (NHPA) Clearance	Initial consultation submitted to SHPO January 2016; Initial Phase I Archaeological Survey Report submitted in March 2016; Revised Phase I Survey Report submitted in August 2016; SHPO concurrence was issued in March and August 2016; Architectural Survey Letter Report was submitted in July 2016; SHPO concurrence was issued in December 2016.
New York State Department of Agriculture and Markets (NYSDAM)	Consultation	Initial consultation submitted January 2016

<b>Table A-11 (continued)</b>		
<b>Environmental Permits, Approvals, and Consultations for the Eastern System Upgrade Project</b>		
<b>Administering Agency</b>	<b>Permit/Approval/Consultation</b>	<b>Status</b>
New York State Department of Transportation (NYSDOT)	Accommodation of utilities within the state highway right-of-way	Application to be submitted April 2017 (anticipated)
<b>County and Local</b>		
Orange County Department of Public Works	Permit for work within the county right-of-way	Application to be submitted April 2017
Delaware County Department of Public Works	Permit for work within the county right-of-way	Application to be submitted April 2017
Sullivan County Department of Public Works	Permit for work within the county right-of-way	Application to be submitted April 2017
Town of Ramapo	Stormwater Review	Application to be submitted July 2017
Note: This table lists the major permits, approvals, and consultations for the Project. It is not intended to be comprehensive.		

## **B. ENVIRONMENTAL ANALYSIS**

Construction and operation of the Project would have temporary, short-term, long-term, and permanent impacts. As discussed throughout this EA, temporary impacts are defined as occurring only during the construction phase. Short-term impacts are defined as lasting between two and five years. Long-term impacts are defined as lasting five years or more. Permanent impacts are defined as lasting throughout the life of the Project.

### **1. Geology and Soils**

#### **1.1 Geology**

##### **Physiographic Setting and Geologic Conditions**

The Project facilities would be located in three physiographic provinces, including the Middle Section of the Valley and Ridge Physiographic Province, the Southern New York Section of the Appalachian Plateaus Physiographic Province, and the Piedmont Lowlands Section of the Piedmont Physiographic Province. The Huguenot Loop and the aboveground facilities located in Orange County would be in the Middle Section of the Valley and Ridge Physiographic Province, which is characterized by long, even ridges, with long, continuous valleys. Elevations along the Huguenot Loop, including the Huguenot Meter Station, Westtown Meter Station, pig launcher/receiver, and Alternate Interconnect, range from 420 to 1,270 feet above mean sea level (USGS 2004a). The elevation at the Wagoner Interconnect is about 1,300 feet above mean sea level.

The proposed Highland Compressor Station in Sullivan County and the existing Hancock Compressor Station in Delaware County are located in the Southern New York Section of the Appalachian Plateaus Physiographic Province, characterized as a glaciated plateau with narrow relief valleys (USGS 2004a, Olmsted and Healy 1962). Elevations at the proposed Highland Compressor Station and the Hancock Compressor Station range from 1,200 to 1,400 feet and 1,450 to 1,600 feet above mean sea level, respectively. The Ramapo Meter Station in Rockland County is in the Piedmont Lowlands Section of the Piedmont Physiographic Province, which is characterized by ridges, rolling hills, and plateaus (USGS 2004a). Elevations at the Ramapo Meter Station range from 350 to 430 feet above mean sea level.

Surficial geologic materials in the area of the Project consist primarily of glacial till, outwash sand and gravel, and recent alluvium. Small areas of kame deposits also occur along the Huguenot Loop. Geotechnical investigations in the Project area indicate that, where glacial or alluvial overburden is present, the depth to bedrock is 90 feet or greater. The Project facilities are underlain by sedimentary bedrock composed of shale, sandstone, limestone, siltstone, dolomite, and conglomerate, with the exception of the Ramapo Meter Station, which is underlain by granite and granite gneiss (New York State

Geologic Survey [NYSGS] 2016). While USGS mapping identified potential karst terrain underlying a portion of the Huguenot Loop, geotechnical investigations and field reconnaissance did not find evidence of karst features. Karst is further discussed below.

### **Paleontological Resources**

Paleontological resources are the fossilized remains of prehistoric plants and animals, as well as the impressions remaining in rock or other materials. The Project is atop bedrock formations consisting primarily of sedimentary bedrock from the Devonian, Silurian, and Ordovician Periods (NYSGS 2016). Although the Project would have the potential to encounter paleontological resources in the form of marine invertebrate fossils, unique and/or significant paleontological resources would likely not be encountered (NYSDEC 2013; New York State Department of Transportation [NYSDOT] 2013). Therefore, we conclude the Project would not adversely affect paleontological resources.

### **Mineral Resources**

The primary minerals produced in the Project area counties are crushed stone, sand and gravel, clay, and dimension sandstone and slate<sup>11</sup> (USGS 2016a). No active mining operations would be crossed by the Project, and no inactive or permit-pending mining operations were identified near the Project (NYSDEC 2016a). According to the NYSDEC Division of Mineral Resources, one reclaimed aboveground sand and gravel mining operation is located about 960 feet northwest of MP 0.4 of the Huguenot Loop (NYSDEC 2016a). The mine is reclaimed and active mining operations have ceased at that location. No coal, oil, or gas mines/wells occur within 0.25 mile of the Project, as discussed below (NYSDEC 2016a, NYSDEC 2016b). Therefore, we conclude the Project would not affect present and/or future extraction of nearby mineral resources.

### **Coal Resources**

The Project would not affect any active or inactive coal resources. Information regarding coal mining activities and locations in the Project area was obtained from the NYSDEC Division of Mineral Resources. There are no active or inactive/abandoned coal mines within 0.25 mile of the Project (NYSDEC 2016a).

### **Oil and Natural Gas Resources**

The Project would not affect any active or inactive oil and/or natural gas resources. Based on data from NYSDEC, Division of Mineral Resources, there are no active or inactive oil and/or gas wells located within 0.25 mile of the Project (NYSDEC

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<sup>11</sup> Rock that is cut or quarried in accordance with required dimensions.

2016b). In addition, the Project would not cross any known gas storage facilities (U.S. Energy Information Administration 2015).

### **Geologic Hazards and Impact Mitigation**

Geologic hazards are natural physical conditions that, when active, can result in damage to land and structures, or injury to people. Potential geologic hazards can be related to seismic activities, such as earthquakes and fault rupture. Other potential geologic hazards may include soil liquefaction, landslides, and subsidence. The pipeline alignment and aboveground facility sites were evaluated with respect to those geologic processes that have a potential for occurrence in the Project area.

### **Seismicity, Ground Rupture, and Soil Liquefaction**

The Project occurs within a region of relatively low historical earthquake activity. A review of earthquakes over the last 50 years identified 66 events within 50 miles of the Project, all with magnitudes of 3.6 or less. On average, these earthquakes were more than 22 miles from the Project area. The closest event to the Project was about 3.6 miles away and occurred in March of 2008 with a magnitude of 1.9, which is described on the Mercalli Intensity Scale as typically not felt or rarely felt (USGS 2016b and c).

The horizontal force a structure must withstand during an earthquake is related to ground acceleration, and seismic hazards can be assessed based on peak ground acceleration (PGA). PGA is the maximum acceleration experienced by a particle during an earthquake. The USGS produces ground motion hazard maps at a given level of probability to exceed PGA values. PGA values are represented as a factor of “g”. The factor “g” is equal to the acceleration of a falling object due to gravity. For buried pipelines, the design operational earthquake is considered to be the PGA associated with a 10 percent probability of exceedance in 50 years (475-year return period); and for aboveground structures, it is considered to be the PGA associated with a 2 percent probability of exceedance in 50 years (2,500-year return period). Review of the USGS Seismic Hazard Maps (USGS 2014a) indicates that there is a 10 percent probability of a 3 to 4 percent “g” exceedance in 50 years for the proposed Huguenot Loop. A three to four percent PGA is characterized as light perceived ground shaking and no potential for damage (USGS 2016d). For the aboveground facilities, there is a 2 percent probability of a 3 to 6 percent, 7 to 10 percent, and 15 to 20 percent “g” exceedance in 50 years for the Hancock Compressor Station, Highland Compressor Station, and the Ramapo Meter Station, respectively. A 3 to 6 percent PGA is characterized as light to moderate perceived ground shaking and very light to no potential for damage; a 7 to 10 percent PGA is associated with moderate to strong perceived shaking with very light to light damage; and a 15 to 20 percent PGA is associated with strong to very strong perceived ground shaking and light to moderate potential damage (USGS 2016d).

In addition, according to the USGS Quaternary Fold and Fault database, no Quaternary-Period faults would be crossed or encountered by the Project facilities (USGS 2014b).

Soil liquefaction occurs when loose (low density or uncompacted) sandy, water-saturated soils temporarily lose their strength and liquefy by strong ground-shaking due to earthquakes or other rapid loading. Given the probability of exceedance of PGA between 15 to 20 percent at the Ramapo Meter Station, as described above, Millennium performed a geotechnical investigation to determine whether soil conditions necessary for liquefaction are present at the site. Geotechnical borings at the site encountered unsaturated bedrock between 13 and 26 feet deep, indicating that where the foundations would be constructed for this meter station, the subsurface lithology is not conducive to soil liquefaction.

The proposed pipeline and aboveground facilities would be constructed to meet or exceed federal standards, and would be constructed in accordance with International Building Code 2012 (Chapter 16 and Section 1613) and American Society of Civil Engineers 7-10, Minimum Design Loads for Buildings and Other Structures.

## **Landslides**

Landslides involve the downslope mass movement of soil, rock, or a combination of materials on an unstable slope. The Project is within an area consisting primarily of low, rolling topography. Landslide incidence and susceptibility mapping compiled by the USGS for the Project area show that landslide incidence at the Huguenot Loop is considered low from MP 2.7 to MP 7.8 and moderate from MP 0.0 to MP 2.7 (USGS 2016e). Landslide incidence is low at the Hancock Compressor Station and the Ramapo Meter Station and moderate at the Highland Compressor Station.

However, some areas of steep side slopes occur along the Project route. In areas with steep slopes side slopes (slopes greater than 30 percent), soils may be unstable and present erosion management problems when disturbed, often requiring various erosion and sedimentation control measures during pipeline construction and operation. Soils on steep slopes are further discussed in B.1.2. Landslide incidence may be more frequent in these areas of steep slopes and steep side slopes. About 14 percent of the Huguenot Loop, or 1.1 mile, would traverse slopes and side slopes greater than 30 percent (see table A-10). Additionally, portions of the Highland and Hancock Compressor Stations are comprised of steep slopes.

No evidence of recent land movement was observed during field investigations of the Project area conducted by Millennium. However, during construction, Millennium would implement the measures outlined in its ECS to minimize potential risks from landslides and soil erosion. These techniques include the use of erosion control devices (e.g., temporary swales and sediment traps) and other best management practices to

stabilize soils. Following construction, slopes would be returned to their original contours and vegetation would be reestablished in accordance with the ECS. Steep slopes may require erosion control fabric or other site stabilization measures to prevent erosion until a vegetative cover is established. Millennium would implement and monitor erosion and sediment controls and revegetation success as outlined in its ECS to minimize erosion and runoff. Prior to construction at the Highland and Hancock Compressor Stations, Millennium would install temporary diversion swales uphill from steep slopes to divert surface flow around the work area, and temporary erosion and sediment controls would be installed after the initial disturbance of soils. During construction, fill would be placed and compacted in layers to reduce the potential for erosion. Therefore, we conclude that the Project would not increase the risk of landslides.

### **Subsidence**

Ground subsidence is a lowering of the land surface elevation that results from changes that take place underground. Subsidence can range from small, localized areas of collapse to a broad, regional lowering of the ground surface. Common causes of land subsidence include the dissolution of limestone in areas of karst terrain and the collapse of underground mines. Subsidence could also be caused by the pumping of water, oil, and gas from underground reservoirs. As discussed, there are no current or former underground mining activities or oil and gas facilities in the Project workspace, and, as such, there is no potential for land subsidence associated with underground mines or oil-producing activities.

Karst features such as sinkholes, caves, and caverns form as a result of long-term dissolution of soluble bedrock such as carbonate rocks including limestone, dolomite, and gypsum, creating a potential for pipelines constructed through karst terrain to become unsupported. Sinkholes may develop from the raveling of soils over the carbonate bedrock into solution channels within the bedrock mass (Smith and Sinn 2013). Raveling is the process by which water transports soil particles downward into cavities in the underlying bedrock. Surficial limestone and dolostone are present in the Orange County towns of Warwick, Minisink, Wawayanda, and Goshen, and caves have been identified in Goshen, located about 10 miles east of the Project (Orange County Department of Planning and Orange County Water Authority 2010).

In the Project area, USGS mapping identified potential karst terrain underlying the Huguenot Loop in vicinity of the Neversink River from MP 0.2 to MP 1.8 (USGS 2004b). Field reconnaissance and geotechnical investigations were conducted to identify potential karst features at this location. During the field reconnaissance no surficial depressions, sinkholes, or other evidence of karst terrain were observed. Geotechnical borings taken at the site encountered siltstone overlain by a 0.5 to greater than 127-foot-thick layer of glacial and alluvial soils; no calcareous bedrock or subsurface evidence of

solution channels were encountered in the borings. As such, karst conditions are not present.

Crossing karst terrain using the HDD method poses a risk for the loss of drilling fluids into nearby waterbodies. Due to the identification of karst terrain in Orange County mentioned above, Millennium conducted an HDD feasibility analysis for the crossing of the Neversink River. The feasibility analysis included a geotechnical investigation and a geophysical investigation to determine the subsurface lithology at the HDD crossing and to characterize the depth and competence of the bedrock along the proposed HDD bore path. The results of the investigations determined that the subsurface material is generally sand and sand with silt overlaying moderately hard siltstone bedrock; and the bore path section under the Neversink River would be in competent bedrock favorable for stable subsurface drilling.

As discussed, in the unlikely event of an inadvertent release of drilling fluids, Millennium would implement the measures in its HDD inadvertent release contingency plan which addresses measures for the prevention, detection, required notification, and mitigation of an inadvertent release in upland areas and within the waterbody.

### **Flash Flooding**

Bank erosion and/or scour from flash flooding could result in exposure of the pipeline or cause the pipeline to become unsupported. All pipeline facilities are required to be constructed in accordance with DOT regulations in 49 CFR 192. To prevent bank erosion and/or scour, following completion of pipeline installation and construction, Millennium would grade all disturbed construction areas back to their original surface contours, excluding areas that would require permanent drainage alteration. In addition, temporary and permanent sediment control devices such as silt fencing, hay bales, and diversion terraces would be installed to prevent bank erosion and scour following completion of the Project. The potential for scour at waterbodies that would be crossed using open-cut methods is discussed in section B.2.2.

### **Blasting**

Blasting is sometimes required for pipeline projects in areas with shallow bedrock. Millennium would attempt to avoid blasting on the Project by breaking apart large stones or bedrock using mechanical rock breaking methods such as mechanically ripping the rock with a backhoe or using a hydraulic hammering attachment operated from a backhoe. Millennium anticipates that blasting may be required along the Huguenot Loop from MP 0.8 to MP 1.1 and from MP 2.5 to MP 7.8 due to shallow depth to bedrock and the potential presence of greywacke, which is a type of hard sandstone. Blasting may also be necessary at the Highland Compressor Station site. Millennium has prepared a project-specific Bedrock Blasting Plan to minimize the effects of blasting and mitigate any impact caused by blasting. Blasting activities would comply with applicable federal,

state, and local requirements governing the use of explosives. With implementation of the mitigation measures identified in Millennium's ECS and Bedrock Blasting Plan, we conclude that Project impacts by blasting on nearby resources would not be significant; and, given the conditions in the Project area, impacts on geologic resources are not anticipated. Noise impacts associated with blasting activities are discussed in section B.8.2.

## **1.2 Soils**

Soil information and tables for the Project were developed using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (USDA-NRCS 2016). The Project area has been glaciated and is characterized by glacial till and glacial outwash overburden. Dominant soil orders include Entisols, Histosols, and Inceptisols, which are very deep, somewhat excessively drained to poorly drained, and loamy or sandy soils (USDA-NRCS 2006). The latter consists of plateaus with nearly level to moderate slopes and narrow valleys with steep walls and smooth floors. The predominant soil order is Inceptisols, which includes shallow to very deep, well drained to very poorly drained, and loamy or loamy-skeletal soils (USDA-NRCS 2006). Potential impacts on soils from the Project are generally associated with soil limitations and certain soil characteristics, as described below.

### **Soil Limitations**

Soils were grouped and evaluated according to the characteristics that could affect construction or increase the potential for soil impacts during construction. These characteristics include prime farmland, compaction prone and hydric soils, highly erodible soils, and the presence of stones and shallow bedrock. Additional soil-related issues considered in the analysis include revegetation and soil contamination (see table B-1).

### **USDA-NRCS Designated Farmland Soils**

The USDA-NRCS defines prime farmland as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops (USDA-NRCS 2015a). This designation includes cultivated land, pasture, woodland, or other land that is either used for food or fiber crops, or is available for these uses. Urbanized land, built-up land, and open water cannot be designated as prime farmland. Prime farmland typically contains few or no rocks, is permeable to water and air, is not excessively erodible or saturated with water for long periods, and is not subject to frequent, prolonged flooding during the growing season. Soils that do not meet the above criteria may be considered prime farmland if the limiting factor is mitigated (e.g., by draining or irrigating) (USDA-NRCS 2015a).

<b>Table B-1 Soil Characteristics and Limitations for the Eastern System Upgrade Project (acres)<sup>a</sup></b>					
<b>Facility</b>	<b>Prime Farmland or Farmland of Statewide Importance<sup>b</sup></b>	<b>High Compaction Potential/ Hydric Soils<sup>c,d</sup></b>	<b>Highly Water Erodible<sup>e</sup></b>	<b>Shallow Bedrock<sup>f</sup></b>	<b>Low Revegetation Potential<sup>g</sup></b>
Pipeline right-of-way and ATWS <sup>h</sup>	41.3	18.2	1.6	44.5	66.3
Aboveground facilities <sup>i</sup>	21.7	2.9	0.1	26.1	19.0
Cathodic protection groundbed	0.2	0.0	0.0	0.0	0.1
Contractor/pipe yards	11.7	4.2	3.3	5.8	8.7
Staging areas	8.9	4.4	3.3	4.5	2.8
Access roads <sup>j</sup>	9.9	3.2	1.6	6.5	4.2
Percent of Project area <sup>k</sup>	44.8	15.7	4.7	41.8	48.3
<p><sup>a</sup> Total acreage does not equal the total impact acreage for the Project as not all soils are classified with limitations and certain soils are classified as having multiple limitations.</p> <p><sup>b</sup> Prime farmland includes soils designated by the USDA-NRCS if drained and/or reclaimed of excess salts and sodium.</p> <p><sup>c</sup> Soils categorized as compaction prone include soils with clay loam or finer texture and a drainage class of poor, somewhat poor, and very poor. All soils represented in this category are hydric, but may not have a high compaction potential.</p> <p><sup>d</sup> Hydric soils included soils classified by the USDA-NRCS as being partially hydric and hydric.</p> <p><sup>e</sup> Water erodible soils included soils with a K factor of "High".</p> <p><sup>f</sup> Shallow bedrock soils included soils, which have a depth to bedrock of less than 5 feet (60 inches).</p> <p><sup>g</sup> Soils with low revegetation potential included soils with a capability class of three or greater, a low water capacity, and a slope greater than 8 percent.</p> <p><sup>h</sup> Totals include permanent and temporary impacts associated with the Project (ATWS, temporary workspace, and permanent easement).</p> <p><sup>i</sup> Totals include the aboveground facilities for the Project (Hancock Compressor Station, Highland Compressor Station, Wagoner Interconnect, Huguenot Meter Station, Westtown Meter Station, Ramapo Meter Station, pig launcher/receiver, and Alternate Interconnect).</p> <p><sup>j</sup> Totals include all temporary and permanent access roads for the Huguenot Loop and the aboveground facilities.</p> <p><sup>k</sup> Totals do not equal 100 percent as not all soils are classified with limitations and certain soils are classified as having multiple limitations.</p>					

Criteria for farmland of statewide importance can be established within each state. In New York, farmland of statewide importance includes soils that do not meet all the criteria for designation as prime farmland, may have limitations that reduce the choice of plants, or may require certain conservation practices (USDA-NRCS 2015b). About 45.2 percent of land potentially affected by the Project is classified as prime farmland or farmland of statewide importance (see table B-1).

The proposed Huguenot Loop, including ATWS, would affect 41.3 acres of soil designated as prime farmland and farmland of statewide importance. Portions of the

aboveground facilities are also located on soils designated as prime farmland or farmland of statewide importance, including the proposed Highland Compressor Station, the existing Hancock Compressor Station, the existing Westtown and Ramapo Meter Stations, the Alternate Interconnect at MP 7.6, and the proposed pig launcher/receiver at MP 0.1. The majority of the USDA-NRCS-designated soils that would be affected by the proposed pipeline loop and aboveground facilities are within existing rights-of-way and facility boundaries and are not actively cultivated farmland. However, 12.6 acres of prime farmland and farmland of statewide importance are located outside of existing rights-of-way and facility boundaries and would be within the operational footprint of the Huguenot Loop and aboveground facilities. Of that, 6.0 acres would be permanently converted to non-agricultural use for operation of the aboveground facilities. Construction and operation impacts on active agricultural land are further discussed in section B.5.1.

Additionally, about 5.9 acres of prime farmland and farmland of statewide importance would be permanently converted to non-agricultural use for the construction and operation of the permanent access roads. In addition, the majority of temporary access roads are located on soils designated as prime farmland or farmland of statewide importance. However, these are existing roads; no farmland conversion would occur as a result of the use of these roads during construction or operation of the Project.

Portions of proposed Contractor/Pipe Yards 1, 2, and 3 and Staging Areas 2, 3, and 4 would be located on soils designated as prime farmland and farmland of statewide importance. Contractor/Pipe Yards 2 and 3 are on land owned by Millennium that is not in agricultural use. Contractor/pipe yards and staging areas would be restored to previous use after construction. Where contractor/pipe yards and staging areas affect active agricultural areas, these areas would be returned to agricultural use and restored in accordance with the Project ECS.

To minimize potential impacts on farmland from construction of the Project, Millennium would implement measures outlined in its ECS, which incorporates our Plan and NYSDAM's pipeline construction guidance document on agricultural land (NYSDAM 2011). Topsoil would be segregated from subsoil and would be replaced in the proper order during backfilling and final grading to help ensure post-construction revegetation success. However, topsoil segregation would not occur on the portions of the construction right-of-way over Millennium's existing pipeline. Millennium would protect the topsoil over the existing pipeline from the movement of equipment and construction activities by matting the areas where construction equipment would cross the existing pipeline. Millennium would also comply with the NYSDAM pipeline construction guidance document, section 3.6, by not using excess rock for trench backfill within 24- to 30-inches from the final grade in agricultural land, depending on soil type, such that the size, density, and distribution of remaining rock on the construction work area is similar to adjacent non-disturbed areas. Soil compaction in agricultural areas

during construction would be minimized or remediated as discussed below. Construction and operation impacts on active agricultural land are further discussed in section B.5.1.

### **Soil Compaction and Hydric Soils**

Soil compaction modifies the structure of soil and, as a result, alters its strength and drainage properties. Soil compaction decreases pore space and water-retention capacity, which restricts the transport of air and water to plant roots. As a result, soil productivity and plant growth rates may be reduced, soils may become more susceptible to erosion, and natural drainage patterns may be altered. Consequently, soil compaction is of particular concern in agricultural areas and in areas of hydric soils. The susceptibility of soils to compaction varies based on moisture content, composition, grain size, and density of the soil. Soils that form under conditions of extended saturation, flooding, or ponding during the growing season may develop anaerobic conditions in the upper horizon, and are considered to be hydric (59 CFR 16835). Due to extended periods of saturation, hydric soils can be prone to compaction and rutting.

To minimize compaction, Millennium would limit off-road traffic to those areas required for construction. Millennium would also implement measures to minimize compaction on saturated soils, such as timber mats or the use of low ground-pressure equipment, to the extent practicable. In saturated wetlands where soils cannot be stabilized, construction equipment would use access roads in upland areas to access the right-of-way. Where sufficient access is not available, equipment would be limited to one pass through a wetland. After construction, areas of heavy compaction would be tilled as necessary and affected areas would be graded and restored to original contours prior to final revegetation. In agricultural areas, decompaction would be conducted in accordance with NYSDAM's pipeline construction guidance document (NYSDAM 2011). In residential areas, topsoil segregation would be implemented if requested by the landowner and allowed by site-specific conditions. Following restoration of residential land, the topsoil and subsoil would be tested for compaction and decompacted if needed.

### **Soil Erosion**

Soil erosion potential is affected by soil characteristics such as texture, grain size, organic content, slope of the land, and the type and density of vegetative cover. Soils most susceptible to erosion by water typically have bare or sparse vegetative cover, non-cohesive soil particles, such as silt loam soils in the Project area, with low infiltration rates, and are located on moderate to steep slopes. About 4.7 percent of the soils that would be affected by construction of the Project are considered to be highly susceptible to erosion by water (see table B-1); a small portion (0.1 percent) of the soils are considered to be highly susceptible to erosion by wind. Millennium would minimize erosion impacts during construction by using temporary erosion control devices, such as silt fences and hay bales, in accordance with its ECS. Following construction, permanent erosion control devices, such as slope breakers, would be installed, and vegetation would

be established to stabilize the soils and monitored at a minimum through the first and second growing season per the measures described in Millennium's ECS, which generally adheres to the FERC Plan. At the existing and proposed compressor stations, stormwater management features would be constructed, including bioretention and detention basins, to treat runoff during frequent storm events and store runoff during major storm events so that runoff rates would be similar or less than existing runoff rates. Millennium's proposed stormwater management features would minimize the potential for increased stormwater runoff and associated erosion and sedimentation due to the construction and modification of compressor stations.

### **Shallow Depth to Bedrock**

Construction through soils with shallow bedrock (bedrock less than 5 feet from the surface) could result in the incorporation of bedrock fragments into surface soils. Shallow bedrock is present in 41.8 percent of the Project area (see table B-1). As discussed in section B.1.1, Millennium would attempt to avoid blasting by breaking apart large stones or bedrock using mechanical rock trenching methods. In the event that blasting becomes necessary, Millennium would implement its Bedrock Blasting Plan and would comply with state and local regulations. Millennium would also comply with NYSDAM's pipeline construction guidance document, section 3.6, by not using excess rock for trench backfill within 24- to 30-inches from the final grade in agricultural land, depending on soil type, such that the size, density, and distribution of remaining rock on the construction work area is similar to adjacent non-disturbed areas. Unless approved by the landowner for use onsite for slope stabilization, beneficial reuse, or habitat restoration, excess rock that could not be backfilled would be disposed of at an approved site, such as a landfill or used as riprap for stream bank stabilization where allowed by regulatory agencies.

### **Low Revegetation Potential**

Revegetating areas affected by construction of the Project may be more difficult in areas with poor drainage, shallow depth to bedrock, and steep slopes. Additionally, construction activities could affect soil fertility and facilitate the dispersal and establishment of invasive weeds. As shown in table B-1, 48.3 percent of soils that would be affected by Project construction have a low revegetation potential. Where necessary, temporary soil stabilization measures, such as mulching or matting, would be implemented to ensure new vegetation is able to establish. As stated in its ECS, Millennium would only use mulch in wetlands if required in writing by state and federal agencies. Soils disturbed by the Project would be revegetated using a seed mix specified in Millennium's ECS or by landowners and permitting agencies. Millennium would apply mulch, lime, and fertilizer in accordance with its ECS to ensure revegetation success. The final seed mixes should germinate quickly, effectively control erosion, and provide an environmentally beneficial vegetative cover. Where applicable, segregated

topsoil would be replaced after the subsoil to ensure post-construction revegetation success, and soils would be decompacted as described above.

### **Inadvertent Spills or Discovery of Contaminants**

Other potential impacts during construction would include the accidental release of petroleum hydrocarbons or other hazardous materials, as well as the discovery of contaminated soils during trench excavation and grading activities. Soil contamination during construction could result from material spills or trench excavation through pre-existing contaminated areas. Millennium researched environmental databases and identified three potentially hazardous sites within 0.25 mile of the Project. Of these three sites, two sites (located about 274 feet and 392 feet from MP 3.3 and 3.7, respectively) were acute releases of residential heating fuel that have had corrective actions taken and are classified as closed. The third site (located about 1,267 feet from MP 0.4) was reported as a failed gasoline tank tightness test and is classified as closed. The closed status of these sites indicates that it is unlikely that contamination would be encountered at these sites during construction. Millennium would implement its SPRP, which specifies cleanup procedures in the event of an inadvertent leak or spill. If contaminated or suspect soils (such as those with olfactory and/or visual evidence of impact, i.e. oil-stained sediments) were identified during trenching operations, Millennium would implement its Unanticipated Discovery of Contamination Plan. Work in the area would be halted until an appropriate plan of action is determined based on the type and extent of contamination and local, state, and federal regulations.

### **Soil Impacts and Mitigation**

To minimize impacts on soils, Millennium collocated about 88 percent of the length of the Huguenot Loop with Millennium's existing mainline. Millennium would implement its ECS, SPRP, Unanticipated Discovery of Contamination Plan, Bedrock Blasting Plan, Invasive Species Management Plan, and Winter Construction Plan, as well as NASDAM's pipeline construction guidance to minimize impacts on soils associated with the Project. Measures to segregate topsoil from subsoil in non-saturated wetlands, agricultural land residential land, and in areas requested by the landowner would contribute to post-construction revegetation success, and minimize the loss of crop productivity and the potential for long-term erosion problems. Measures to minimize erosion and reduce or mitigate for soil compaction included in Millennium's ECS would also minimize impacts and contribute to successful restoration of affected soils. We conclude that Millennium's use of its ECS and its adherence to guidance by NYSDAM during construction and restoration would adequately minimize impacts on soils for the Project.

Construction and operation of the proposed aboveground facilities would permanently convert soils to an industrial use. The Project would result in the loss of 33.8 acres of soils associated with aboveground facilities and permanent access roads, of

which 25.2 acres are outside exiting facility boundaries. Of the prime farmland within the Project area, 11.9 acres, or 12.7 percent, would be converted to industrial/commercial land which would no longer be available for agricultural use. Therefore, we conclude that impacts on soils from aboveground facilities would be permanent, but minor.

## **2. Water Resources and Wetlands**

### **2.1 Groundwater Resources**

#### **Existing Groundwater Resources**

Bedrock aquifers that underlie the Project area are of local extent and generally yield small volumes (between 2 and 100 gallons per minute) of water (Olcott 1995). Glacial till deposits in the Project area yield little water because they generally contain fine grained material and are unsorted and unstratified; yields typically range from less than 1 to a few gallons per minute (Olcott 1995).

As discussed in section B.1, the Huguenot Loop and the aboveground facilities located in Orange County would be in the Middle Section of the Valley and Ridge Physiographic Province, which is underlain by sandstone and carbonate-rock aquifers (Olcott 1995, Trapp and Horn 1997). Although sandstone formations can yield large quantities of water, the rocks are highly variable; therefore, it is difficult to quantify the water yields that can be produced from these aquifers (Trapp and Horn 1997). The proposed Highland Compressor Station in Sullivan County and the existing Hancock Compressor Station in Delaware County are located in the Southern New York Section of the Appalachian Plateaus Physiographic Province, and are underlain by crystalline rock aquifers that comprise a variety of igneous and metamorphic rocks (Olcott 1995). The Ramapo Meter Station in Rockland County is in the Piedmont Lowlands Section of the Piedmont Physiographic Province, and is underlain by Mesozoic sandstone and basalt aquifers (Olcott 1995).

Wells in sedimentary bedrock aquifers in the Project area may provide sufficient water for small domestic supplies. While water quality parameters including total dissolved solids vary depending upon the mineral composition of the aquifer, groundwater sourced from sandstone aquifers is generally hard, and may contain high levels of dissolved iron and manganese (Frimpter 1985, Olcott 1995). Groundwater sourced from crystalline rock aquifers is generally suitable for most uses, but may be acidic or have concentrations of iron and manganese that exceeds federal limits (Olcott 1995).

A system of shallow (surficial), unconsolidated valley-fill glacial aquifers underlies the Project where bedrock formations are overlain by an aquifer system of coarse-grained glacial outwash, ice-contact, and alluvial deposits. Well yields in these

aquifers vary from 10 to as much as 3,000 gallons per minute, depending on the aquifer composition (Olcott 1995).

Spills of hazardous materials and leaking storage tanks, septic systems, and landfills are the most prevalent groundwater concerns in the state of New York (NYSDEC 2012). While many spills are small and quickly contained or cleaned up, the large number of spills and materials involved remain a high concern to the state. Both storage tanks and septic systems also remain a source of concern for the state. Project impacts on groundwater quality are addressed below; section B.5 discusses septic systems that would be crossed by the Project. Landfills permitted in New York since 1988 have all been lined and the last unlined landfill operating in New York was closed in 2001 (NYSDEC 2012).

### Designated Sole Source Aquifers

The EPA defines a principal or sole source aquifer as one that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. The Huguenot Loop would not cross any SSAs; however, the New Jersey Fifteen Basin Aquifers system is about 0.4 mile to the southeast of MP 7.8 (EPA 2016a). One aboveground facility, the existing Ramapo Meter Station, is located over the Ramapo River Basin Aquifer Systems SSA (see table B-2). Additionally, the Hancock Compressor Station is within the Delaware River Streamflow Zone recharge area for the New Jersey Coastal Plains Aquifer SSA, but is not within the SSA (EPA 2016a). Impacts on surface water, including potential impacts on surface water quality, which could affect groundwater quality via aquifer recharge, are discussed in section B.2.2. No other aboveground facilities are in the vicinity of SSAs.

<b>Aquifer Type</b>	<b>Begin MP</b>	<b>End MP</b>	<b>Depth to Groundwater (feet)</b>	<b>Average Yield<sup>a</sup></b>	<b>New York Primary or Principal Aquifer</b>	<b>EPA SSA</b>
<b>Huguenot Loop</b>						
Unconfined	0.0	1.1	0-10	10-100	Principal	N/A
Unconfined	7.2	7.4	0-10	10-100	Principal	N/A
<b>Huguenot Meter Station</b>						
Unconfined	0.0	0.0	0-10	10-100	Principal	N/A
<b>Ramapo Meter Station</b>						
Unconfined	N/A	N/A	>10	>100	Primary	Ramapo River Basin Aquifer Systems SSA
Source: NYSDEC 2008a, Olcott 1995, Trapp and Horn, 1997, Frimpter 1985.						
<sup>a</sup> Represented in gallons per minute.						

## **Public Water Supply**

Primary aquifers are highly productive aquifers used as sources of water by major municipal water systems. Principal aquifers are known to be highly productive or have geology suggesting abundant potential water supply, but are not intensively used as sources of water supply by major municipal water systems (NYSDEC 1990). No principal, primary, or sole source aquifers supporting public water supplies underlie the proposed Highland Compressor Station site, existing Hancock Compressor Station, existing Westtown and Ramapo Meter Stations, Alternate Interconnect, or pigging facilities. The existing Ramapo Meter Station overlies the Ramapo River Basin Aquifer Systems SSA. The unconfined aquifers that underlie the Huguenot Loop and existing Huguenot Meter Station are considered principal aquifers by the state of New York (New York State Geographic Information System [NYSGIS] 2008). Table B-2, above, identifies the principal, primary, and sole source aquifers that would underlie the Project, by milepost.

Millennium is in consultation with the New York State Department of Health (NYSDOH) and is awaiting their reply regarding public and private water supply wells and springs in the Project area. According to NYSDEC data, public and private drinking water wells were not identified within 150 feet of the Project (NYSDEC 2016c). However, during field surveys, civil survey crews identified 15 wells within 150 feet of Project construction workspaces. Field surveys located 21 seeps or springs associated with wetlands or waterbodies within 150 feet of Project areas (see table B-3). No seeps or springs are located within the trenchline of the Huguenot Loop.

## **Source Water Protection Areas**

New York State's Source Water Assessment Program (SWAP) is implemented by the NYSDOH. The SWAP identifies sources of water used by public water systems and the drainage areas that supply these source waters (NYSDOH 1999). Millennium is in consultation with NYSDOH regarding potential SWAP areas designated for surface and groundwater protection crossed by the Project; to date, no response regarding the location of these areas relative to the Project has been received. Although the location of any SWAP areas crossed by the Project has not been provided, the measures described below to avoid and minimize potential impacts would apply to the entire Project area to protect groundwater quality.

<b>Table B-3</b>		
<b>Water Supply Wells, Springs, and Seeps within 150 feet of Project Construction Work Areas</b>		
<b>Approximate MP</b>	<b>Water Supply Type</b>	<b>Distance from Construction Workspace</b>
<b>Huguenot Loop</b>		
0.0	Well	24 feet
0.0	Well	62 feet
0.1	Well	64 feet
0.9	Seep or spring	87 feet
1.0	Seep or spring	41 feet
1.0	Seep or spring	82 feet
1.6	Well	49 feet
1.6	Well	51 feet
3.0	Well	149 feet
3.4	Well	73 feet
3.5	Well	0 feet
3.5	Well	44 feet
3.6	Seep or spring	31 feet
3.6	Seep or spring	129 feet
3.6	Well	87 feet
3.7	Well	51 feet
4.0	Seep or spring	98 feet
4.0	Seep or spring	111 feet
4.0	Seep or spring	67 feet
4.4	Seep or spring	41 feet
4.6	Seep or spring	107 feet
4.6	Seep or spring	138 feet
4.9	Seep or spring	59 feet
4.9	Seep or spring	23 feet
5.2	Well	61 feet
5.5	Seep or spring	90 feet
5.6	Well	6 feet
5.7	Well	44 feet
5.7	Well	59 feet
6.4	Seep or spring	34 feet
7.1	Seep or spring	0 feet
7.1	Seep or spring	0 feet
7.1	Seep or spring	30 feet
7.1	Seep or spring	78 feet
7.1	Seep or spring	106 feet
7.1	Seep or spring	26 feet
<sup>a</sup> No water supply wells, springs, and seeps were identified within 150 feet of the Highland and Hancock Compressor Stations or Ramapo Meter Station.		

## **Groundwater Impacts and Mitigation**

Construction of the Huguenot Loop would generally require the excavation of a trench to a sufficient depth to allow for appropriate soil cover, typically up to maximum depth of 15 feet although the trench could be deeper at foreign utility crossings. In areas where the water table is near the surface, groundwater could sustain minor impacts from temporary changes in overland water flow and recharge from trenching, backfilling, and clearing and grading of the right-of-way. Soil compaction from construction could reduce the ability of the soil to absorb water, thereby reducing groundwater recharge.

In instances where trench dewatering would be required, Millennium would discharge trench water into well-vegetated uplands to serve as a filter medium or into dewatering structures (as described in Millennium's ECS) that would allow water to infiltrate the ground. Upon completion of construction, Millennium would restore the ground surface to original contours, to the extent practicable, and would re-vegetate the right-of-way with the goal of restoring the preconstruction overland flow and recharge patterns. Construction, operation, and maintenance of the facilities would not be expected to have significant or long-term impacts on groundwater resources with implementation of Millennium's ECS.

An inadvertent spill of fuel or hazardous materials during refueling or maintenance of construction equipment could also affect groundwater if not cleaned up appropriately. Contaminated soils could continue to leach contaminants into groundwater long after a spill has occurred. To minimize the risk of potential fuel or hazardous materials spills, Millennium would implement its SPRP, which includes spill prevention measures, mitigation measures, and cleanup methods to reduce potential impacts should a spill occur. If Millennium encounters contaminated soil or groundwater during construction, it would implement the measures in its Unanticipated Discovery of Contamination Plan, included in its ECS. As described in these plans, Millennium would stop work, identify the type and extent of contamination, and develop a response action in adherence to applicable regulations. This Project would not necessitate storage or collection of condensate at the aboveground facilities. In addition, three private septic systems have been identified within the temporary workspace for the Huguenot Loop at MP 0.0, MP 0.1, and MP 5.6. Millennium would relocate the septic system at MP 0.0 out of the workspace to avoid impacts. Millennium would follow mitigation measures and the Project ECS to minimize or avoid damage to the other two septic systems, such as installing protective matting over the septic fields during construction (see section B.5).

Millennium would implement its SPRP, which prohibits refueling and storage of hazardous materials within 200 feet of identified active private water wells and 400 feet of public water supply wells. As discussed in section B.1.1, Millennium would attempt to avoid blasting by breaking apart large stones or bedrock using mechanical rock trenching methods. In the event that blasting becomes necessary, Millennium would implement its Bedrock Blasting Plan and would comply with state and local regulations.

Field surveys identified 15 private water supply wells and 21 seeps or springs within 150 feet of the Huguenot Loop. To date, no water supply wells, seeps, or springs have been identified within 150 feet of the proposed workspace for the proposed new or modified compressor stations. Millennium does not anticipate that blasting would be required in the vicinity of seeps and springs during the pipeline construction; however, if shallow bedrock is encountered and is not rippable, drilling and blasting could be used. In consultation with landowners, Millennium would conduct pre- and post- blast surveys for water yield and quality of groundwater wells, seeps, and springs within 150 feet of blasting to identify any changes in conditions. However, given the presence of wells within 150 feet of the construction workspace and to monitor potential effects of Project construction, **we recommend that:**

- **Millennium should offer to conduct, with the well owner's permission, pre- and post-construction monitoring of well yield and water quality for wells within 150 feet of construction workspace.**

No seeps or springs are located within the trenchline of the Huguenot Loop; impacts on water yield or flow of seeps and springs within Project workspace at MP 3.5 and 7.1 could result from soil compaction during construction. Millennium would avoid impacts on the spring or seep at MP 3.5 since the pipeline would be installed via HDD at that location. At MP 7.1, two springs or seeps within the construction workspace are within wetland W-07; in standing water or saturated soils, timber mats or similar devices would be used to minimize impacts from rutting and compaction (see section 2.3).

Millennium would implement the measures in its ECS and Bedrock Blasting Plan, and would adhere to applicable water quality standards. In the event that impacts on private wells or springs occur as a result of construction of the Project, Millennium would provide an alternative water source, repair any permanent damage, or otherwise compensate landowners.

To avoid or minimize potential impacts, Millennium would comply with its SPRP, and the measures in its ECS. Therefore, we conclude the Project would not result in significant long-term or permanent impacts on groundwater resources in the Project area.

## **2.2 Surface Water Resources**

### **Existing Surface Water Resources**

The Eastern System Upgrade Project is located within seven hydrologic unit code (HUC) subwatersheds; the watersheds and approximate locations are provided in table B-4. Millennium conducted field surveys of the Project area in 2015 and 2016 to identify wetlands and waterbodies crossed by the Project. The Huguenot Loop would require 14 waterbody crossings, including 8 perennial and 6 intermittent waterbodies. In addition, use of temporary and permanent access roads for the Project would require nine

waterbody crossings, including three intermittent, three perennial, two ephemeral, and one pond. One pond would be within the construction workspace for temporary access road TAR-0006, but would not be crossed, and one perennial waterbody would be located within Staging Area 4. Information on each waterbody crossing for the Project, including name, water quality classification, flow regime, crossing width, and crossing method is provided in appendix E.

<b>Subwatershed (Hydrologic Unit Code 12)</b>	<b>Drainage Area (acres)</b>	<b>Facilities</b>
Lower Neversink River	27,957	Huguenot Loop MP 0.0-2.6; Wagoner Interconnect; Huguenot Meter Station; pig launcher/receiver
Headwaters to Shawangunk Kill	19,481	Huguenot Loop MP 2.6 - 3.7
Rutgers Creek	26,223	Huguenot Loop MP 3.7 - 5.2; MP 5.6 – 5.9; MP 6.2 – 7.8; Westtown Meter Station; Alternate Interconnect
Indigot Creek	12,160	Huguenot Loop MP 5.2 - 5.6; 5.9 – 6.2
Halfway Brook	18,123	Highland Compressor Station
Pea Brook-Delaware River	23,086	Hancock Compressor Station
Mahwah River	16,627	Ramapo Meter Station

Perennial waterbodies flow or contain standing water year-round and are typically capable of supporting populations of fish and macroinvertebrates. Intermittent waterbodies contain water seasonally, and are typically dry for part of the year. Ephemeral waterbodies generally contain water only in response to surface runoff and rising water tables following precipitation or spring snowmelt. Maps depicting the waterbody crossings are provided in appendix A.

Of the 25 total proposed waterbody crossings and waterbodies in Project workspaces, 19 crossings are classified as minor (less than 10-feet-wide), 4 are classified as intermediate (10-to 100-feet-wide), 1 waterbody, the Neversink River, is classified as major (greater than 100-feet-wide); one pond within the construction workspace temporary access road TAR-0006 would not be crossed (see appendix E). Portions of the pipeline would also cross 100-year floodplains and may be prone to flash flooding.

### **Sensitive Waterbody Crossings**

Section 303(d) of the CWA requires that each state review, establish, and revise water quality standards for the surface waters within the state. States develop monitoring and mitigation programs to ensure that water standards are attained as designated. Waters that fail to meet their designated beneficial use(s) are considered impaired and are

listed under a state's 303(d) list of impaired waters. The Project would cross three streams designated as impaired listed on the NYSDEC Priority Waterbodies List, as identified in appendix F (NYSDEC 2010a, EPA 2016b). Millennium would cross the waterbodies via trenchless construction or a dry construction technique (dam-and-pump or flume), and would use erosion controls in accordance with its ECS to minimize runoff to the waterbodies during construction.

The Project would not cross designated High Quality or Exceptional Value waterbodies, or state or federal wild and scenic rivers. The Huguenot Loop would cross three fisheries of special concern that may support trout populations. These are designated as C(T) waterbodies; these waterbodies are suitable for fish, shellfish, and wildlife propagation and survival (class C) and trout (T) (see appendix F). In addition, the existing access road to the Hancock Compressor Station would cross one C(T) designated waterbody using an existing culvert. Fisheries are discussed in section B.3.2. The Project would cross one waterbody that supports state and federally listed mussels, the Neversink River, at MP 0.7 of the Huguenot Loop. Impacts on threatened and endangered species are discussed in section B.4.

### **Surface Water Intakes and Source Water Protection Areas**

No potable surface water intakes are within 3 miles downstream of any Project waterbody crossing (NYSDEC 2016d). Millennium is in consultation with NYSDOH regarding potential SWAP areas designated for surface and groundwater protection crossed by the Project; no response regarding the location of these areas relative to the Project has been received. Although the location of SWAP areas potentially crossed by the Project has not been provided, the measures described below to avoid and minimize potential impacts would apply to the entire Project area to protect surface water quality.

### **Floodplains**

The Project facilities would cross the Federal Emergency Management Act (FEMA) 100-year floodplain at the locations shown in table B-5. According to FEMA, these floodplains have a 1 percent annual chance of a flood event (FEMA 2016). In addition to the locations identified in table B-5, portions of Contractor/Pipe Yards 1, 2, and 3 and ATWS for construction of the Ramapo Meter Station would be located within the 100-year floodplain. Per the requirements of Executive Order (EO) 11988 on Floodplain Management, we analyzed the total permanent (operational) footprint of the Project relative to the total acres of the impacted floodplains and conclude that there would be an insignificant permanent loss of floodplain storage due to operation of the Project facilities. Construction workspaces would be revegetated following Project construction and topographic contours would be restored.

<b>Table B-5 100-Year Flood Zones Crossed by the Eastern System Upgrade Project</b>			
<b>Facility</b>	<b>Begin MP</b>	<b>End MP</b>	<b>Length (miles)/ Total(acres)</b>
<b>Pipeline Facilities</b>			
	0.1	0.4	0.3 mile
	0.4	0.5	0.1 mile
	0.5	0.8	0.2 mile
	0.8	0.8	<0.1 mile
Huguenot Loop	4.4	4.5	0.1 mile
	7.2	7.3	0.1 mile
	7.4	7.5	0.1 mile
	7.5	7.6	<0.1 mile
	7.6	7.6	<0.1 mile
<b>Aboveground Facilities</b>			
Ramapo Meter Station	N/A	N/A	0.4 acre
Alternate Interconnect	7.6	7.6	<0.1 acre
Source: FEMA 2016			

At the Alternate Interconnect location, aboveground components would be limited to piping at the interconnect with Millennium's existing mainline, and Millennium would not modify the elevation of the site. No other aboveground facilities would be located within the 100-year floodplain. Based on Millennium's proposed construction techniques and mitigation measures described in its ECS, we conclude that construction of these Project facilities would not significantly impact flood storage capacity within the 100-year floodplain.

### **Surface Water Impacts and Mitigation**

The proposed pipeline route includes 14 waterbody crossings. Millennium proposes to cross each waterbody using conventional bore, HDD, or a dry ditch (dam-and-pump or flume) method if perceptible flow is present at the time of crossing. Except for the intermittent waterbody at MP 0.8, which is within the path of the HDD of the Neversink River crossing, intermittent waterbodies that do not have flowing water at the time of construction may be crossed with upland construction methods. Millennium would construct waterbody crossings in accordance with state and federal permits, and its ECS. Typical waterbody crossing methods are described in section A.8.2. Millennium would also minimize waterbody impacts by reducing the right-of-way width at trenched crossing locations to 75 feet where practicable. We received comments expressing concerns for Project impacts on the Upper Delaware River and Halfway Brook. The Project would not cross the Upper Delaware River or Halfway Brook; therefore, direct impacts on these waterbodies or associated riparian vegetation would not occur. Indirect

impacts from sedimentation would be minimized by implementation of the measures in Millennium's ECS, as described above.

Millennium does not anticipate that blasting would be required within waterbodies during the pipeline construction; however, if shallow bedrock is encountered and is not rippable, drilling and blasting would be used to install the pipeline. Millennium anticipates that the Project areas with the greatest potential for blasting include the east side of the Neversink River (MP 0.8 to MP 1.1); no trenched waterbody crossings are proposed in that location. In addition, blasting may be required at locations between MP 2.5 and MP 7.8 due to the potential presence of greywacke. One waterbody has a shallow depth to bedrock within an area of greywacke, an unnamed tributary to Rutgers Creek at MP 6.3. Millennium would follow the measures described in its ECS and Bedrock Blasting Plan, maintain streamflow during blasting, and limit the duration of surface water disturbance.

In accordance with its ECS and DOT requirements, Millennium would install the pipeline with a minimum cover of 3 feet between the streambed and the top of the pipeline, except in consolidated rock, where a minimum of 2 feet of cover would be required. However, to minimize the potential for impacts to the pipeline from streambed scour, Millennium analyzed the maximum scour depth for dry ditch crossings of perennial, intermediate waterbodies including Rutgers Creek (MP 7.3) and an unnamed tributary to Rutgers Creek (MP 7.7). The estimated scour depth for these waterbodies ranged from 0.3 to 4.0 feet. To minimize the potential for scour to impact the pipeline, Millennium would bury the pipeline at a depth of 5 feet below the streambed at these locations. Based on the maximum estimated scour depths described above, we conclude that a burial depth of 5 feet at these locations would be sufficient over the long-term. The depth of burial at waterbodies crossed by HDD would be significantly deeper than the minimum requirement. In addition, the pipeline would be maintained in accordance with DOT pipeline standards in 49 CFR 192, which include requirements for monitoring pipeline conditions.

Pipeline construction could result in temporary impacts on water quality due to increased turbidity from construction in or near flowing surface waters. Millennium would install erosion controls in accordance with its ECS to minimize impacts during construction. Trench spoil would be placed at least 10 feet from the waterbody edge for use as backfill, and temporary erosion controls would be installed to prevent migration of trench spoil into the waterbody. The highest levels of sediment are generated with the wet open-cut method; however, this crossing method is not proposed for use. Where waterbodies are crossed via HDD or conventional bore, direct impacts on the bed and banks of the waterbody would generally be avoided. As described in section B.1.1, geotechnical investigations indicate that HDD construction at the proposed locations is feasible, with minimum chance for a release of drilling fluids. However, if an inadvertent release of HDD drilling fluid occurs within a waterbody, the resulting turbidity could

temporarily affect water quality. Millennium would implement the measures in its HDD Plan, which addresses measures for prevention, detection, required notifications, and mitigation for inadvertent releases. In the event an inadvertent release enters a flowing waterbody, Millennium would work to stop the flow and isolate the release, and would develop a clean-up plan based on site-specific conditions, in consultation with appropriate agencies. In addition, Millennium's adherence to measures in its SPRP, including locating hazardous material storage and equipment refueling activities at least 100 feet from waterbodies, would reduce the potential for hazardous materials to enter waterbodies.

After installation of the pipeline, Millennium would replace the excavated spoil in the trench and restore the streambed and banks as close as practicable to their pre-construction contours. During final restoration, Millennium would seed stream banks and riparian areas with conservation grasses and legumes or native plant species in accordance with applicable agency requirements and Millennium's ECS. Where flow conditions or waterbody bank conditions would not allow for stabilization via revegetation, Millennium would implement additional measures, such as the use of riprap from the construction work area to stabilize waterbody banks, in consultation with NYSDEC.

ATWS would be located at least 50 feet from the water's edge in accordance with Millennium's ECS per the requirements of FERC's Procedures unless otherwise requested by Millennium and approved in advance by FERC. The locations where Millennium is requesting a deviation from FERC's Procedures regarding the location of ATWS within 50 feet of waterbodies as identified in appendix C. At these locations, which are associated with HDD construction, Millennium would designate at least one EI to monitor HDD activities and to be present where ATWS is within 50 feet of or within a waterbody. Additionally, Millennium would install sediment and erosion controls per its ECS to minimize the potential for impacts on the waterbody. We have reviewed the site-specific justifications for these deviations and find them acceptable.

One minor, perennial waterbody would be located in Staging Area 4. Millennium would implement erosion controls per its ECS and install a temporary equipment crossing to minimize impacts on the waterbody. The temporary and permanent access roads required for construction of the Huguenot Loop would require waterbody crossings (see appendix E). Waterbodies would be crossed using existing culverts, which would maintain waterbody flow. Where temporary access road TAR-0006 would be adjacent to a pond, Millennium would implement erosion control measures to avoid sedimentation of the waterbody. Unless otherwise requested by landowners, Millennium would restore temporary access roads to pre-construction conditions. Construction of the new, permanent access road to the Highland Compressor Station would include installation of an open-bottom box culvert to cross a minor, intermittent stream. The open-bottom box culvert would avoid direct impacts on the waterbody. With implementation of Millennium's ECS

as well as applicable permit conditions, we conclude Millennium would minimize and mitigate impacts on surface waters and these impacts would not be significant.

### **Hydrostatic Testing**

In accordance with DOT regulations, Millennium would conduct hydrostatic testing of the pipelines prior to placing them into service. Hydrostatic testing is a method by which water is introduced to segments of pipe and then pressurized to verify the integrity of the pipeline. In addition, aboveground facilities would be hydrostatically tested to ensure structural integrity before being put in service. Millennium would also use water in the drilling mud required for HDD construction and for suppression of fugitive dust (see section B.8.1). Millennium would use commercially supplied water and water sourced from a 2.2-acre private pond located at MP 5.0 (WB-04), totaling about 2,538,500 gallons for hydrostatic testing (about 1,513,500 gallons), HDD activities (about 605,000 gallons), and fugitive dust control (about 420,000 gallons) as shown in table B-6. Use of water from pond WB-04 would result in a temporary, minor reduction in the pond volume; use of the pond as a water source has been included in Millennium's agreement with the landowner. Millennium would conduct hydrostatic testing in accordance with applicable NYSDEC permits. To minimize water use, test water would be transferred between pipeline segments and facilities where practicable. Millennium would screen pump intakes to prevent impacts on aquatic organisms (see section B.3.3). To minimize impacts on fisheries and aquatic resources during withdrawal and discharge of hydrostatic test water, Millennium would implement the measures described in section B.3.2.

The discharge of hydrostatic test water could contribute to a change in the water quality of receiving waters, especially during low flow or drought conditions when there is less water available in the receiving stream for dilution. High flow or velocity discharges could also result in erosion of upland areas or stream banks and increased sedimentation or turbidity. However, test water for the new pipe would be discharged to well-vegetated areas at the pipeline locations, as shown in table B-6, through an energy-dissipating device and the discharge rate would be managed to prevent erosion. Hydrostatic test water for some facilities may also be discharged at a licensed disposal facility. Water used for HDD construction at the Neversink River and hydrostatic test water would be discharged at either MP 2.9, MP, 5.0, or a licensed disposal facility, minimizing the potential for discharged water to enter the Neversink River, which supports state and federally listed mussels (see section 4.3). Environmental impacts from the withdrawal and discharge of water would be minimized by implementing measures outlined in Millennium's ECS and in accordance with the FERC Procedures, such as regulating the discharge rate and installing sediment barriers. Millennium would also be required to obtain and comply with state water withdrawal and discharge permits. Therefore, we conclude impacts from discharge of hydrostatic test water would be temporary and minor.

**Table B-6  
Total Water Use for Construction of the Eastern System Upgrade Project**

<b>Facility/Activity</b>	<b>Source(s)</b>	<b>Discharge Location (MP)</b>	<b>Estimated Volume Uptake/ Discharge Volume (gallons)</b>
<b>Huguenot Loop</b>			
Hydrostatic testing of the Huguenot Loop, MP 0.0 to 7.8 <sup>a</sup>	WB-04	2.8, 5.0, 7.6, or 7.8	1,306,000
Neversink River HDD	WB-04 or commercially-available water	2.8, 5.0, or licensed facility	125,000
Interstate 84 HDD	WB-04	5.0	220,000
Mountain Road/Bedell Drive HDD	WB-04	2.8	260,000
Fugitive dust suppression	WB-04 or commercially-available water	N/A	420,000
<b>Compressor Stations</b>			
Highland Compressor Station	commercially-available water	licensed facility	67,000
Hancock Compressor Station	commercially-available water	licensed facility	42,000
<b>Meter Stations</b>			
Huguenot Meter Station	WB-04 or commercially-available water	2.8, 5.0, or licensed facility	5,000
Wagoner Interconnect	N/A	N/A	N/A
Westtown Meter Station	WB-04	7.8	5,000
Ramapo Meter Station	commercially-available water	licensed facility	76,000
<b>Additional Aboveground Facilities</b>			
Pig launcher/receiver	WB-04 or commercially-available water	2.8, 5.0, or licensed facility	10,000
Alternate Interconnect	WB-04	7.6	2,500
<b>Project Total</b>	--	--	<b>2,538,500</b>
<sup>a</sup> The Huguenot Loop would be tested in five or six segments, and test water would be transferred between segments.			

## 2.3 Wetlands

The U.S. Army Corps of Engineers (COE) and EPA jointly define wetlands as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of wetland vegetation adapted for life in saturated soil conditions (COE 1987). Wetlands generally include swamps, marshes, bogs, and similar areas.

### Existing Wetland Resources

Millennium conducted wetland surveys on all workspaces affected by the Project in November 2015 and April and June 2016 in accordance with the COE Wetland Delineation Manual and Northcentral and Northeast regional supplement (COE 1987, COE 2012).

Wetland types were assigned using the National Wetlands Inventory (NWI) classification system (Cowardin *et al.* 1979). Palustrine emergent (PEM), palustrine scrub-shrub (PSS), and palustrine forested (PFO) wetlands were documented in the Project area. PEM wetlands are characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens; PSS wetlands contain emergent vegetation with woody vegetation less than 20 feet tall; and PFO wetlands are dominated by hydrophytic tree species at least 20 feet tall. The Huguenot Loop would require 22 wetland crossings totaling 3.1 acres (see appendix F). Where wetlands are located adjacent to the construction workspace for temporary and permanent access roads along the Huguenot Loop, Millennium would fence the wetlands and avoid direct impacts. Construction of the new permanent access road to the Highland Compressor Station would result in the loss of less than 0.1 acre of PFO wetland. No wetlands would be affected by construction or operation of aboveground facilities or within contractor/pipe yards or staging areas associated with the Project. The milepost location, feature identification number, wetland type, proposed crossing method, approximate crossing length, and impacts on wetlands associated with construction and operation in the Project area are provided in appendix F.

Wetlands are further classified in New York's Freshwater Wetlands Act, the goal of which is to preserve, conserve, and protect freshwater wetlands for the benefit and development of New York State. To be protected under New York's Freshwater Wetlands Act, a wetland must be at least 12.4 acres in size. Smaller wetlands may be protected if considered of unusual local importance. The Project would cross Class II and Class III wetlands. Class II and III wetlands meet any of the cover type, ecological associations, special features (such as habitat for listed, vulnerable or rare animal and plant species, archaeological significance, or association with an unusual geological feature), or hydrological and pollution control features (such as sewage treatment capacity, hydrological connection to an aquifer designated as potentially useful water supply, or receiving significant pollution that could be treated by wetlands), or distribution and location characteristics (such as location within an urbanized area or

publicly owned land, or visibility from a highway, parkway, scenic highway or passenger railroad) defined in Title 6 New York Codes, Rules, and Regulations Part 664. Where practicable, Millennium would avoid impacts on NYSDEC-classified wetlands by using HDD construction methods (see appendix F). Millennium is consulting with NYSDEC regarding the classification of wetlands crossed by the Project, and would be subject to regulation under New York's Freshwater Wetlands Act.

### **Wetland Impacts and Mitigation**

Construction of the Project would impact about 3.1 acres of wetlands, including about 0.8 acre of PFO wetland and 2.4 acres of PEM wetland. No impacts on PSS wetland would occur. Of that, 1.8 acre (0.4 acre of PFO wetland and 1.4 acre of PEM wetland) would be within the operational areas of the Project (see table B-7). Operation of the pipeline would require right-of-way maintenance that would result in the permanent conversion of 0.2 acre of PFO wetland to PEM/PSS wetlands. Wetland impacts would be primarily within the right-of-way for the proposed Huguenot Loop; however, the new permanent access road proposed at the Highland Compressor Station site would result in less than 0.1 acre of permanent impacts on PFO wetland. No wetlands would be affected by construction and operation of the aboveground facilities, contractor/pipe yards, and staging areas. Table B-7 summarizes impacts of the Project on wetlands. Detailed information regarding each wetland that would be crossed by the Project is included in appendix F.

<b>Table B-7 Wetland Impact Summary of the Eastern System Upgrade Project</b>		
<b>NWI Classification</b>	<b>Wetland Area Affected During Construction (acres)<sup>a</sup></b>	<b>Wetland Area Affected During Operation (acres)<sup>b</sup></b>
<b>Huguenot Loop</b>		
PFO	0.8	0.4
PEM	2.4	1.4
<i>Subtotal</i>	<i>3.1</i>	<i>1.8</i>
<b>Highland Compressor Station Access Roads</b>		
PFO	<0.1	<0.1
<b>Project Summary</b>		
<i>Subtotal PFO</i>	<i>0.8</i>	<i>0.4</i>
<i>Subtotal PEM</i>	<i>2.4</i>	<i>1.4</i>
<b>Project Total</b>	<b>3.1</b>	<b>1.8</b>
<p><sup>a</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.</p> <p><sup>b</sup> Operational impacts include the total acreage of wetlands within the permanent right-of-way. Although 0.35 acre of PFO would be within the permanent right-of-way, only 0.16 acre would be permanently maintained as PEM/PSS wetland. Millennium does not anticipate maintenance mowing in PEM/PSS areas beyond a 10-foot-wide area centered over the pipeline.</p>		

The primary impact of Project construction on wetlands would be the potential alteration of wetland vegetation due to clearing, excavation, rutting, compaction, and mixing of topsoil and subsoil. Construction could also affect water quality within wetlands due to sediment loading or inadvertent spills of fuel or chemicals. Temporary construction impacts on wetlands could include the loss of vegetation; soil disturbance associated with grading, trenching, and stump removal; and changes in the hydrological profile. Impacts on PFO wetlands would also include long-term or permanent conversion to PEM and/or PSS wetland types through tree removal. In the case of conversion of wetland vegetation type, no permanent loss of wetlands would occur, but functional changes to the wetland community would result.

Impacts on wetlands would be greatest during and immediately following construction. The majority of these effects would be short-term in nature and would cease when, or shortly after, the wetlands are restored and revegetated. Following revegetation, the wetland would eventually transition back into a community with functionality similar to that of the pre-construction state. In emergent wetlands, the herbaceous vegetation would regenerate quickly (typically within one to three years). Millennium would cross wetlands in accordance with state and federal permits and its ECS, which incorporates measures from our Procedures. The wetland crossing method would depend on site-specific conditions present during construction, as discussed in section A.8.2.

Millennium would avoid direct impacts on wetlands by crossing about 1,465 feet of wetlands using HDD and conventional bore construction methods. However, if an inadvertent release of HDD drilling fluid occurs within a wetland, temporary impacts on wetland vegetation and hydrology would occur. Millennium would implement the measures in its HDD Plan, which addresses measures for prevention, detection, required notifications, and mitigation for inadvertent release as discussed in section A.8.2.

Certain ATWS would be adjacent to or within wetlands in areas requiring special construction techniques near HDDs (see appendix B). Where Millennium has requested an alternate measure from our Procedures regarding the placement of ATWS, erosion and sediment controls would be installed in accordance with the ECS to minimize wetland impacts. In standing water or saturated soils, timber mats or similar devices would be used to minimize impacts from rutting and compaction. Millennium would designate at least one EI to monitor construction activities at each HDD, and would conduct daily inspections where ATWS is within 50 feet of a wetland until restoration.

Millennium does not anticipate that blasting would be required within wetlands during the pipeline construction; however, the potential for shallow bedrock that may require blasting has been identified in wetlands that would be crossed by the Project at MP 6.3 and MP 7.6. If shallow bedrock is encountered and is not rippable, drilling and blasting would be used to install the pipeline. Millennium would follow its ECS and Bedrock Blasting Plan which would minimize the effects of blasting in wetlands.

Where soils are stable and are not saturated at the time of crossing, the pipeline would be installed using methods similar to those in upland areas. Tree stumps and root systems would be removed from areas directly over the trenchline. In the absence of safety-related construction constraints, stumps and root systems would be left in place in the remainder of the construction right-of-way. Millennium would segregate the topsoil up to one foot in depth in wetlands where hydrologic conditions permit. Segregated topsoil would be stockpiled separately from the subsoil and would be placed in the trench following subsoil backfilling. Millennium would restore and monitor wetland crossings in accordance with its ECS. Unless standing water is present, wetlands would be seeded with annual rye grass and other species as described in the ECS. In addition, all PFO wetlands disturbed by the Project would be seeded with a native wetland seed mix as identified in Millennium's ECS. Saturated wetlands include those with standing water or completely saturated soils at the time of construction. Topsoil segregation is generally not practical in saturated wetlands. Otherwise, construction would be similar as described for unsaturated wetlands. Saturated wetlands would be crossed using timber mats to avoid rutting.

Less than 0.1 acre of PFO wetland would be lost due to construction of the permanent access road proposed at the Highland Compressor Station. The access road has been designed to minimize impacts by crossing wetland HL-W-01 at a location where the wetland is relatively narrow. Alternative access road locations would result in greater impacts on wetlands. Millennium would construct erosion controls in accordance with its ECS and an EI would be designated to monitor construction activities for the duration of the wetland crossing. An EI would also inspect the crossing daily until permanent restoration measures are implemented. In addition, Millennium is in consultation with the COE and NYSDEC, and would comply with applicable permits for wetland impacts at this location. Therefore, we conclude that there would be minor permanent impacts on PFO wetlands.

Millennium would minimize wetland impacts by implementing the construction and mitigation measures outlined in its ECS and adhering to applicable permit requirements. In addition, Millennium plans to use bore or HDD methods to avoid impacts on multiple wetlands. General construction and mitigation measures from Millennium's ECS include:

- limiting construction right-of-way width in wetlands to 75 feet, except where site-specific conditions necessitate a wider right-of-way (see appendix F);
- limiting construction equipment in wetlands to that needed to clear the right-of-way, excavate the trench, fabricate the pipe, install the pipe, backfill the trench, and restore the right-of-way;
- installing sediment barriers prior to ground disturbance near wetlands;

- minimizing the length of time that topsoil is segregated and the trench is open;
- using low ground weight equipment or operating equipment on timber matting, prefabricated equipment mats, or terra mats on saturated soils or where standing water is present;
- installing trenchline barriers and/or sealing the trench bottom as necessary to maintain the original wetland hydrology;
- prohibiting the use of lime, fertilizer, or mulch during the restoration of wetlands unless required in writing by federal and state agencies;
- seeding wetland areas with seed mixes consistent with NYSDEC recommendations and Millennium's ECS; and
- limiting vegetation maintenance on the operational right-of-way in wetlands to a 10-foot-wide herbaceous corridor centered over the pipeline and the cutting and removal of trees and shrubs greater than 15 feet in height that could impact the pipeline coating.

With implementation of these minimization and mitigation measures, we conclude that wetland impacts associated with the construction and operation of the Project would not be significant.

### **3. Vegetation, Aquatic Resources, and Wildlife**

#### **3.1 Vegetation**

##### **Existing Vegetation Resources**

Ecoregions are areas with similar environmental resources and characteristics; classification at the ecoregion level describes the environmental factors that contribute to the dominant vegetation cover. The Huguenot Loop and aboveground facilities in Orange County are in the Ridge and Valley ecoregion, which is a belt of parallel valleys and ridges and dominated by northern hardwood and oak-pine forest (EPA 2013, Commission for Environmental Cooperation [CEC] 2011, Bailey 1995). The Highland Compressor Station is within the North Central Appalachians ecoregion, part of an elevated plateau made up of low mountains and high hills. The North Central Appalachians ecoregion is generally vegetated by northern hardwood forest (EPA 2013, CEC 2011). The existing Hancock Compressor Station is within the Northern Appalachian Plateau and Uplands ecoregion, which is characterized by rolling hills, low mountains, and open valleys and includes large areas of oak and northern hardwood forest (EPA 2013, CEC 2011). The Ramapo Meter Station is in the Northeastern Highlands ecoregion, which is characterized by hilly and mountainous terrain with

narrow valleys, as well as some plains with hills and northern hardwood and spruce fir forests (EPA 2013, CEC 2011).

Construction and operation of the Project would affect the following general vegetation cover types: agricultural land, upland forested land, open land (including existing rights-of-way, pastures, and non-agricultural land), forested wetlands, and non-forested wetlands (see table B-8). Impacts on developed land (including industrial/commercial and residential land) are discussed in section B.5.1 and wetlands are discussed in B.2.3.

Agricultural land in the Project area is used for growing hay and corn. The proposed pipeline facilities would disturb about 23.2 acres of agricultural land, of which 6.0 acres would be in the permanent right-of-way. Impacts on agricultural land are further addressed in section B.5.1. Most forested land in New York has been previously disturbed by agriculture, logging, and existing rights-of-way, creating early successional forest cover types (Birch 1996, NYSDEC 2010b). Early successional forests are composed of young, early-colonizing tree species and lack a closed, mature tree canopy. Species documented during field surveys included American elm (*Ulmus americana*), red maple (*Acer rubrum*), eastern hemlock (*Tsuga canadensis*), black cherry (*Prunus serotina*), eastern white pine (*Pinus strobus*), white ash (*Fraxinus americana*), black birch (*Betula lenta*), shagbark hickory (*Carya ovata*), American beech (*Fagus grandifolia*), common winterberry (*Ilex verticillata*), and northern spicebush (*Lindera benzoin*). Construction of the Huguenot Loop would disturb about 46.4 acres of forested upland, of which 0.6 acre would be within Millennium's existing right-of-way.

Construction of the pipeline would disturb 33.2 acres of open land, of which 17.3 acres would be maintained as permanent right-of-way. Field surveys conducted by Millennium within open land habitats commonly identified native grass and herbaceous species including annual ragweed (*Ambrosia artemisiifolia*), fox sedge (*Carex vulpinoidea*), red clover (*Trifolium pretense*), orchard grass (*Dactylis glomerata*), Kentucky bluegrass (*Poa pratensis*), reed canarygrass (*Phalaris arundinacea*), and Queen Anne's lace (*Daucus carota*).

Construction of the proposed aboveground facilities would affect 0.3 acre of agricultural land, 24.8 acres of upland forest, and 4.0 acres of open land. Areas within the temporary construction workspace for aboveground facilities would be returned to pre-construction conditions. Operation of the aboveground facilities would result in the permanent impacts on 0.3 acre of agricultural land, 8.5 acres of upland forest, and 0.8 acre of open land, which would be converted to industrial/commercial use or maintained as open land for the life of the Project.

**Table B-8  
Acreage of Construction and Operation Impacts of the Eastern System Upgrade Project on Vegetation<sup>a</sup>**

Facility	Agricultural		Forested		Open Land		Forested Wetlands		Non-Forested Wetlands <sup>b</sup>		Total	
	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op	Con	Op
<b>Pipeline Facilities</b>												
Huguenot Loop (new land) <sup>c, d</sup>	9.4	3.3	32.7	8.1	7.2	5.4	0.8	0.4	1.3	0.6	51.4	17.7
Huguenot Loop (existing easement)	4.6	2.7	0.6	0.4	21.1	12.0	0.0	0.0	1.1	0.8	27.4	15.9
ATWS (new land)	9.0	0.0	13.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	26.0	0.0
ATWS (existing easement)	0.1	0.0	<0.1	0.0	0.9	0.0	0.0	0.0	0.0	0.0	1.1	0.0
<b>Subtotal</b>	<b>23.2</b>	<b>6.0</b>	<b>46.4</b>	<b>8.5</b>	<b>33.2</b>	<b>17.3</b>	<b>0.8</b>	<b>0.4</b>	<b>2.4</b>	<b>1.4</b>	<b>105.9</b>	<b>33.5</b>
Access roads	0.8	0.0	12.0	10.6	1.0	0.3	<0.1	<0.1	0.0	0.0	13.7	11.0
Contractor/pipe yards and staging areas	6.9	0.0	0.9	0.0	28.9	0.0	0.0	0.0	0.0	0.0	36.7	0.0
<b>Aboveground Facilities</b>												
Highland Compressor Station	0.0	0.0	16.8	5.3	0.9	0.2	0.0	0.0	0.0	0.0	17.7	5.5
Hancock Compressor Station	0.0	0.0	6.0	2.0	1.1	0.3	0.0	0.0	0.0	0.0	7.2	2.3
Wagoner Interconnect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Huguenot Meter Station	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Westtown Meter Station	<0.1	<0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.1	<0.1
Ramapo Meter Station	0.0	0.0	1.7	0.9	1.9	0.1	0.0	0.0	0.0	0.0	3.6	1.0
Pig launcher/receiver	0.0	0.0	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.4	0.4
Cathodic protection groundbed	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Alternate Interconnect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Subtotal</b>	<b>0.3</b>	<b>0.3</b>	<b>24.8</b>	<b>8.5</b>	<b>4.0</b>	<b>0.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>29.1</b>	<b>9.5</b>
<b>Project Total</b>	<b>31.2</b>	<b>6.2</b>	<b>84.0</b>	<b>27.6</b>	<b>67.0</b>	<b>18.4</b>	<b>0.8</b>	<b>0.4</b>	<b>2.4</b>	<b>1.4</b>	<b>185.3</b>	<b>54.0</b>

Con = Construction, Op = Operation.

<sup>a</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.

<sup>b</sup> Non-forested wetlands include PEM and PSS wetlands.

<sup>c</sup> Construction impact acreages are based on a temporary right-of-way between 75- and 125-feet-wide. Impacts do not include the area between HDD entry and exit points, where impacts would be limited to hand-clearing a maximum 10-foot-wide footprint.

<sup>d</sup> The operational footprint is based on a 50-foot-wide permanent right-of-way in upland areas and wetlands. Millennium does not intend to maintain the permanent right-of-way in non-forested wetlands and would only maintain a 30-foot-wide area (centered over the pipeline) within forested wetlands; therefore, actual impacts on wetlands during operation may be less.

Construction and modification of access roads to support construction of the Huguenot Loop and aboveground facilities would impact 0.8 acre of agricultural land, 12.0 acres of forested upland, and 1.0 acre of open land. During operation, permanent access roads would result in the conversion of 10.6 acres of forested upland and 0.3 acre of open land to developed land for the life of the Project. During construction, contractor/pipe yards and staging areas would affect about 6.9 acres of agricultural land and 28.9 acres of open land. Although some forested land (0.9 acre) does occur within the proposed contractor/pipe yards, no tree clearing would be required.

### **Vegetation Communities of Special Concern**

Millennium consulted with the U.S. Fish and Wildlife Service (FWS) and obtained data from the New York Natural Heritage Program (NYNHP) to determine the presence of sensitive or protected vegetation within the Project area (Conrad 2016). No designated critical habitat is located within the Project area per the FWS Information for Planning and Conservation; threatened and endangered species are discussed in section B.4 (FWS 2016a). The NYNHP identified three significant natural communities that occur in the Project area: floodplain forest, chestnut oak forest, and hemlock-northern hardwood forest (NYSDEC 2015a).

Based on the NYNHP's review the Project would cross a section of floodplain forest at the Neversink River (MP 0.7). Floodplain forest areas are typically hardwood forests that occur in low areas, including river deltas and terraces of river floodplains. Typical dominant vegetation includes silver maple (*Acer saccharinum*), ash (*Fraxinus spp.*), cottonwood (*Populus deltoides*), and box elder (*Acer negundo*), among other tree species (NYNHP 2014). The pipeline would be installed via HDD at this location, thereby avoiding direct impacts, and impacts would be restricted to hand clearing of vegetation limited to a three-foot-wide corridor to lay a guide wire for the HDD installation; no trees would be removed. Chestnut oak forests are typically dominated by tree species such as chestnut oak (*Quercus montana*) and red oak (*Quercus rubra*). These hardwood forests occur on well-drained sites within the Appalachian Mountains (NYNHP 2014). Construction of the pipeline would disturb 10.7 acres of chestnut oak forest that exists outside of Millennium's existing right-of-way; operation of the pipeline would result in the permanent conversion of 1.5 acres of chestnut oak forest to open land.

Hemlock northern hardwood forests are mixed forest that typically occur on mid-elevation slopes and on moist, well drained sites on the edge of swamps. This community is typically co-dominated by species including eastern hemlock, sugar maple, red maple, yellow birch (*Betula alleghaniensis*), or other hardwoods species (NYNHP 2014). Construction of the pipeline would affect 4.4 acres of hemlock northern hardwood forest and operation of the pipeline would result in the permanent conversion of 1.2 acres to open land. In addition, 0.3 acre of hemlock hardwood forest would be temporarily affected by the construction of temporary access road TAR-0003.

## **Noxious and Invasive Weeds**

Noxious or invasive plant communities can out-complete and displace native plant species, thereby negatively altering the appearance, composition, and habitat value of affected areas. Plant species identified as noxious and invasive by the NYSDEC were observed within the Project area during Millennium's field surveys, including Canada thistle (*Cirsium arvense*), common buckthorn (*Rhamnus cathartica*), common reed (*Phragmites australis*), garlic mustard (*Alliaria petiolata*), Japanese barberry (*Berberis thunbergii*), Japanese stiltgrass (*Microstegium vimineum*), multiflora rose (*Rosa multiflora*), mugwort (*Artemisia vulgaris*), purple loosestrife (*Lythrum salicaria*), and tatarian honeysuckle (*Lonicera tatarica*) (NYSDEC 2014).

## **Vegetation Impacts and Mitigation**

The Project would affect 185.3 acres of vegetation during construction; 54.0 acres would be within the operational footprint of the Project. Aboveground facilities would permanently convert 0.3 acre of agricultural land, 8.5 acres of forested land, and 0.8 acre of open land to industrial land. Table B-8, above, summarizes the temporary construction and permanent operational impacts of the Project on each vegetation community type. Impacts on developed and agricultural land are discussed in section B.5.1, wetland impacts are discussed in section B.2.3.

Prior to construction, the pipeline right-of-way and workspaces would be cleared of vegetation to the extent necessary to allow for safe working conditions. Millennium may hand-clear small-diameter vegetation in heavily vegetated areas along the path for laying the telemetry cable between the HDD entry and exit points. Where possible (e.g., in temporary construction workspaces), tree stumps and roots would be left in place to facilitate natural revegetation. Cleared timber and vegetation would be burned, chipped, or sold in accordance with landowner preferences and local ordinances. Erosion and sedimentation controls would be installed according to Millennium's ECS following soil disturbance.

During operation, maintenance of the permanent pipeline right-of-way would be necessary to allow for visibility and access for pipeline monitoring and maintenance activities. In upland areas, the permanent right-of-way would be 50-foot-wide. Routine mowing would be conducted no more frequently than once every three years across the entire width of the right-of-way in upland areas; however, a 10-foot-wide corridor centered on the pipeline could be mowed at a frequency necessary to allow for periodic pipeline surveys. In wetlands, as discussed in section B.2.3, vegetation maintenance on the operational right-of-way would be limited to a 10-foot-wide herbaceous corridor centered over the pipeline and the cutting and selective removal of trees within 15 feet of the pipeline with roots that may compromise the pipeline integrity.

During construction and operation of the Eastern System Upgrade Project, Millennium would use existing access roads to the maximum extent possible.

Millennium would also use ATWS, contractor/pipe yards, and staging areas to support construction of the Project. Contractor/pipe yards and staging areas would be primarily located in open and agricultural land; no tree clearing within these areas is proposed. Vegetated areas within ATWS, contractor/pipe yards, staging areas, and temporary access roads would be returned to pre-Project conditions and allowed to revegetate after construction.

### **Community-Specific Impacts**

Impacts on forest vegetation from construction of the Project would be long-term. Re-growth of trees to pre-construction condition would take 20 to 30 years for many species. Hardwood species, such as oaks, could take more than 50 years to reach maturity. Upland forest vegetation in the permanent right-of-way would be maintained in an herbaceous state through the operational life of the Project. Upland forest outside of the operational footprint of the aboveground facilities, including 11.5 acres at the Highland Compressor Station and 4.1 acres at the Hancock Compressor Station, would be temporarily impacted during construction. During operation, 5.3 and 2.0 acres of upland forest would be permanently converted to industrial land at the Highland and Hancock Compressor Stations, respectively.

The term “edge effect” is commonly used in conjunction with the boundary between natural habitats, especially forests, and disturbed or developed land such as pipeline corridors. Where land adjacent to a forest has been cleared, creating an open/forest boundary, sunlight and wind penetrate to a greater extent, resulting in tree destabilization from increased wind shear, drying out of the interior of the forest near the edge, encouraging growth of opportunistic species at the edge, and changing air temperature, soil moisture, and light intensity (Murica 1995). Fragmentation of forested areas can result in changes in vegetation (for example, invasion of shrubs along the edge). As currently designed, about 88 percent of the pipeline would be adjacent to or overlapping Millennium’s existing mainline right-of-way; construction adjacent to existing rights-of-way minimizes fragmentation.

For non-forested vegetation types, including agricultural land, open land, and non-forested wetlands, impacts associated with construction of the pipeline would generally be temporary or short-term. Agricultural land generally returns to crop production the season following construction. Herbaceous areas would return to their vegetative cover within 1 to 3 years, and scrub-shrub areas would return to their vegetative cover within 3 to 5 years post-construction. To facilitate revegetation, Millennium would re-seed disturbed areas using seed mixes in accordance with NYSDEC recommendations and measures described in its ECS, unless otherwise specified during landowner consultation or by permit requirements (NYSDEC 2005). Before a permanent vegetation cover is established within the right-of-way, Millennium would stabilize the construction areas using a seasonal variety of ryegrass, depending on the time of year and in accordance with its ECS. Aboveground facilities within the operational footprint would be permanently converted to developed land.

## Mitigation

To minimize direct and indirect impacts on vegetative communities from construction and operation of the Project, Millennium would implement the measures in its ECS and Invasive Species Management Plan, including:

- minimizing vegetative clearing through collocation with Millennium's existing right-of-way where practicable (about 6.9 miles of the proposed route);
- using existing roads for access to the Project where practical;
- installing temporary erosion control measures, such as slope breakers, sediment barriers, and mulch;
- visually inspecting agricultural land to ensure that crop growth and vigor in areas affected by construction is similar to those of adjacent portions of the same field, or as otherwise agreed to by the landowner; and
- monitoring and reporting to FERC to document the status of revegetation until deemed successful.

Following construction, Millennium would monitor revegetation success within all construction workspaces. Revegetation would be considered successful if the density and cover of non-nuisance vegetation were similar in density and cover to adjacent undisturbed land, or in accordance with any state or local permit requirements.

Millennium would follow the measures included in its ECS and Invasive Species Management Plan to control the spread of noxious weeds and invasive plant species. In the event that invasive plants species spread to areas of the right-of-way where they were not present prior to construction, Millennium would remove invasive species either by hand-pulling or use of approved herbicides, in coordination with landowners and as recommended by applicable federal and state agencies. Herbicides would only be used to control invasive species in wetlands if approved by applicable agencies. Inspections would take place after the first and second growing seasons and continue until the disturbed areas are adequately restored.

Based on the types and amounts of vegetation affected by the Project and Millennium's proposed avoidance, minimization, and mitigation measures to limit Project impacts, we conclude that impacts on vegetation from the Project would not be significant.

### 3.2 Aquatic Resources

Freshwater waterbodies in New York are classified as either coldwater or warmwater and given letter classifications under regulation 6, New York Code of Rules and Regulations, Part 701 which denote their best use: AA, A, B, C, and D (NYSDEC

2015b, 2015c). Freshwater classes AA, A, B, and C are all suitable for fish, shellfish, and wildlife propagation and survival. To be classified as a coldwater fishery, the water temperature must be below 70 degrees Fahrenheit and contain a high oxygen content; during field surveys and in consultation with NYSDEC, Millennium did not identify any warmwater waterbodies near the Project (Gierloff 2016a, 2016b).

Field surveys identified a total of 2 ephemeral, 9 intermittent, 12 perennial, and 2 pond crossings within the Project workspace, of which 17 are classified as Class C or higher. The Huguenot Loop would cross nine waterbodies classified as Class C or higher, including three waterbodies classified as C(T) streams (see appendix E). One Class C waterbody would be within the footprint of Contractor/Pipe Yard 4. In addition, access roads for the Project would cross five Class C waterbodies, including where the existing access road to the Hancock Compressor Station would cross one C(T) designated waterbody using an existing culvert. One Class C pond would be adjacent to temporary access road TAR-0006 and would be protected by erosion controls.

### **Fisheries of Special Concern**

Millennium consulted with the National Marine Fisheries Service, FWS, and NYSDEC to identify fisheries of special concern in the Project area, including waterbodies that may contain federally or state listed threatened, endangered, or candidate species and their habitats. The Project would cross one waterbody that supports state and federally listed mussels, the Neversink River, at MP 0.7 of the Huguenot Loop. Potential impacts on threatened and endangered species are discussed in section B.4.

In addition to fisheries of special concern under the purview of the National Marine Fisheries Service and FWS, the NYSDEC classifies all waterbodies with a rating of B or higher, or those rated C with suitable trout habitat, as protected streams. The Project would cross C(T) designated waterbodies at four locations of which three are along the Huguenot Loop (Shin Hollow Brook at MP 1.7 and 2.5, and Rutgers Creek at MP 7.3) and one, an unnamed tributary to Pea Brook, would be crossed by the existing access road to the Hancock Compressor Station using an existing bridge and culvert (see appendix E).

### **Aquatic Resources Impacts and Mitigation**

A total of 25 waterbody crossings are within the Project construction workspace, of which 16 are classified by NYSDEC as Class C or higher, and therefore capable of supporting fisheries (NYSDEC 2015c). Waterbody crossing methods are described in detail in section A.8.2 and listed in appendix E. To minimize impacts from sedimentation and turbidity in streams crossed by the proposed pipeline, Millennium is proposing to cross waterbodies using dry-ditch methods (dam-and-pump or flume) where there is discernable flow. The crossing of intermittent waterbodies that do not have flowing water at the time of construction may be completed with upland construction

methods. In addition, five waterbodies would be crossed by HDD and two would be crossed by conventional bore. In-stream blasting is not anticipated to be required (see section B.2.2). In the event that blasting becomes necessary, Millennium would implement the measures in its Bedrock Blasting Plan, would maintain streamflow during blasting, and would comply with state and local regulations.

Millennium is continuing to consult with the NYSDEC regarding fishery classifications and timing windows for construction through fisheries; however, as mentioned in its ECS, the FERC timing window for construction through coldwater fisheries (June 1 through September 30) would be implemented unless the NYSDEC provides written approval for an alternate timing window (see appendix E).

While dry-ditch crossing methods would reduce turbidity and downstream sedimentation during construction, minor aquatic habitat alteration could still occur. Temporary impediments, changes to behavior, temporary loss of habitat, and/or the alteration of water quality could increase the stress rates, injury, and/or mortality experienced by fish. Where dam-and-pump methods are used, Millennium would screen pump intakes to minimize the potential for fish entrainment, injury, and mortality.

Millennium's use of the conventional bore and HDD crossing method would avoid direct impacts on fisheries during construction at crossings of five waterbodies, including the Neversink River and Rutgers Creek. However, if an inadvertent release of HDD drilling fluid occurs within a waterbody, the resulting turbidity could impact water quality and impede fish movement, potentially increasing the rates of stress, injury, and/or mortality experienced by fishes. In addition, water quality could be adversely affected by an accidental spill of hazardous material into a waterbody. Millennium's adherence to its HDD Plan and ECS would minimize the potential for these impacts, as well as the response time for notification and clean-up, should an inadvertent release or spill occur. Specific measures to minimize impacts on waterbodies, and the fisheries they contain, are discussed in section B.2.2.

During operation, to minimize impacts on waterbodies and fisheries, Millennium would maintain a 25-foot-wide riparian strip within the permanent right-of-way adjacent to waterbodies and would limit vegetative maintenance within the riparian area to a 10-foot-wide strip centered over the pipeline with selective tree-clearing within 15 feet of the pipeline.

No waterbodies potentially supporting fisheries would be affected by construction or operation of aboveground facilities. Use of temporary and permanent access roads would require eight waterbody crossings, of which one is designated as potentially supporting trout fisheries. Seven waterbody crossings would be completed using existing culverts; the proposed new permanent access road to the Highland Compressor Station would require construction of an open-bottom box culvert that would minimize potential impacts on aquatic resources by avoiding direct in-stream placement of road materials. Millennium's adherence to its ECS would mitigate potential impacts from temporary use

of access road crossings. In addition to the waterbodies crossed by access roads, one waterbody would be within the construction workspace for temporary access road TAR-0006 and would be protected by erosion controls per Millennium's ECS. In addition, where one perennial waterbody is located within Contractor/Pipe Yard 4, Millennium would construct a bridge and install erosion controls per its ECS to minimize potential impacts during construction.

Water for hydrostatic testing and HDD construction would be from a private pond and commercially available sources (see section B.2.2); therefore, Millennium has identified mitigation measures that would be implemented where surface water withdrawals would be used Project construction. To minimize impacts on fisheries and aquatic resources, Millennium would implement the following measures, including:

- allowing the water intake structure to float instead of laying on the waterbody bed;
- using screen around the intake to prevent fish and macroinvertebrates from becoming trapped;
- regulating the discharge rate, using energy dissipation devices, and installing sediment barriers, as necessary, to prevent sedimentation and waterbody bed scour; and
- reusing hydrostatic test water to the extent practicable.

Impacts on aquatic resources from construction and operation of the Project would be temporary and Millennium would limit impacts on aquatic resources by implementing its ECS and using trenchless (HDD and conventional bore) and dry-ditch waterbody crossing methods. Therefore, we conclude that impacts on aquatic resources from the Project would not be significant.

### **3.3 Wildlife Resources**

Wildlife habitat types are based on the vegetation types in the Eastern System Upgrade Project area and include open land, forested upland, agricultural land, industrial/commercial land, residential land, open water, and wetlands (including PFO, PSS, and PEM). In addition, about 6.9 miles (88 percent) of the 7.8-mile-long pipeline would be adjacent to Millennium's existing right-of-way. Vegetation types are described in detail in section B.3.1; wetlands are described in detail in section B.2.3.

Forested upland habitat in the Project area is primarily early successional forest that provides food, cover, and nesting habitat for a variety of wildlife species, including mammals such as cottontail rabbit, snowshoe hare, white-tail deer, and red and gray foxes, and birds such as the woodcock, chestnut-sided warbler, golden-winged warbler, yellow warbler, yellow-breasted chat, field sparrow, and ruffed grouse (NYSDEC 2011).

Open land includes non-forested upland areas, such as shrubland and open fields, pastures, and previously disturbed areas (e.g., maintained rights-of-way). Open land habitat is dominated by grasses, herbs, and shrubs. Depending on the degree of vegetative development, open land also provides food, cover, and nesting habitat for a variety of wildlife species. Common bird species to open land in the Project area includes the bobolink, northern harrier, short-eared owl, sedge wren, grasshopper sparrow, and Henslow's sparrow (NYSDEC 2008b). Species that use open land may also occur on agricultural land, which provides foraging and resting habitat for numerous habitat generalists.

Three different types of wetland habitats occur in the Project area: PFO, PSS, and PEM wetlands. Wetland habitat types are described in detail in section B.2.3. PFO wetlands are dominated by hardwoods that provide food, cover, and nesting habitat. PSS wetlands consist of low and compact vegetation dominated by shrubs and PEM wetlands are dominated by grasses, sedges, and rushes. Wetlands in the Project area support species such as the white-footed mouse, raccoon, muskrat, mink, beaver, red-winged blackbird, swamp sparrow, tree swallow, herons, green frog, northern water snake, and numerous turtles and frogs (NYSDEC 2006). Developed land (industrial/commercial and residential) typically provides limited habitat for wildlife.

### **Migratory Birds**

Migratory birds are species that nest in the United States and Canada during the summer and then migrate to and from tropical regions of Mexico, Central and South America, and the Caribbean for the non-breeding season. Migratory birds are protected under the Migratory Bird Treaty Act ([MBTA] – 16 U.S Code 703-711) and bald and golden eagles are additionally protected under the Bald and Golden Eagle Protection Act ([BGPEA] – 16 U.S Code 668-668d). EO 13186 (66 FR 3853) directs federal agencies to identify where unintentional take is likely to have a measurable negative effect on migratory bird populations and to avoid or minimize adverse impacts on migratory birds through enhanced collaboration with the FWS.

EO 13186 was issued, in part, to ensure that environmental analyses of federal actions assess the impacts of these actions/plans on migratory birds. It also states that emphasis should be placed on species of concern, priority habitats, and key risk factors, and it prohibits the take of any migratory bird without authorization from the FWS. On March 30, 2011, the FWS and the Commission entered into a Memorandum of Understanding (MOU) that focuses on avoiding, minimizing, or mitigating adverse impacts on migratory birds and strengthening migratory bird conservation through enhanced collaboration between the Commission and the FWS. This voluntary MOU does not waive legal requirements under the MBTA, the Endangered Species Act (ESA), the NGA, or any other statute and does not authorize the take of migratory birds. The entire Eastern System Upgrade Project would be within Region 28 (Appalachian Mountains) of the North American Bird Conservation Initiative. In total, 234 migratory

bird species occur within Region 28 (Appalachian Mountains Bird Conservation Region Partnership 2005).

### **Managed and Sensitive Wildlife Areas**

The FWS and NYNHP were consulted to identify managed or sensitive wildlife habitats near the Project (FWS 2016a, Conrad 2016). Agency consultation and review of NYNHP databases identified no state WMAs or existing or proposed National Wildlife Refuges that would be crossed by the Project. The closest state managed land for wildlife protection and conservation is the Mongaup Valley WMA, which is located about 0.6 mile southeast of the Highland Compressor Station site. The Mongaup Valley WMA is open year-round and contains over 6,300 acres of land. The WMA is identified as an Important Bird Area by Audubon New York and includes with bald eagle viewing blinds, a wild trout fishery, and 42 species of fish including crappie, largemouth bass, and pan fish (NYSDEC 2016e). Based on the distance, rolling topography, and wooded land between the proposed Highland Compressor Station site and the Mongaup Valley WMA, we do not anticipate any direct or indirect impacts on the WMA as a result of construction and operation of the Eastern System Upgrade Project.

The Huckleberry Ridge State Forest, owned and managed by the state of New York would be crossed by the Huguenot Loop at MP 1.9. The forest consists of multiple hiking trails and camping areas. Hunting and trapping are seasonally allowed for small game as well as turkey, deer, and bear. Predator species such as bobcats and coyotes are also sought. Construction of the Huguenot Loop would result in temporary impacts on approximately 19.2 acres of land within the state forest, of which approximately 3.1 acres would be retained for operation of the Project. In addition, the Project would cross trails associated with the state forest as described in section B.5.3. Because the Huguenot Loop would be collocated with Millennium's existing mainline right-of-way where it crosses the Huckleberry Ridge State Forest, the potential impacts from fragmentation of wildlife habitat would be minimized. However, it is possible that minor, short-term impacts on wildlife including the displacement of individuals from the construction areas and adjacent habitats could occur during construction.

The proposed Huguenot Loop would cross the Neversink River Preserve, a floodplain forest managed by The Nature Conservancy, as discussed in section B.5.2. Millennium would cross the preserve and the Neversink River at MP 0.4 using the HDD method thereby minimizing direct impacts on wildlife within the preserve and river. Surface water impacts from the proposed crossing of the Neversink River are discussed in section B.2.2, and impacts on floodplain forest within the Neversink River Preserve are discussed in section B.3.1.

Additional details regarding managed areas are provided in section B.5.3. In addition, the Excelsior Sportsman's Club, a hunting association, is located about 0.3 mile north of the proposed Highland Compressor Station site. Based on distance and the presence of vegetative barriers between the Excelsior Sportsman's Club and the Project

area, no impacts on wildlife present within the Excelsior Sportsman's Club's boundaries would occur as a result of construction or operation of the Project. Section B.5.3 includes additional details regarding the Excelsior Sportsman's Club.

### **Wildlife Impacts and Mitigation**

Construction and operation of the Project would result in various short- and long-term impacts on wildlife. Impacts would vary depending on the specific habitat requirements of the species in the area and the vegetative land cover crossed by the proposed pipeline right-of-way. Potential short-term impacts on wildlife include the displacement of individuals from construction areas and adjacent habitats and the direct mortality of small, less mobile mammals, reptiles, and amphibians that are unable to leave the construction area. Long-term impacts would include permanent conversion of forested or scrub-shrub habitats to cleared and maintained right-of-way, and periodic disturbance of wildlife during operation and maintenance. Altered habitat and periodic disturbance could also increase wildlife mortality, injury, and stress.

Blasting may be required on the Project. In the event that blasting becomes necessary for construction, Millennium would implement the measures in its Bedrock Blasting Plan, which includes development of site-specific methods to prevent flying debris (see section B.1.1). If blasting were conducted, wildlife close to the blast could be injured or killed; however, the preparation of rock for blasting, such as drilling shot holes and the movement of machinery and people, would likely cause enough disturbances to displace most wildlife from the immediate vicinity prior to the blast.

In total, construction of the Project, including the Huguenot Loop, ATWS, aboveground facilities, contractor/pipe yards, and access roads would impact 84.0 acres of upland forest, 67.0 acres of open land, 31.2 acres of agricultural land, and 3.1 acres of wetlands. During operation, 27.6 acres of upland forest, 18.4 acres of open land, 6.2 acres of agricultural land, and 1.8 acres of wetlands would be within the permanent Project footprint. Additional details regarding affected land are provided in section B.5.1.

Fragmentation of forested areas results in changes in vegetation (e.g., shrubs inhabiting the forest edge) which may limit the movement of species between adjacent forest blocks, increase predation, and decrease reproductive success for some species (Rosenberg *et al.* 1999). Millennium has collocated about 88 percent (6.9 miles) of the proposed pipeline with its existing right-of-way to minimize habitat fragmentation. Forest fragmentation and edge effects are further described in section B.3.1.

Millennium proposes to use 16 temporary access roads and 4 permanent access roads for construction and operation of the facilities (see table A-6). The new permanent access roads would permanently affect 10.6 acres of wildlife habitat, primarily composed of forested upland.

Millennium would implement impact minimization measures as described in its ECS. These measures would include:

- minimizing vegetative clearing through collocation with existing pipeline rights-of-way;
- revegetating the right-of-way, where applicable, with seed mixes developed in accordance with NYSDEC recommendations, landowner consultation, and permit requirements; and
- not conducting vegetation maintenance over the full width of the permanent right-of-way in wetlands and maintaining a 25-foot-wide buffer of native vegetation along the edge of waterbodies.

Although individual mortality of some wildlife species could occur because of the Project, the effects of these individual losses on wildlife populations resulting from construction of the proposed pipeline would occur at the individual level and would be temporary and minor. Since 88 percent of the pipeline construction activities would be adjacent to Millennium's existing right-of-way, impacts due to loss or conversion of wildlife habitat would be minimized. Due to the presence of similar habitats adjacent to and in the vicinity of construction activities, and the implementation of impact avoidance and minimization measures, we conclude that construction and operation of the Eastern System Upgrade Project would not have population-level impacts or significantly measurable negative impacts on wildlife.

### **Migratory Birds**

The primary concern for impacts on migratory birds, including bald eagles, is mortality of eggs and/or young, since immature birds could not avoid active construction. Tree clearing and ground disturbing activities could cause disturbance during critical breeding and nesting periods, potentially resulting in the loss of nests, eggs, or young. In addition, forest fragmentation could increase predation and competition, and reduce nesting and mating habitat for migratory and ground-nesting birds (Faaborg *et al.* 1995). Millennium has proposed a pipeline route that would minimize impacts on migratory birds by placing about 88 percent of the pipeline adjacent to Millennium's existing pipeline right-of-way.

Although multiple bird species occur in the Project area, no federally listed threatened or endangered bird species are known to occur in the area. Millennium would conduct all tree clearing between October 1 and March 31, thereby avoiding the peak migratory bird nesting season (between April 15 and August 1). This timeframe is consistent with the tree clearing timing restrictions to protect the federally listed Indiana bat (see section B.4.1). During operations, Millennium would prohibit all vegetative maintenance activities between April 15 and August 1 to minimize disturbance of ground nests. Millennium initiated consultation with the FWS in January 2016. Consultation is

ongoing, and FWS has not identified specific measures required to protect migratory birds during Project construction. Millennium would continue to consult with the FWS regarding impacts on migratory birds to identify any additional clearing restrictions. The Project is within the range of the bald eagle, which is federally protected under the BGEPA and state listed by NYSDEC as threatened. Refer to section B.4.1 for additional information regarding bald eagles.

Based on the characteristics and habitat requirements of migratory birds known to occur in the Project area, the amount of similar habitat adjacent to and in the vicinity of the Project, and Millennium's implementation of the measures in its ECS, including timing restrictions for clearing of vegetation, we conclude that construction and operation of the Eastern System Upgrade Project would not have significant impacts on migratory bird populations.

#### **4. Threatened and Endangered Species**

Special status species are those species for which state or federal agencies afford an additional level of protection by law, regulation, or policy. Special status species include federally listed species protected under the ESA, as amended, species proposed or candidates for listing by the FWS, and those species that are state listed as threatened, endangered, or other special status. Section 7(a)(2) of the ESA requires the Commission to ensure that any action it authorizes, funds, or carries out would not jeopardize the continued existence of federally listed or proposed listed species, or result in the adverse modification or destruction of critical habitat for federally listed and proposed species.

As the lead federal agency for the Eastern System Upgrade Project, FERC is responsible for the ESA consultation with the FWS. Species classified as candidates for listing under the ESA do not currently carry regulatory protection but, if applicable, are typically considered during our assessment as they may be listed in the future. Similarly, species protected under state statutes do not carry regulatory protection under the ESA but impacts are reviewed if the applicable agency indicates its potential presence in the Project area during consultation.

Informal consultations were conducted by Millennium, as our non-federal representative, with the FWS - New York Field Office to determine whether any federally listed threatened or endangered species, federal species of concern, or designated critical habitats occur in the Project area. Millennium also consulted with NYSDEC regarding state listed species and habitats; occurrence data for federally and state listed species were obtained from the NYSDEC-NYNHP.

Millennium's consultation with the FWS and NYSDEC identified potential habitat and occurrences for threatened and endangered species in the Project area. Millennium also conducted species-specific surveys as described below. In addition to those species identified by the FWS and NYSDEC, Millennium identified one state listed endangered plant, puttyroot (*Apelcrum hyemale*), in the survey area for the Highland Compressor

Station. Table B-9 describes the federally and state listed species that may occur in the Project area, their preferred habitat, and our determination of effect. Species with a determination of “no effect” as documented in table B-9 are not discussed further. No designated critical habitat occurs in the Project area.

#### **4.1 Birds**

##### **Bald Eagle**

The Project is within the range of the bald eagle, which is federally protected under the BGEPA and is state listed as threatened in New York. Because the Neversink River corridor was identified as important overwintering habitat for bald eagles during consultation with NYSDEC, Millennium conducted surveys to identify bald eagle nests in the vicinity of the Project crossing of the Neversink River.

Two bald eagle nests were observed approximately 1,700 and 5,000 feet north of the proposed Huguenot Loop workspaces; although no fledglings were observed, a pair of adults was documented in the vicinity of each nest. Millennium submitted the results of the bald eagle survey to the FWS and NYSDEC in July, 2016, and concurrence on the field survey results is pending.

No impacts on the bald eagles or nests recorded during the survey are anticipated since Project construction and operation activities would occur well beyond the 660-foot minimum distance recommended by the FWS’ National Bald Eagle Management Guidelines (FWS 2007). In the event that a newly encountered bald eagle nest is identified in the Project area, Millennium would coordinate with the FWS for approval prior to beginning construction in the vicinity of the nest and would implement the FWS’ guidelines to avoid disturbance at bald eagle nest sites. Given the absence of active nests in the Project workspace and Millennium’s implementation of FWS guidelines to minimize impacts on nesting bald eagles, we conclude that the Project would not adversely affect this species.

**Table B-9  
Federal and State Threatened and Endangered Species and Species of Concern Potentially Occurring in the Project Area**

<b>Species</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Habitat Description</b>	<b>Effect Determination</b>
<b>Birds</b>				
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	BGEPA	T	Prefers areas near large, open waterbodies with abundant fish and nearby tall trees suitable for nesting. Adults begin building nests between October and early December, and lay eggs in February to March (FWS 2007).	<i>May affect, not likely to adversely affect</i> ; no active nests are within the Project area and FWS guidelines would be implemented for newly identified nests.
<b>Mammals</b>				
Indiana bat ( <i>Myotis sodalis</i> )	E	E	Hibernates in caves and abandoned mines during the winter. Roosts in maternity colonies in spring, summer, and fall located under the exfoliating bark of dead trees in riparian zones, bottomland and floodplain habitats, wooded wetlands, and upland communities. Forages in forested areas, cleared areas adjacent to forests, and over ponded areas that support abundant flying insects (FWS 2012).	<i>May affect, not likely to adversely affect</i> ; the Project would be within the range of this species and Indiana bat calls were documented during acoustic surveys along the Huguenot Loop; however, Millennium proposes to avoid direct impacts by conducting tree clearing between October 1 and March 31, 2016 when the bats are hibernating or concentrated near their hibernacula.
Northern long-eared bat ( <i>Myotis septentrionalis</i> )	T	T	Hibernates in caves and abandoned mines during the winter. Roosts singly or in colonies underneath exfoliating bark of dead trees, in cavities, or in crevices of both living and dead trees. Occasionally found using structures as roost sites (for example, barns and sheds). Forages within the understories of forested habitat (FWS 2015).	<i>May affect, not likely to adversely affect</i> ; the Project would be within the range of this species; however, Millennium proposes to avoid direct impacts by conducting tree clearing between October 1 and March 31, 2016 when the bats are hibernating or concentrated near their hibernacula.
<b>Mussels</b>				
Dwarf wedgemussel ( <i>Alasmidonta heterodon</i> )	E	E	Inhabits streams and rivers with low to moderate currents and sand, clay, or gravel substrate. Adults generally remain buried; parasitic larvae attach themselves to a fish for several weeks before detaching and settling on the sediment (FWS 2005).	<i>May affect, not likely to adversely affect</i> ; habitat in the Neversink River where individuals were documented during field surveys would be crossed by HDD. Due to the implementation of mitigation measures, impacts from construction are not anticipated.
Brook floater ( <i>Alasmidonta varicose</i> )	--	T	Favors gravelly riffles in creeks and small rivers. Substantial populations in New York are limited to the Neversink River, although limited numbers may occur in tributaries of the Susquehanna, in Shawangunk Kill, and in the Delaware River basin (NYNHP 2016a).	<i>May affect, not likely to adversely affect</i> ; no individuals were observed during field surveys and potential habitat in the Neversink River would be crossed by HDD. Due to the implementation of mitigation measures, impacts from construction are not anticipated.

**Table B-9 (continued)  
Federal and State Threatened and Endangered Species and Species of Concern Potentially Occurring in the Project Area**

<b>Species</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Habitat Description</b>	<b>Effect Determination</b>
<b>Plants</b>				
Small whorled pogonia ( <i>Isotria medeoloides</i> )	T	E	Generally grows in older hardwood forest stands with an open understory, although it sometimes grows in softwood stands. Prefers acidic soils with a thick layer of dead leaves, often on slopes near streams. Flowers in May and June, but may not bloom annually (FWS 2016b).	<i>No effect</i> ; field surveys were conducted in potentially suitable soils during July and August, 2016. No individuals were observed during the survey.
Puttyroot ( <i>Apelcram hyemale</i> )	--	E	Generally grows in hardwood and mixed forest habitat near limestone outcrops or talus in moist to swampy soils. Flowers in May and June (NYNHP 2016b)	<i>No effect</i> ; this species was observed during field surveys conducted at the Highland Compressor Station site. The Project facilities were sited to avoid direct impacts on this species and Millennium would plant conifers along the limits of the Project workspace nearest to the puttyroot location to minimize any potential habitat changes due to increased sunlight penetration from tree clearing for the Project.
<b>Reptiles</b>				
Bog turtle ( <i>Clemmys mulhensbergii</i> )	T	E	Lives in open, sunny, spring-fed wetland areas with scattered dry areas. They are active from April through October. Nests are built during summer, in moss or sedges above the water level adjacent to the wetlands (FWS 2010).	<i>May affect, not likely to adversely affect</i> : Potential habitat was identified during Phase 1 surveys; however, no bog turtles were identified during Phase 2 presence/absence surveys.
Timber rattlesnake ( <i>Crotalus horridus</i> )	--	T	Hibernates in winter in open, steep, south facing slopes with rock fissures or talus surrounded by hardwood forest. During the active period (late April to mid-October), found in cooler, thicker woods with a closed canopy; gravid females may be found on open, rocky ledges (NYSDEC 2016f).	<i>May affect, not likely to adversely affect</i> ; surveys documented individuals within 900 feet of the Ramapo Meter Station. Millennium would implement mitigation measures and provide enhanced habitat during restoration.
E = endangered; T = threatened.				

## 4.2 Mammals

### Indiana Bat

The federally and state listed endangered Indiana bat was identified during Information for Planning and Conservation database review and during consultations with NYSDEC. Millennium conducted acoustic surveys to document the presence of Indiana bats within the Project area in Orange and Rockland Counties, New York; the known range of the species does not extend into Sullivan and Delaware Counties. Surveys were conducted along the western portion of the Huguenot Loop and at the Ramapo Meter Station sites per a FWS-approved study plan prepared in accordance with the 2016 Range-Wide Indiana Bat Summer Survey Guidelines (FWS 2016c). Where presence has been established through review of the NYNHP records along the eastern portion of the Huguenot Loop, no surveys were conducted. Direct impacts on the species could occur if roost trees or hibernacula were disturbed during periods of use. Long-term, indirect impacts could also occur due to the permanent loss of suitable roost trees from vegetation clearing during construction and operation. Suitable roost trees have exfoliating bark, including those that are dead or dying, and those that have cracks or crevices (FWS 2012).

No known hibernacula within the Project area were identified by the applicable agencies; however, NYSDEC has documented two known summer roost sites within 2.5 miles of the Huguenot Loop. Calls attributable to Indiana bats were documented at four study sites along the Huguenot Loop; none were documented at the Ramapo Meter Station site. Millennium submitted its Indiana bat survey report to the FWS and NYSDEC in July 2016 and concurrence is pending. To avoid take of the species during construction, Millennium would restrict tree clearing to the period when Indiana bats are in hibernation (October 1 to March 31), as recommended by FWS (FWS 2012).

Construction of the Project could result in the long-term and permanent loss of potential Indiana bat habitat where forested land would be cleared for construction, and where forested land would be maintained as open land in the permanent right-of-way. Impacts on potential Indiana bat habitat would be minimized since the pipeline would be collocated with Millennium's existing right-of-way along most of the route. However, in Orange and Rockland Counties where the Indiana bat occurs, the Huguenot Loop and aboveground facilities would result in the disturbance of 49.0 acres of forested upland areas during construction and the loss of 9.4 acres of upland forest during operation. Millennium would avoid potentially suitable roost trees where practicable during construction and would install artificial roost structures within the Project area where it is within areas of known Indiana bat occurrence. Consultation with the FWS regarding impacts on the Indiana bat is ongoing.

Millennium would avoid direct impacts on the Indiana bat through adherence to the FWS-recommended tree-clearing window, and would minimize impacts on potential

bat habitat via collocation with existing facilities, avoidance of roost trees where practicable, and installation of artificial roost structures. Therefore, we conclude that the Project *may affect, but is not likely to adversely affect* the Indiana bat.

### **Northern Long-Eared Bat**

The northern long-eared bat (*Myotis septentrionalis*) is state listed as threatened and was federally listed as threatened under the ESA on April 2, 2015 due to population declines from white-nose syndrome. The FWS also established a final rule under Section 4(d) of the ESA, effective February 16, 2016, that targets the prohibition of incidental take in those areas affected by white-nose syndrome. Within affected areas, incidental take is prohibited if it occurs within a hibernaculum; if it results from tree removal activities within 0.25-mile of a known hibernaculum; or if it results from removal of a known, occupied maternity roost or trees within 150 feet of the maternity roost during the pup season (June 1 through July 31) (FWS 2016d). Based on a review of FWS data, the Project area is within the area affected by white-nose syndrome and the northern long-eared bat has the potential to occur in the Project area (FWS 2016e).

Direct impacts on the northern long-eared bat would be similar to those listed for the Indiana bat, including habitat loss from disturbance of roost trees and hibernacula during periods of use. However, habitat loss is not a contributing factor in species decline, and indirect effects would be limited on impacts on known hibernacula that would preclude seasonal use by northern long-eared bats. Millennium's implementation of the tree-clearing window for the protection of Indiana bats (tree clearing would occur from October 1 to March 31) would protect northern long-eared bats from direct take. No known hibernacula or maternity roosts have been identified by the applicable agencies within 0.25 mile of the Project. Further, where acoustic surveys were conducted to document occurrence of Indiana bats, no calls attributable to northern long-eared bats were documented. As direct impacts on the northern long-eared bat would be avoided through adherence to the tree-clearing window, and no known hibernacula or occupied maternity roosts are within the Project area, we conclude that the Project *may affect, but is not likely to adversely affect* the northern long-eared bat.

### **4.3 Mussels**

Based on consultation with the FWS and NYSDEC, freshwater mussels including the federally and state endangered dwarf wedgemussel (*Alasmidonta heterodon*) and the state threatened brook floater (*Alasmidonta varicosa*) have the potential to occur in the Project area. Based on NYSDEC-NYNHP records, these species are documented as occurring in the Neversink River.

Millennium conducted freshwater mussel surveys in the Neversink River in a 1.5-acre area at the proposed crossing location in August 2016. Two live dwarf wedgemussels and one shell were identified during surveys, as well as individuals of

several other freshwater mussel species. Brook floater were not found during the survey. Millennium submitted its mussel survey report to the FWS and NYSDEC in October 2016 and concurrence is pending. Millennium would avoid direct impacts on the Neversink River by using the HDD construction method. As described in section B.1.1, Millennium conducted an HDD feasibility analysis for the crossing of the Neversink River and found that the bore path section under the Neversink River would be in competent bedrock favorable for stable subsurface drilling. However, if an inadvertent release of HDD drilling fluid occurs during the HDD, the resulting turbidity could impact water quality. In addition, water quality could be adversely affected by an accidental spill of hazardous material. Millennium's adherence to its ECS, HDD Contingency Plan, and SPRP would minimize or avoid potential impacts on the Neversink River. In the event that the HDD crossing of the Neversink River is unsuccessful, Millennium would consult with applicable agencies regarding impacts on threatened and endangered freshwater mussels, and would obtain necessary approvals prior to implementing an alternative crossing method. Therefore, we conclude that the Project *may affect, but is not likely to adversely affect* federally and state listed mussels.

#### 4.4 Reptiles

##### **Bog Turtle**

The federally threatened and state endangered bog turtle (*Clemmys muhlenbergii*) occurs in the Project area in Orange and Rockland Counties, New York. Potential bog turtle habitat includes wetlands that contain areas of perennially saturated soils, predominantly emergent vegetation, and deep (3- to 5-inch) mucky soils (FWS 2006). A wetland complex found to contain these three characteristics (either together or in separate areas) during Phase 1 (habitat) surveys is considered suitable habitat and may require Phase 2 surveys to determine species presence or absence. In November 2015 and April and June 2016, Millennium conducted Phase 1 surveys within wetlands crossed by the Project to identify suitable bog turtle habitat. Based on the results of the Phase 1 surveys and per FWS recommendations, Millennium conducted Phase 2 surveys in 6 wetlands with potential suitable bog turtle habitat (wetlands W-28A, W-21, W-20, W-19, W-16, W-07; see appendix F for documentation of wetlands crossed by the Project); no bog turtles were encountered during field surveys. Further, of the six wetlands with potential habitat, two wetlands (W-28A and W-19) would be outside of the construction workspace and two wetlands (W-21 and W-20) would be crossed via HDD, thereby minimizing or avoiding direct impacts on potential bog turtle habitat. The results of Phase 1 and 2 surveys were submitted to the FWS and NYSDEC, and consultation is ongoing. In addition, Millennium is awaiting comments from NYSDEC on the state-regulated wetlands crossed by the Project. As no bog turtles were encountered during Phase II surveys, we find that construction and operation of the Project *may affect, but is not likely to adversely affect* the bog turtle.

## **Timber Rattlesnake**

The timber rattlesnake is state listed as threatened in New York, and the NYNHP has records of timber rattlesnake occurrences at 6 locations within 1.5 miles of Project workspaces, including a known hibernacula and a foraging area within 0.4 mile of the Ramapo Meter Station. Millennium surveyed potentially suitable habitat within the pipeline right-of-way and at aboveground facility sites at locations identified by NYSDEC in 2016 to document the presence of timber rattlesnakes. During surveys, timber rattlesnakes were found at 2 dens about 900 feet from the Ramapo Meter Station. In addition, potentially suitable foraging habitat was documented near the Highland Compressor Station site.

The survey results were submitted to NYSDEC in July 2016 and January 2017, and concurrence is pending. Construction at the Ramapo Meter Station could result in the disturbance of timber rattlesnakes that den near construction workspaces. In addition, individual snakes could experience direct mortality if present in areas of active construction; however, individuals that are mobile would likely avoid the work areas during construction.

Millennium would implement avoidance and mitigation measures described in its Timber Rattlesnake Impact Assessment and Mitigation Plan to minimize the potential for disturbance or loss of timber rattlesnakes, including:

- conducting clearing and grading during the period when timber rattlesnakes are in hibernation in New York (November 1 to March 31), or having a licensed, qualified timber rattlesnake biologist present to monitor workspaces for timber rattlesnakes during construction outside of the hibernation period; and
- implementing a Project-specific Rattlesnake Encounter Plan.

The Rattlesnake Encounter Plan includes measures for education of Millennium's construction and operation workforce regarding rattlesnake avoidance, and measures that would be implemented in the event that a timber rattlesnake is observed in or near the work area. In addition, Millennium is consulting with NYSDEC regarding habitat enhancement via creation of rock basking areas during restoration within the Highland Compressor Station and Ramapo Meter Station construction workspaces.

Because timber rattlesnakes were not identified within Project workspaces and with Millennium's mitigation, we conclude that the Project would not have an adverse effect on the timber rattlesnake.

Millennium is still consulting with the FWS and NYSDEC regarding federally and state listed threatened and endangered species that may be present in the Project area.

The FWS must concur with our determinations of effect for federally listed species to complete the ESA consultation process. To ensure compliance with our responsibilities under Section 7 of the ESA regarding federally listed species, **we recommend that:**

- **Millennium should not begin construction of the Project until:**
  - a. **the staff receives comments from the FWS regarding the proposed actions;**
  - b. **the FERC staff completes any necessary Section 7 consultation with the FWS; and**
  - c. **Millennium has received written notification from the Director of the Office of Energy Projects (OEP) that construction and/or use of mitigation (including implementation of conservation measures) may begin.**

## 5. Land Use and Visual Resources

The Eastern System Upgrade Project would affect 209.2 acres of land during construction, including the pipeline construction right-of-way, ATWS, aboveground facilities, access roads, contractor/pipe yards and staging areas. Of that, 38.0 acres are within Millennium's existing easement and existing aboveground facility boundaries. Of the 209.2 acres affected by construction, about 139.9 acres would be restored to pre-construction uses. The remaining 69.3 acres, including 24.9 acres currently maintained by Millennium as right-of-way, an existing facility, or access road, would be within the operational footprint of the Project.

The proposed pipeline would cross multiple land types in Orange County, New York, the majority of which would be open land (4.1 miles), forested land (1.5 miles), or agricultural land (1.1 miles). Other land uses crossed include wetlands (0.6 mile), industrial/commercial land and residential land (0.2 mile each), and open water (0.1 mile). In addition, about 6.9 miles (88 percent) of the 7.8-mile-long pipeline would be adjacent to Millennium's existing right-of-way. As stated above, the areas affected by construction would include Millennium's existing right-of-way and aboveground facility sites, and land outside of these areas. Following construction, areas associated with the existing pipeline right-of-way and aboveground facility sites would continue to be maintained as before. In addition to these areas, about 44.3 acres of new land would be permanently encumbered by operation of the Project. About 42.4 percent of this newly encumbered acreage would be for new pipeline right-of-way, 29.2 percent would be for aboveground facilities, and 28.3 percent would be for new permanent access roads. Table B-10 summarizes the Project's temporary (construction) and permanent (operational) land use impacts. Impacts on open water and wetlands are discussed in sections B.2.2 and B.2.3, respectively.

**Table B-10  
Land Use Affected by Construction and Operation (in Acres) of the Eastern System Upgrade Project<sup>a</sup>**

Facility	Agricultural		Upland Forest		Open Land		Industrial/Commercial		Wetlands <sup>b</sup>		Open Water		Residential		Total	
	Con <sup>c</sup>	Op <sup>d</sup>	Con <sup>c</sup>	Op <sup>d</sup>	Con <sup>c</sup>	Op <sup>d</sup>	Con <sup>c</sup>	Op <sup>d</sup>	Con <sup>c</sup>	Op <sup>d</sup>	Con <sup>c</sup>	Op <sup>d</sup>	Con <sup>c</sup>	Op <sup>d</sup>	Con <sup>c</sup>	Op <sup>d</sup>
<b>Pipeline Facilities</b>																
New pipeline right-of-way	9.4	3.3	32.7	8.1	7.2	5.4	0.7	0.4	2.0	1.0	0.1	<0.1	2.0	0.7	54.1	18.8
Existing pipeline right-of-way	4.6	2.7	0.6	0.4	21.1	12.0	0.2	0.2	1.0	0.8	0.1	<0.1	0.5	0.2	28.0	16.3
ATWS on new land	9.0	0.0	13.0	0.0	4.0	0.0	0.3	0.0	0.1	0.0	0.0	0.0	2.0	0.0	28.4	0.0
ATWS on existing easements	0.1	0.0	<0.1	0.0	0.9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	1.3	0.0
<b>Subtotal</b>	<b>23.2</b>	<b>6.0</b>	<b>46.4</b>	<b>8.5</b>	<b>33.2</b>	<b>17.3</b>	<b>1.3</b>	<b>0.6</b>	<b>3.1</b>	<b>1.8</b>	<b>0.2</b>	<b>0.1</b>	<b>4.5</b>	<b>1.0</b>	<b>111.9</b>	<b>35.2</b>
Access roads	0.8	0.0	12.0	10.6	1.0	0.3	5.0	4.3	<0.1	<0.1	0.0	0.0	0.6	0.0	19.3	15.3
Contractor/pipe yards and staging areas	6.9	0.0	0.9	0.0	28.9	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2	0.0
<b>Aboveground Facilities</b>																
Highland Compressor Station	0.0	0.0	16.8	5.3	0.9	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.7	5.5
Hancock Compressor Station	0.0	0.0	6.0	2.0	1.1	0.3	5.6	3.2	0.0	0.0	0.1	0.1	0.0	0.0	12.9	5.6
Alternate Interconnect	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Wagner Interconnect	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2
Huguenot Meter Station	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
Westown Meter Station	<0.1	<0.1	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
Ramapo Meter Station	0.0	0.0	1.7	0.9	1.9	0.1	2.8	2.7	0.0	0.0	0.0	0.0	0.0	0.0	6.3	3.7
Pig launcher/receiver	0.0	0.0	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
Cathodic protection grounded	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
<b>Subtotal</b>	<b>0.3</b>	<b>0.3</b>	<b>24.8</b>	<b>8.5</b>	<b>4.0</b>	<b>0.8</b>	<b>11.7</b>	<b>9.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>40.9</b>	<b>18.8</b>
<b>Project Total</b>	<b>31.2</b>	<b>6.2</b>	<b>84.0</b>	<b>27.6</b>	<b>67.0</b>	<b>18.4</b>	<b>18.5</b>	<b>14.1</b>	<b>3.1</b>	<b>1.8</b>	<b>0.3</b>	<b>0.2</b>	<b>5.1</b>	<b>1.0</b>	<b>209.2</b>	<b>69.3</b>

<sup>a</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.

<sup>b</sup> The wetlands category includes both forested and non-forested wetlands.

<sup>c</sup> Construction impact acreages are based on a nominal temporary right-of-way between 75 and 125 feet. Impacts do not include the area between HDD entry and exit points, where impacts would be limited to hand-clearing a maximum 3-foot-wide footprint.

<sup>d</sup> The operational footprint is based on a new 25-foot-wide permanent right-of-way for the Huguenot Loop and the existing 25-foot permanent easement for the Millennium Pipeline. Where the Huguenot Loop and Millennium's mainline are not co-located, the operational footprint is based on a new 50-foot-wide permanent right-of-way.

## 5.1 Land Use

### Open Land

Project construction would affect 67.0 acres of open land, defined as non-forested upland areas, pastures, and maintained utility right-of-way, including Millennium's existing right-of-way (see table B-10). Approximately 48.6 acres of the temporarily disturbed area would be allowed to revert to original conditions after construction. Impacts on most of the affected open land would be temporary and short term, and would be minimized by Millennium's implementation of the ECS and their restoration of open land areas to preconstruction conditions along the pipeline right-of-way. Because the permanent pipeline right-of-way would be maintained as open land, there would be no permanent change in land use for the 17.3 acres of open within the permanent right-of-way. A total of about 0.8 acre of open land at the Highland and Hancock Compressor Stations, the Ramapo Meter Station, and the pig launcher/receiver, would be permanently converted to industrial/commercial land for operation. Based on the limited acreage of open land subject to permanent maintenance or conversion, impacts on open land would be predominantly short term and minor.

### Forested Land

About 84.0 acres of forested land would be within the construction workspace of the Project, including upland forest and PFO wetland. After construction, trees and shrubs would be allowed to grow within the temporary construction right-of-way and other temporary workspace areas. Impacts on forested land would be long-term or permanent, as it would likely take 20 years or more for mature trees to re-establish within the construction areas and forested vegetation would be permanently converted within the operational areas of the Project. The 27.6 acres required for operation of the pipeline would be permanently converted to open land, while 8.5 acres associated with the operation of aboveground facilities would be converted to industrial/commercial land. Impacts on forested vegetation are discussed in detail in section B.3.1 and visual impacts from clearing forested land are discussed in section B.5.4.

No areas of commercial timber production or sustainably managed forest areas have been identified along the proposed pipeline route through Millennium's search of public records and contact with landowners (Sustainable Forestry Initiative 2016, Forest Stewardship Council 2016, New York Tree Farm Program, Empire State Forest Products Association 2016). However, forested land designated as Significant Natural Communities by NYSDEC would be crossed by the proposed pipeline right-of-way and access roads. Section B.3.1 includes additional detail on these forest areas.

In addition, the parcel owned by Millennium and the site of the proposed Highland Compressor Station, is enrolled in a New York State program under provision of the 480-a Forest Tax Law. The program allows for a reduction on taxes of forested land if the

owner of a parcel that qualifies adhere to a Forestry Management Plan. To ensure that the parcel remains eligible for the program, Millennium would implement a forest management plan prepared by a certified forester and subject to approval by NYSDEC. Millennium has stated that it would submit the approved forest management plan to FERC upon completion. If Millennium identifies any additional parcels at a later date, it would consult with the landowner and management entity, as appropriate, to mitigate impacts.

### **Agricultural Land**

Construction of the Huguenot Loop including access roads, contractor/pipe yards and staging areas would affect 30.9 acres of agricultural land, which includes active hayfields, grazing/pasture land, and active crop production. In addition, less than 0.1 acre of agricultural land would be within the construction workspace for the Westtown Meter Station and 0.2 acre would be within the proposed cathodic protection groundbed. No agricultural land would be affected by construction or operation of the other newly proposed or existing aboveground facilities. Crops produced in agricultural land crossed by the Project include hay and corn; no areas of specialty crop production would be crossed. Within actively cultivated or rotated cropland, managed pastures, and hayfields, topsoil would be stripped and stockpiled separately from the subsoil. Millennium would also comply with NYSDAM pipeline construction guidance, section 3.6, by not using excess rock for backfill within 24- to 30-inches from the final grade, depending on soil type. Topsoil segregation would not occur on the portions of the construction right-of-way over Millennium's existing pipeline. Millennium would protect the topsoil over the existing pipeline from the movement of equipment and construction activities by matting the areas where construction equipment would cross the existing pipeline.

Millennium has identified active livestock grazing pastures and one pig farm that would be crossed by the Huguenot Loop. Where fencing associated with these parcels would be cut during construction, Millennium would install temporary gates and steel plates to allow for safe passage. Millennium has also committed to working with each landowner on alternative grazing plans to allow sufficient revegetation of disturbed areas.

Millennium anticipates that about one growing season would be lost due to construction; however, landowners would be compensated for these production losses in accordance with the terms of individual landowner agreements. Following construction, Millennium would visually inspect agricultural land to ensure that crop density and vigor in areas affected by construction are similar to unaffected adjacent portions of the same field. Monitoring of this land would occur for a minimum of two growing seasons. Impacts on prime farmland and farmland of statewide importance are discussed in section B.1.2.

Operations would affect 6.2 acres of agricultural land within the proposed permanent pipeline right-of-way and the proposed cathodic protection groundbed. All

agricultural land affected by the pipeline would be restored in accordance with FERC's Plan following construction for use of crop production the following season. Less than 0.1 acre of agricultural land would be permanently converted to industrial/commercial land at the Westtown Meter Station; no other aboveground facilities would be located in agricultural land.

Construction of the Project, including the new and existing easements, would cross 26 parcels within Orange County Agricultural District No. 2, designated by Orange County and NYSDAM for protection from non-agricultural uses. Of these 26 parcels, only 6 parcels, in part or whole, are currently being used for agricultural purposes. Following construction, agricultural use of this land, including the parcels within the permanent pipeline right-of-way, could resume. Alternatively, 3.2 acres within the footprint of aboveground facilities (including the Huguenot Meter Station, Alternate Interconnect, and pig launcher/receiver) and permanent access roads would be converted to industrial/commercial land, however none of these are currently being used for agricultural purposes (see table B-11). For land affected by construction or within the permanent pipeline right-of-way, which would be returned to agricultural use, Millennium anticipates that the Project would comply with the purpose of the district's program.

Millennium would implement its ECS, which includes measures listed in the FERC Plan and NYSDAM's pipeline construction guidance (NYSDAM 2011). NYSDAM's pipeline construction guidance measures would include:

- burying pipelines in cropland, hayland, and improved pasture so that a minimum cover of 4 feet is obtained;
- providing temporary livestock crossings, temporary farm equipment crossings, and fencing around the open trench, where needed by the landowner;
- placing geotextile matting over subsoils prior to using gravel for access ramps placed in agricultural areas to prevent gravel from becoming embedded into the subsoil; and
- providing a phone number to farm owners/operations that can be used to directly contact Millennium staff through all stages of the Project.

No drain tile systems have been identified in the Project area during landowner discussions; however, if present within the right-of-way, Millennium would develop a set of specific mitigation measures with the landowner prior to beginning construction. Work in proximity to these systems would be conducted in accordance with Millennium's ECS and the easement agreements with individual landowners.

With implementation of Millennium's ECS, which incorporates the FERC Plan and certain measures from NYSDAM's pipeline construction guidance (NYSDAM 2011), impacts on agricultural land would be minor and temporary. All agricultural land uses on this land would be allowed following construction and restoration.

Facility	Start MP	End MP	Crossing Length (feet) <sup>b</sup>	Permanent Operational Impact (acres)
	0.0	0.0	15	0.0
	0.0	0.0	54	0.1
	0.0	0.1	153	0.1
	0.1	0.2	847	0.5
	0.2	0.3	288	0.3
	0.3	0.4	323	0.4
	<b>0.4</b>	<b>0.4</b>	<b>505</b>	<b>0.6</b>
	<b>0.4</b>	<b>0.5</b>	<b>357</b>	<b>HDD</b>
	0.5	0.6	317	HDD
	0.6	0.6	279	HDD
	0.6	0.7	280	HDD
Huguenot Loop	0.7	0.9	572	HDD
	0.9	1.1	992	1.5
	3.8	4.0	987	1.1
	4.5	4.7	1,070	HDD
	<b>4.7</b>	<b>5.0</b>	<b>1,914</b>	<b>1.1</b>
	<b>5.0</b>	<b>5.1</b>	<b>564</b>	<b>0.3</b>
	5.1	5.3	553	0.3
	5.7	6.1	2,032	1.2
	6.1	6.1	316	0.3
	6.5	6.6	679	0.4
	6.6	6.9	1,667	0.9
	<b>6.9</b>	<b>7.6</b>	<b>3,212</b>	<b>1.9</b>
	7.6	7.6	366	0.5
Alternative Interconnect	N/A	N/A	N/A	0.2
Cathodic protection groundbed	N/A	N/A	N/A	<b>0.2</b>
Huguenot Meter Station	0.0	0.0	N/A	0.4
Pig launcher/receiver	0.1	0.1	N/A	0.4
PAR-0001	N/A	N/A	N/A	0.3
PAR-002A	N/A	N/A	N/A	0.1
PAR-0003	N/A	N/A	N/A	1.9
<b>Project Total</b>			<b>18,342</b>	<b>14.4</b>

<sup>a</sup> Bold, italic font entries indicate parcels, in part or whole, that are currently in agricultural use.  
<sup>b</sup> N/A indicates non-linear crossings

## **Industrial/Commercial**

Industrial/commercial land is defined as existing industrial plants, commercial facilities, landfills, paved areas, and existing roads and railroads. As presented in table B-10, the proposed Eastern System Upgrade Project would affect a total of 18.5 acres of industrial/commercial land during construction. A total of 14.1 acres of industrial/commercial land would be permanently encumbered by the operational right-of-way, aboveground facilities, or permanent access roads; the remaining 4.4 acres of affected land would be returned to original conditions after construction.

During construction, the proposed pipeline would cross 16 public roads and 2 private roads. Each of the road crossings would be conducted via trenchless construction methods (HDD or bore), thereby avoiding impacts. In addition, one active and one abandoned railroad would be crossed by conventional bore at MP 1.7 and MP 7.6. Transportation impacts are discussed in section B.6.2. The majority of impacts on industrial/commercial land would be temporary and minor.

## **Residential Land**

A total of 5.1 acres of residential land would be affected by construction of the pipeline, including ATWS and access roads. A portion of this land, 0.5 acre, is within Millennium's existing right-of-way. No residential land would be affected by construction or operation of the aboveground facilities. One permanent access road, PAR-0001, would be about 35 feet from a residence and 30 feet from the swimming pool at the residence near MP 0.0. Millennium has provided a site-specific plan for this residence, as well as for all 7 occupied residences within 50 feet of work areas (see appendix D). We have reviewed these plans and find them to be acceptable. We encourage the affected landowners to review the site-specific plans for their property and provide us with any comments during the EA comment period.

Impacts on residential areas during the construction and use of the temporary access roads could include noise and dust from construction traffic and disturbance or removal of lawns, trees, landscaped shrubs, and structures such as sheds or fencing. Millennium would notify landowners of the approximate timelines of active construction and would restore disturbed areas to pre-construction conditions where possible, or as specified by the landowners.

Millennium is working with individual landowners to identify the location of wells, utilities, and septic systems. Currently one septic system (including tank and field) and two septic fields have been identified within proposed temporary work areas near MP 0.0, MP 0.1, and MP 5.6. To minimize impacts from construction, Millennium is proposing to relocate the septic system at MP 0.0 and would mat the septic fields at MP 0.1 and MP 5.6., however if impacts on these features, or other features subsequently identified, occur Millennium would repair or relocate the feature in consultation with

individual landowners. Overall impacts on residential areas would be negligible and temporary.

## **5.2 Planned Developments**

Based on correspondence with county and town planning agencies in Delaware, Sullivan, Orange, and Rockland Counties in New York, and record reviews of permit applications, no commercial or residential developments were identified within 0.25 mile of the Project. Further, no “priority growth area(s)” designated by the Orange County Planning Department would be crossed by the Huguenot Loop or in proximity to other Project facilities in Orange County.

In comments provided during the scoping period, concerns were raised for impacts on the Chapin Estate. This development is located about 3.3 miles north of the Highland Compressor Station site; therefore, given the distance, adverse impacts are not expected. A motion to intervene on behalf of the Ozdan Development, LLC and Amytra Development, LLC was filed to the docket on August 29, 2016. In addition, we received comment letters raising concerns for impacts on these future developments, which to be located on lands adjacent to and bordering Millennium’s existing pipeline and the proposed Highland Compressor Station. While the property owners have been consulting with the town of Highland regarding their plans and associated rezoning, publicly available version(s) of the developers’ proposed site plans are not available. Since the compressor station would be located on a large parcel of land with natural buffers (trees and/or hills), the owners of the neighboring lands could configure the developments such that the natural buffers would mitigate noise and visual impacts on future residents. These developments are discussed further in section B.10. Potential impacts on residents in proximity to the Project and air and health effects are discussed in sections B.5.1 and B.8.1, respectively. Potential impacts on property values are discussed in section B.6.5.

## **5.3 Public Land, Recreation, and Special Interest Areas**

No federally managed or owned land would be within 0.25 mile of the Project, including wildlife refuges, national parks, scenic byways or rivers, or preserves. Further, no privately-owned conservation easements managed under agreements with the USDA-NRCS (agricultural or wetland reserve program land) or the Farm Service Agency (conservation reserve program land), have been identified within 0.25 mile of the Project through a review of publicly available data and landowner consultation. The Farm Service Agency does not disclose the locations of easements under its purview in New York, therefore Millennium has consulted with landowners about the presence of this land and to date no land enrollment in the program has been identified. The Project would be within 0.25 mile of one state park, three county parks, three county parks or recreation areas, one municipal park, two preserves, two private land trusts, a New York state scenic byway, two recreation hiking trails, an abandoned railroad, an on-road bicycle route, and Excelsior Sportsman’s Club as detailed in table B-12.

**Table B-12  
Public Land and Designated Recreation or Scenic Areas within 0.25 Mile of the Proposed Eastern System Upgrade Project**

Facility	Name of Area	MP <sup>a</sup>	Land Ownership/ Land Management	Tract Number <sup>b</sup>	Distance from Project (mile)	Crossing Length (feet) <sup>c</sup>	Area Affected (acres)		Proposed Crossing Method
							Construction <sup>d</sup>	Operation <sup>e</sup>	
	Harriet E. Space Recreational Park	0.3-0.5	Orange County	04.03.00-RA-NY	0	863	7.6	0.6	HDD (includes ATWS for the HDD)
	Orange County Park	0.4	Orange County	04.04.00-RA-NY	0	0	1.1	0.0	N/A (HDD ATWS area)
	Neversink Preserve	0.4	The Nature Conservancy	04.05.00-RA-NY	0.2	0	0.0	0.0	N/A
	Limbaro Property	0.8-1.1	Private/Land Trust Conservation Restriction	05.00.00-RA-NY	0	1,691	7.5	1.5	HDD and open cut
	Ginseng Up Property	1.1-1.3	Private/Land Trust Conservation Restriction	05.02.00-RA-NY	0	0	<0.1	0.0	TAWS
Huguenot Loop	Shawangunk Ridge Trail	1.7	Various	08.00.00-RA-NY	0	25	0.0	0.0	Conventional bore
	Ridgeview Preserve/ Huckleberry Ridge State Forest	1.9-3.0	Open Space Conservancy, Inc./NYSDEC	10.00.00-RA-NY	0	5,465	19.2	3.1	Open Cut and HDD
	Long Path	2.5	NYSDEC/Various	10.00.00-RA-NY	0	6	<0.1	0.0	Open cut
	Long Path	2.9	NYSDEC/Various	10.00.00-RA-NY	0	6	<0.1	0.0	Open cut
	NYS Bicycle Route 17	5.0	U.S. Highway	N/A	0	65	0.0	0.0	Conventional bore
	Greenville Town Park	5.2-5.5	Municipal	32.00.00-RA-NY	0	1,491	4.7	0.9	Open cut
	Abandoned Railroad	7.6-7.6	Orange County	43.00.00-RA-NY	0	73	<0.1	<0.1	Open cut

**Table B-12 (continued)  
Public Land and Designated Recreation or Scenic Areas within 0.25 Mile of the Proposed Eastern System Upgrade Project**

Facility	Name of Area	MP <sup>a</sup>	Land Ownership/ Land Management	Tract Number <sup>b</sup>	Distance from Project (mile)	Crossing Length (feet) <sup>c</sup>	Area Affected (acres)		Proposed Crossing Method
							Construction <sup>d</sup>	Operation <sup>e</sup>	
Ramapo Meter Station	Kakiat County Park	N/A	Rockland County	66.00-CS	0	N/A	0.9	0.9	N/A
	Harriman State Park	N/A	State of New York	N/A	<0.1	0	N/A	N/A	N/A
Hancock Compressor Station	State Route 97//Upper Delaware Scenic Byway (lower section)	N/A	State of New York	N/A	0.2	N/A	N/A	N/A	N/A
Highland Compressor Station	Excelsior Sportsman's Club	N/A	Excelsior Sportsman's Club	N/A	0.3f	N/A	0.0	0.0	N/A
TAR-0002	Harriet E. Space Recreational Park	0.4	Orange County	04.03.00-RA-NY	0	768	0.3	0.0	N/A
TAR-0003	Limbarido Property	0.9	Private/Land Trust Conservation Restriction	05.00.00-RA-NY	0	1,393	0.2	0.0	N/A
TAR-0003	Ginseng Up Property	0.9	Private/Land Trust Conservation Restriction	05.02.00-RA-NY	0	0	<0.1	0.0	N/A
TAR-0009	Limbarido Property	0.9	Private/Land Trust Conservation Restriction	05.00.00-RA-NY	0	410	0.3	0.0	N/A

**Table B-12 (continued)  
Public Land and Designated Recreation or Scenic Areas within 0.25 Mile of the Proposed Eastern System Upgrade Project**

Facility	Name of Area	MP <sup>a</sup>	Land Ownership/ Land Management	Tract Number <sup>b</sup>	Distance from Project (mile)	Crossing Length (feet) <sup>c</sup>	Area Affected (acres)		Proposed Crossing Method
							Construction <sup>d</sup>	Operation <sup>e</sup>	
TAR-0010	Limbaro Property	0.9	Private/Land Trust Conservation Restriction	05.00.00-RA-NY	0	115	0.1	0.0	N/A
TAR-0004	Ridgeview Preserve/ Huckleberry Ridge State Forest/Long Path	2.9	Open Space Conservancy, Inc./NYSDEC	10.00.00-RA-NY	0	135	<0.1	0.0	N/A

N/A = indicates there is no workspace proposed on the conservation parcel; however, the Project is located within 0.25 mile of the conservation land.

<sup>a</sup> Approximate milepost rounded to the nearest tenth.

<sup>b</sup> Parcels not directly crossed by the pipeline in any route design to date are not assigned a tract identification number.

<sup>c</sup> A crossing length of "0" indicates that the parcel is not crossed by the pipeline centerline, but is crossed by the construction workspace.

<sup>d</sup> Includes land to be used for construction, including any land that would be retained for operation of the new facilities. Excludes the area between HDD entry and exit points.

<sup>e</sup> Includes both new permanent easement for the Huguenot Loop (25-foot-wide) and existing permanent easement for the Millennium Pipeline (25-foot-wide). Includes land for operation of the proposed new and modified aboveground facilities and permanent access roads.

<sup>f</sup> The fenced-in area for the building and compressors at Highland Compressor Station is approximately 0.3 miles away from the Excelsior Sportsman's Club parcel; however, the parcel is adjacent to Millennium's property.

## **Pipeline Facilities**

The proposed Huguenot Loop would cross the Neversink River Preserve, a floodplain forest managed by The Nature Conservancy. Millennium is proposing to cross the Neversink River Preserve and associated river at MP 0.4. This crossing would be achieved by the HDD method, which would minimize direct impacts on both the river and preserve. Surface water impacts from the proposed crossing of the Neversink River are discussed in section B.2.2, and impacts on floodplain forest within the Neversink River Preserve, a significant natural community as identified by the NYNHP, are discussed in section B.3.1.

The New York-New Jersey Trail Conference, the Open Space Institute, The Nature Conservancy, the Orange County Land Trust, and the NYSDEC are working together to protect state forest land along the Shawangunk Ridge in Orange County. These efforts have involved the acquisition of 435 acres on the ridge, the Ridgeview Preserve, which was conveyed to the NYSDEC and added to Huckleberry Ridge State Forest. The proposed Huguenot Loop would cross the Ridgeview Preserve/Huckleberry Ridge State Forest, as well as two trail systems (the Shawangunk Ridge Trail and Long Path). Table B-12, above, identifies the locations where Millennium is proposing to cross this preserve and these trails.

The first trail crossing would be of the Shawangunk Ridge Trail, a 71-mile-long trail connecting High Point State Park in New Jersey and Minnewaska State Park Preserve in New York. A portion of this trail was preserved with the acquisition of land along Shawangunk Ridge discussed above. The crossing of this trail would occur at MP 1.7 and corresponds to the crossing of an active railroad that Millennium would bore, which would eliminate direct impacts on both the trail and the railroad. However, indirect impacts at this location would include visual impacts associated with the presence of construction equipment and workers, as well as dust and noise from construction activities.

The second trail, Long Path Trail is within the Huckleberry Ridge State Forest and would be crossed by the pipeline twice, at MPs 2.5 and MP 2.9. The Long Path Trail is a 358-mile-long path that originates at 175<sup>th</sup> Street Subway Station in New York City and connects to the Shawangunk Ridge Trail. At these crossing locations, the Huguenot Loop would be collocated with Millennium's existing right-of-way. Construction at these locations would be conducted in a manner similar to conventional pipeline construction. Millennium is proposing the use of an existing road (temporary access road TAR-0004) within the Huckleberry Ridge State Forest to provide temporary access to work areas. This road would require clearing of trees to accommodate safe movement of construction equipment. A land purchase agreement would be obtained from NYSDEC prior to construction activity within the state forest (see table A-11 in section A.10).

Millennium is currently consulting with NYSDEC regarding the crossing of the preservation land and associated trails, therefore, **we recommend that:**

- **Prior to construction, Millennium should file with the Secretary of the Commission (Secretary) documentation of its consultation regarding Project construction and operation within the Huckleberry Ridge State Forest, including any specific procedures or permits identified by the NYSDEC.**

Collocating the Huguenot Loop with Millennium's existing right-of-way across Huckleberry Ridge State Forest would minimize the amount of new forested land that would be cleared, thereby minimizing visual impacts. Further, forested land would serve as a buffer, mitigating dust and noise from construction.

Two private parcels that are subject to conservation easements with The Nature Conservancy that are in proximity to the Project. While a conservation easement is entered into voluntarily, it is a legally binding agreement that restricts certain types of use or development of the land and may provide landowners with a tax benefit (The Nature Conservancy 2017). The terms of an easement are specific to the needs of each landowner and may include future development of the property, such as building a house for a family member. Amendments to easements, although rare, can occur in consultation with the landowner and The Nature Conservancy.

The Limbaro Property would be crossed by the proposed Huguenot Loop between MP 0.8 and 1.1. This property is the proposed location of the exit pit for the HDD of the Neversink River, and as such would require the clearing of forested land to accommodate construction equipment. The Ginseng Up Property, which is also subject to a conservation easement with The Nature Conservancy, would be within construction work areas between MP 1.1 and 1.3, resulting in less than 0.1 acre of impacts on the Ginseng Up Property. Millennium is also proposing the use of existing roads on these properties (temporary access roads TAR-0003, TAR-0009, and TAR-0010) to provide access to the HDD exit pit and the construction right-of-way. These roads would require trimming or clearing of trees to accommodate safe movement of construction equipment; in addition, TAR-0003 would be widened. Millennium has negotiated an easement with the Limbaro Property landowner. The existing conservation easements with The Nature Conservancy restrict tree clearing on these properties, therefore Millennium is further consulting with The Nature Conservancy. Because Millennium's proposed construction practices are not consistent with conservation easement restrictions, **we recommend that:**

- **Prior to construction, Millennium should file with the Secretary documentation of its consultation regarding Project construction and operation within private parcels protected under conservation easements,**

**including any specific procedures identified in coordination with The Nature Conservancy.**

Additional potential impacts associated with construction and operation near these properties would be limited to noise and visual impacts, which are discussed in sections B.8.2 and B.5.3, respectively.

The proposed Huguenot Loop would cross three parcels owned by Orange County, the Harriet E. Space Recreation Park, Orange County Park, and an abandoned railroad. Millennium is proposing the use of an existing road (temporary access road TAR-0002) within the Harriet E. Space Recreation Park to provide access to the HDD exit pit at MP 0.4, also located on park land, for the crossing of the Neversink River. The ATWS proposed to accommodate the pull string area for the HDD crossing of the Neversink River would extend into a paved parking lot for Orange County Park. Millennium has coordinated with county officials regarding the Project's use and post-construction restoration of these areas. Based on the timing of construction, which is anticipated to occur during winter months when use of the park areas would be limited, impacts from construction would be minor and temporary. The abandoned railroad would be crossed by conventional bore which would eliminate direct impacts at this location. Millennium continues to coordinate with county officials regarding contingency plans associated with the park areas with the goal of minimizing impacts from construction.

The proposed Huguenot Loop would also cross the Greenville Town Park between MP 5.2 and 5.5. No park facilities (e.g., playing fields, structures) are located at the proposed crossing locations. The closest playing field is about 460 feet northeast from proposed work areas. A forest buffer between the field and work areas would minimize visibility of construction activities for visual receptors at the park, as well as mitigate dust and noise from construction.

Bicycle Route 17 is a 442-mile-long, on-road bicycle route that crosses through Greenville as part of U.S Route 6. Millennium is proposing to cross U.S. Route 6 by conventional bore which would eliminate direct impacts on the roadway and corresponding bicycle route. However, traffic-related impacts on users of U.S Route 6 could occur as a result of the movement of construction equipment and personnel through the Project area.

In general, pipeline facility impacts on recreation special use areas occurring outside of forested land would be temporary, limited to the period of active construction and restoration, lasting a few weeks or months in any one area. These impacts would be mitigated by implementing the measures in Millennium's ECS. Further, collocating the proposed Huguenot Loop with Millennium's existing right-of-way would minimize development of new corridor. While Millennium's proposed crossing of the Neversink River would not be collocated, the deviation from the mainline to accommodate a trenchless crossing was selected to minimize impacts on the river and associated

floodplain. Alternatively, clearing of forested land within the construction right-of-way, and maintenance of the permanent right-of-way as herbaceous and scrub-shrub vegetation types would change the viewscape for visual receptors in the area. Transportation and noise impacts from the Project are discussed in sections B.6.2 and B.8.2, respectively.

### **Aboveground Facilities**

No public land, recreation, special use areas are within 0.25 mile of the existing Huguenot and Westtown Meter Stations. The new Highland Compressor Station would not be within 0.25 mile of any recreation special use area; however, the Excelsior Sportsman's Club is adjacent to the parcel boundary on which the new compressor station would be located. The Excelsior Sportsman's Club is a private organization with 65 members with the mission of enforcing laws and regulation for preserving and protecting fish and game in the State of New York. According to the Excelsior Sportsman's Club's president<sup>12</sup>, the Excelsior Sportsman's Club offers hunting opportunities, including big game such as deer and bear. The Excelsior Sportsman's Club also has a fishing preserve license with NYSDEC that allows members to fish the stocked lakes and ponds on the property without a license. Based on Millennium's site design, at the closest point, the new compressor station and associated fenced facilities would be about 0.3 mile from the Excelsior Sportsman's Club's property line. The distance to compressor station and the presence of forested land would minimize visibility of construction activities for Excelsior Sportsman's Club members and their guests, as well as mitigate dust and noise from construction. Operational impacts would be limited to noise, as it is unlikely that Excelsior Sportsman's Club members or their guests would be able to see the compressor station based on its location at the southeast end of the parcel, about 0.3 mile from the property boundary of the Excelsior Sportsman's Club. Impacts on wildlife and noise are discussed in sections B.3.3 and B.8.2, respectively.

The existing Ramapo Meter Station in Rockland County is within 0.25 mile of two parks: Kakiat County Park and Harriman State Park. Both parks are multi-use areas offering hiking, fishing, picnicking, and wildlife viewing opportunities. Harriman State Park, the second-largest park in the state, also has public camping areas. Expansion of the Ramapo Meter Station would not directly impact park facilities (e.g., trails, waterbodies, and structures) at either location, however a portion of the expansion is proposed to occur on land currently part of the Kakiat County Park about 640 feet from the nearest park facility. The park primarily comprises of forested land which would minimize visibility of construction work areas for visual receptors at the park, as well as

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<sup>12</sup> Comment letter provided as part of the public record for Docket No. PF16-3-000 on the FERC website at <http://www.ferc.gov/docs-filing/elibrary.asp>, in accession 20160415-0009.

mitigate dust and noise from construction. Millennium is currently negotiating an easement with Rockland County for this land. Given the presence of an existing facility at this location, and because the Project would not directly affect park facilities, the operational impacts on park users would be limited to indirect impacts associated with changes in the existing viewshed. Visual impacts are discussed in B.5.3.

The existing Hancock Compressor Station in Sullivan County is within 0.25 mile of State Route 97, the lower section of the Upper Delaware Scenic Byway (NYSDOT 2016). Since State Route 97 is about 0.2 mile from the compressor station, direct impacts on this byway would not be expected. However, indirect impacts would include visual impacts associated with the presence of construction equipment and workers in the Project area.

Given the distance to the aboveground facilities, impacts on users of the recreation special use areas would be temporary, limited to the period of active construction, lasting a few months at any one facility. The presence of forest buffers between these areas and Millennium's existing facilities, as well as the newly proposed Highland Compressor Station, visual impacts would be limited to with the movement of construction equipment and workers through the project area, as well as dust and noise from construction activities. Following construction, most open land uses would be able to continue such that operational impacts would be limited to air, noise, and visual impacts. Visual impacts are discussed below, while transportation, air, and noise impacts are discussed in section B.6.2, B.8.1, and B.8.2, respectively.

We received comments regarding the potential for the Eastern System Upgrade Project to affect the Bethel Woods Center for the Arts, Catskills Park, and a Museum in Livingston Manor that hosts several events on its grounds. The closest of these facilities to the Project is the Bethel Woods Center for the Arts which is about 7 miles north of the Highland Compressor Station site. The other two facilities are more than 20 miles north of the Project. We also received comments stating that the Highland Compressor Station site was part of the Eldred Preserve. As stated above, Millennium owns all the land that would be affected by the new compressor station, therefore this land is no longer a part of the Eldred Preserve. Further, we found no evidence that any land associated with the former preserve is protected by a conservation easement or actively managed.

## **5.4 Visual Resources**

### **Pipeline Facilities**

Visual resources along the proposed pipeline route are a function of geology, climate, and historical processes, and include topographic relief, vegetation, water, wildlife, land use, and human uses and development. Much of the areas along the pipeline that would be disturbed by the Project would be within or adjacent to existing right-of-way, consisting of Millennium's pipeline right-of-way and public roadways. As

a result, the visual resources along the majority of the Project have been previously affected by pipeline or other operations.

Visual impacts associated with the Project construction right-of-way and ATWS would include the removal of existing vegetation and the exposure of bare soils, as well as earthwork and grading scars associated with heavy equipment tracks, trenching, blasting, and machinery and tool storage. Other visual effects could result from the removal of large individual trees that have intrinsic aesthetic value; the removal or alteration of vegetation that may currently provide a visual barrier; or other changes that introduce contrasts in visual scale, spatial characteristics, form, line, color, or texture. The significance of these visual impacts would primarily depend on the quality of the viewshed, the degree of alteration of that view, the sensitivity or concern of potential viewers, and the perspective of the viewer.

Visual impacts would be greatest where the pipeline route parallels or crosses roads and the pipeline right-of-way may be visible to passing motorists, from residences where vegetation used for visual screening or for ornamental value is removed, and where the pipeline crosses forested areas. The duration of visual impacts would depend on the type of vegetation that is cleared or altered. The impact of vegetation clearing would be shortest in open areas where the re-establishment of vegetation following construction would be relatively fast (generally less than five years). The impact would be greater in forested land, which would take many years to regenerate. The greatest potential visual impact would result from the removal of large specimen trees, which would take longer than other vegetation to regenerate and, if located on the new permanent right-of-way, would be prevented from becoming re-established.

The Project vicinity is characterized by a mosaic of agricultural and open land, forested land, and developed areas. Additionally, as discussed above and presented in table A-3, a portion of the land that would be disturbed by the pipeline route would be within or adjacent to Millennium's existing right-of-way (29.3 acres). These factors would minimize the visual impact of construction. The visual effect of the pipeline would also be mitigated by the use of HDD construction methods at four locations where impacts on visual resources between the HDD entry and exit holes would be minimized (see section A.8.2).

After construction, most of the areas that would be disturbed by the pipeline would be restored and returned to preconstruction conditions in compliance with federal, state, and local permits; landowner agreements; and Millennium's easement requirements. The nominal 50-foot permanent right-of-way for the Huguenot Loop would overlap with Millennium's existing permanent easement about 25 feet along a majority of the Project route. The primary long-term visual effects associated with the pipeline would be the clearing of about 46.4 acres of forested vegetation. The permanent visual impacts of the pipeline would be limited to the 8.5 acres of forested vegetation that would be permanently cleared for the new permanent right-of-way.

## **Aboveground Facilities**

The visual impacts associated with the new aboveground facilities would be minimized by their location adjacent to or within existing aboveground facilities, by utilizing existing tree buffers for visual shields, or by a combination of both. The proposed Highland Compressor Station would be located on an 81-acre parcel of predominantly forested, undeveloped land located in a rural area bounded by Route 12/55 to the west and Millennium's existing right-of-way to the north. Several buildings would be constructed at the site including the compressor building, auxiliary building, and a controls building; however, 63.3 acres of the site would remain in their natural state, undisturbed by construction or operation of the Project.

Millennium has designed these facilities to be located toward the back of the parcel, such that the compressor station would be located about 2,913 feet away from Route 12/55. The terrain of the site and forested land would serve as visual buffers to motorists on Route 12/55 and for visual receptors on neighboring parcels, including the Excelsior Sportsman's Club. As previously discussed, the distance to the compressor station and its position within the parcel, as well as the presence of forested land would minimize visibility of construction activities and operation. Millennium is not proposing any additional screening at this site. However, Millennium has committed to limit outdoor lighting to the amount required for safe and proper operation of station security, including outdoor security cameras. All lights would have directional lighting to be positioned in a direction to minimize visibility to nearby visual receptors. As discussed in section B.8.2, the closest residence to the proposed new compressor station is 2,900 feet to the southwest, or about 0.5 mile away. Given the rural location of the compressor station site, rolling topography and existing forest areas, the number of visual receptors is limited. Therefore, overall impacts from the compressor station would be minor.

The visual impacts associated with the modifications at aboveground facilities would be minimized by proximity to adjacent developed areas along Millennium's existing system. Upgrades at the existing Hancock Compressor Station would include addition a new compressor unit and re-staging of an existing compressor. Several buildings would be constructed at the site including the compressor building and auxiliary building.

The existing compressor station is located on a 76-acre parcel in a rural area with scattered forested areas surrounding the facility. These forested areas would help to minimize visibility of the upgrades proposed at this facility, therefore Millennium is not proposing any additional screening at this site. Existing lighting at the facility is limited to the amount required for safe and proper operation of station security, including outdoor security cameras. Any lighting required for the new compressor building would be positioned in a direction to minimize visibility to nearby visual receptors. Following construction, the new facilities associated with the modification of the Hancock Compressor Station would be consistent with the existing facilities at the site. Given the

existing developed nature of the existing compressor station and the presence of a natural visual screening, we find the upgrades proposed at this existing facility would be consistent with the existing landscape.

Modifications to the Wagoner Interconnect would occur within the footprint of the existing facility and would not result in visual impacts on surrounding receptors during operation. Alternatively, upgrades proposed for Millennium's existing meter stations would require expansion of the facility footprints, mostly on nearby industrial/commercial land. Expansion of the Ramapo Meter Station would include impacts on 1.7 acres of forested land during construction. After the completion of construction, these aboveground facilities would be consistent with the existing meter station site. The Alternate Interconnect would be constructed along the pipeline right-of-way, near the Westtown Meter Station. The Alternate Interconnect would be constructed within the pig launcher/receiver proposed for the Valley Lateral Project, and within property owned by Millennium that would be permanently maintained as open land. Similarly, the pigging facilities would be constructed at the existing Huguenot Meter Station. By locating these facilities near existing developed sites, impacts on visual resources are minimized.

### **Contractor/Pipe Yards and Storage Areas**

Ground disturbance at contractor/pipe yards and staging areas would generally be limited to minor grading activities to stabilize the site for safe movement of vehicles and equipment, as well as safe placement of storage and office trailers. Two contractor/pipe yards would be located on land owned by Millennium and would be used for construction of Millennium's Eastern System Upgrade Project. Some forested land (0.9 acre) does occur within the proposed contractor/pipe yards, however, no tree clearing would be required for the Project. Following construction, contractor/pipe yards and staging areas would be restored to pre-construction conditions. As a result, there would be no permanent impacts on visual resources associated with the use of these yards. The only impacts at yards would be temporary during construction, when trailers, vehicles, pipe, and other construction-related material would be stored at these sites.

### **Access Roads**

To the extent feasible, existing public and private roads along the Project route would be used as primary means of accessing the pipeline right-of-way and aboveground facilities. In addition to existing access available by the use of public roads, Millennium has identified 20 access roads (4 new and 16 existing) for use during construction the Project, which would impact a total of 19.3 acres. Impacts on 12.0 acres of forested land due to road widening would include tree trimming and removal. Following construction, eight access roads (four existing and four new access roads) would be used for operation of the Project. These permanent access roads would result in 15.3 acres of new roadway, of which 10.6 acres would be associated with new permanent access roads. The

trimming of trees and maintenance of four new access roads, generally located along or near existing roads and/or right-of-way, would result in a permanent but negligible impacts on visual resources.

## 6. Socioeconomics

Socioeconomic impacts resulting from the construction and operation of the proposed new Huguenot Loop, Highland Compressor Station, Alternate Interconnect, pigging facilities, and access roads would primarily impact Orange and Sullivan Counties in New York. The Project would also include upgrades at existing facilities Delaware and Rockland Counties in New York. Some of these potential effects are related to the number of construction workers that would work on the Project and their impact on population, public services, and employment during construction. Other potential effects include an increase in local traffic, available housing, and tax revenue, as well as potential changes in property values.

### 6.1 Employment

Table B-13 provides a summary of demographic and socioeconomic conditions for the affected counties in the Project area. Based on the U.S. Bureau of Labor Statistics, the current unemployment rate for New York is 4.7 percent, while the unemployment rates in the counties crossed by the Project ranged from 4.7 percent in Rockland County to 5.9 percent in Delaware County (U.S. Bureau of Labor Statistics 2016a).

<b>State/County</b>	<b>Unemployment Rate<sup>a</sup></b>	<b>Vacant Housing Units<sup>b</sup></b>	<b>Rental Vacancy Rates<sup>b</sup></b>	<b>Hotels/Motels<sup>c</sup></b>	<b>RV Parks and Campgrounds<sup>d</sup></b>
New York	4.7	897,781	4.4	over 5,000	N/A
Delaware	5.9	11,852	6.0	65	70
Sullivan	5.3	20,478	8.8	82	94
Orange	4.8	13,540	4.8	160	87
Rockland	4.7	5,903	5.8	40	27
<sup>a</sup>	U.S. Bureau of Labor Statistics 2016a.				
<sup>b</sup>	U.S. Census Bureau 2016a				
<sup>c</sup>	HotelMotels 2016.				
<sup>d</sup>	Yellowbook 2016.				

Construction of the Eastern System Upgrade Project would require an estimated peak workforce of 325 workers. Based on previous experience in the region, Millennium anticipates that about 60 and 40 percent, of workers for the Huguenot Loop and aboveground facilities, respectively, would be local, although specialists and supervisory positions may be filled by non-local workers. Local workers would likely be residents of

one of the four counties in the Project area and reside within commuting distance of the Project.

Due to the short duration of construction, it is anticipated that most non-local workers would not be accompanied by their families. Construction of the Huguenot Loop would occur over a 12-month period, while construction of the new compressor station would last 8-10 months, and upgrades at existing facilities would be limited to a 4- to 8-month period. The introduction of non-local workers would be temporary and limited to, at most, a 12-month period. Based on the estimated peak workforce, at most, 154 workers would be hired locally; however, only about 72 of these positions would occur over the 12-month period associated with construction of the Huguenot Loop. Overall construction of the Project would result in a temporary and negligible impact on unemployment in the Project area.

Millennium would hire two full-time staff for operation of the Highland Compressor Station. These positions would represent a negligible long-term increase in employment in Sullivan County. No other operational staff would be required for operation of the Project.

## **6.2 Transportation**

Construction of the Project may result in minor, temporary impacts on roadways due to construction and the movement of heavy equipment and workers. The Project would cross 18 paved roads, including 16 public roads and 2 private roads. All public roads crossed by the Project and one private road (Tufano Lane) would be crossed by trenchless methods (either bore or HDD), thereby avoiding direct impacts on traffic; one private road (Mi Bar Lane at MP 5.1) would be crossed by open cut in accordance with a site-specific residential construction plan (see appendix D). One active railroad (MP 1.7) and one abandoned railroad (MP 7.6) would also be crossed by conventional bore. Construction at public road crossings would be done in compliance with applicable permits. Because public roads would not be open-cut, traffic delays due to road crossings are not expected.

A minor increase in traffic would occur during the 12-month construction period from the temporary influx of workers moving to and from the Project area; however, Millennium anticipates that much of this travel would occur outside of peak traffic times. Minimal traffic delays would also occur during the transportation of construction materials, specifically oversized equipment, on public roadways. Millennium would obtain all permits necessary to transport construction materials on public roadways. Overall, we conclude impacts on transportation would be temporary, minor, and not significant.

### 6.3 Housing

As previously indicated, Millennium anticipates that about half of the 325 workers required for construction would already reside in the Project area. Non-local workers, however, would relocate to the Project area for at most a 12-month period. As of 2010, there were over 50,000 vacant housing units in Project counties (U.S. Census Bureau 2016b). The five-year average rental vacancy rate in the Project area ranges from a low 4.8 percent in Orange County to a high of 8.8 percent in Sullivan County (U.S. Census Bureau 2016b). In addition, there are 347 hotels, motels, and bed and breakfasts, and 278 recreational vehicle parks and campgrounds in the Project area (HotelMotels 2016, Yellowbook 2016). Based on the number of available rental units, hotels/motels, recreational vehicle parks, and campgrounds in the Project counties, we conclude that there would be sufficient housing available for the anticipated Project workforce.

Operation of the Project would require two new full-time workers at the Highland Compressor Station; therefore, impacts on public housing during operation of the Project would be negligible. Overall, impacts on housing in the vicinity of the Project area would be minor and limited to the construction phase.

### 6.4 Tax Revenue

Millennium projected that \$1.6 million of the \$41 million in construction workforce payroll would be spent on local amenities such as food, housing, and other living expenses (see table B-14). As such, sales and state taxes would be paid by local and non-local workers on goods and services bought locally with money earned from the Project. In addition, Millennium would locally procure some materials needed for construction of the Project. Therefore, during construction, the Project would benefit the economies of Delaware, Sullivan, Orange, and Rockland Counties, New York.

<b>Facility</b>	<b>Total Construction Payroll</b>	<b>Local Workforce Construction Payroll</b>	<b>Goods and Services Purchased Locally</b>	<b>Operational Payroll</b>
Huguenot Loop	\$18,000,000	\$11,000,000	\$700,000	N/A
Highland Compressor Station	\$9,500,000	\$4,000,000	\$400,000	\$100,000
Hancock Compressor Station	\$7,500,000	\$3,000,000	\$300,000	N/A
Ramapo Meter Station	\$6,000,000	\$2,500,000	\$200,000	N/A
<b>Project Total</b>	<b>\$41,000,000</b>	<b>\$20,500,000</b>	<b>\$1,600,000</b>	<b>\$100,000</b>

During operation, the proposed Eastern System Upgrade Project would become a new source of tax revenue that could be used to finance public school districts, local city

and county governments, and public safety services such as police and fire departments. Millennium's payment of local taxes would result in a long-term, positive impact on the local municipalities in the Project area.

## 6.5 Property Values and Insurance

The potential impact of a pipeline on the value of a property is related to many property-specific variables, including the size, current value of the land, available utilities and services, current land use, and value of adjacent properties. Land values are determined by appraisals that would take into account objective characteristics of the property, such as size, location, and any improvements. While there is recently published literature indicating that there is no identifiable or consistent link between the presence of natural gas pipeline easements and residential property values (Diskin *et al.* 2011, Wilde *et al.* 2012, INGAA Foundation 2016), valuation is subjective and is generally not considered in appraisals. The presence of a pipeline, and the restrictions associated with a pipeline easement, could influence a potential buyer's decision to purchase a property. If a buyer is looking for a property for a specific use that the presence of the pipeline renders infeasible, then the buyer may decide to purchase another property more suitable to their objectives. For example, a buyer wanting to develop the land for a commercial property with sub-surface structures would likely not find the property suitable, but farmers looking for land for grazing or additional cropland could find it suitable for their needs. This would be similar to other buyer-specific preferences that not all homes have, such as close proximity to shopping or access to high quality school districts.

Millennium's existing permanent easement gives them the right to maintain the existing right-of-way as necessary for pipeline operation. Where the proposed Huguenot Loop construction activities occur within Millennium's existing right-of-way, they would not need to acquire new easements or property to operate those proposed facilities. However, Millennium would need to acquire new easements or acquire land to construct and operate the pipeline where the proposed activities require workspace outside of or deviate from the existing right-of-way. Millennium would acquire easements for both the temporary (construction) and permanent right-of-way where applicable.

The upgrades proposed at Millennium's existing aboveground facilities would be situated on previously disturbed industrial properties that are owned by Millennium, or on land currently under negotiation for establishment of a permanent easement. These facilities would be located adjacent to existing facilities that are similar in nature, and while they would introduce a new visual element at the respective site, they would not significantly increase the noise at any noise sensitive area, alter the visual character of the area, significantly increase the safety risk in the surrounding communities, or result in other impacts that would significantly impact adjacent property values.

The existing property values in these areas account for the presence of the existing pipeline and/or aboveground facility (meter station or compressor station) infrastructure.

As such, these pipeline and aboveground facilities would not result in any long-term changes that would negatively impact property values outside of the pipeline right-of-way or aboveground facility sites.

The Highland Compressor Station would be a new facility situated on a predominately forested parcel that is currently owned Millennium; therefore, potential impacts on property values would be on adjacent or nearby properties and would likely be attributable to noise, visual impacts, and/or negative public perception. To minimize noise and visual impacts, the compressor station would be located at the back of the parcel about 2,900 feet from the roadway and nearest residence, as such the compressor station would not be visible to these receptors. The location of this parcel along State Route 55 represents a form of industrialized activity, even though daily traffic may be low. Given the existing vegetative screening, operation of Highland Compressor Station would not significantly increase the noise at any noise sensitive area, significantly increase the safety risk in the surrounding communities, or result in other impacts that would significantly impact adjacent property values. However, any current landowners who believe that their property values have been negatively impacted could appeal to the local tax agency for reappraisal and potential reduction of taxes.

Due to negative public perception sometimes associated with energy infrastructure, certain prospective homebuyers may find the compressor station to be a detractor and could influence a potential buyer to not purchase a property. Nevertheless, each potential purchaser would make a decision to purchase based on his or her planned use of the property in question (e.g., principal residence, vacation home, agriculture or grazing, business, and/or future subdivision), with each purchaser considering differing factors that affect the purchasing decision. This statement is supported by the results of a 2015 case study prepared by Real Property Service, LLC for National Fuel Gas Supply Corporation, which assessed historical property sales data for residences in proximity to one of seven compressor stations located in New York<sup>13</sup>, including Millennium's Hancock Compressor Station (Griebner 2015). The authors found no quantifiable impact on property values or appreciation rates for homes close proximity to a compressor station. Further, sales of homes in proximity to a compressor station, as well as construction of one new home within 0.26 mile of a compressor station, support the willingness of the certain buyers to purchase homes in proximity to these facilities. The authors state their findings are consistent with compressor stations that are located on large parcels of land with natural buffers (trees and/or hills), in rural communities, set-back off of roadways, which is consistent with the location of the proposed Highland Compressor Station.

We received a comment expressing concern that, once constructed, the Project would result in higher homeowner insurance rates on residential properties. FERC staff

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<sup>13</sup> Each facility was evaluated on an individual basis.

conducted independent research on this matter for another natural gas project in New York under Docket No. CP13-499-000 (FERC 2014). FERC representatives called a number of insurance agencies to inquire whether the presence of a utility could change the terms of an existing or new residential insurance policy. FERC asked the insurance agency contacts to identify those factors that would influence a change in a policy (e.g., the type of utility and proximity of the residence to the utility), how the policy would change, and if there was potential for a policy to be cancelled. While the results of this investigation suggested that there was potential for a residential insurance policy to be affected by the presence of a utility, the extent of the effect would be dependent on the terms of the individual landowner's policy and the terms of the policy held by the utility company. Therefore, the insurance agency contacts were not able to quantify (in dollars or percent) the change in a policy premium. A 2016 study conducted by the Integra Reality Resources based on correspondence with State Farm, Allstate, and Farmers insurance corporate offices, found that presence of a pipeline would not hinder the ability for the homeowner to acquire property insurance or impact the cost of such a policy.

## **6.6 Environmental Justice**

In accordance with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, we address the potential for disproportionately high and adverse health or environmental effects of the Project on minority and low income populations. NYSDEC's New York State Office of Environmental Justice (NYSOEJ) (2016) defines a potential environmental justice area as a Census Block Group of 250 to 500 households with populations that meet at least one of the following three criteria according to the 2000 Census:

1. "At least 51.1 percent of the population in an urban area reported themselves to be members of minority groups; or
2. At least 33.8 percent of the population in a rural area reported themselves to be members of minority groups; or
3. At least 23.59 percent of the population in an urban or rural area had household incomes below the federal poverty level."

Based on available mapping provided by the NYSOEJ, no potential environmental justice areas would be crossed. According to the NYSOEJ maps, which are based on U.S. Census data from 2000, the nearest potential environmental justice areas are: Sidney about 31.3 miles southeast of the Hancock Compressor Station in Delaware County, Bethel about 6.8 miles south of the Highland Compressor Station in Sullivan County, Mount Hope about 5.8 miles southwest of MP 0.5 of the Huguenot Loop, and Hillburn about 2.2 miles northeast of the Ramapo Meter Station in Rockland County (NYSOEJ 2016). We also reviewed more recent demographic data reported by the U.S. Census Bureau (U.S. Census Bureau 2016a). Specifically, we considered block groups that

would be crossed by the Huguenot Loop and block groups within 0.5 mile of the Highland Compressor Station, Hancock Compressor Station, and Ramapo Meter Station. None of the counties (Delaware, Orange, Rockland, and Sullivan) or the block groups considered have minority populations exceeding 50 percent. Further, all of the block groups considered had poverty rates that were similar or lower than the respective county.

Because of the Project's location outside of a potential environmental justice area, it is unlikely that the potential environmental justice area would be negatively affected by the Project. Millennium would comply with all regulatory requirements associated with noise and the storage and use of hazardous chemicals such as fuel. Lastly, the Project area would be far enough way that it would not be visual from the nearest potential environmental justice area. As such, we find that the Project would not disproportionately affect minority or low income populations.

## **7. Cultural Resources**

Section 106 of the NHPA, as amended, requires the FERC to take into account the effects of its undertakings (including issuance of Certificates) on properties listed in, or eligible for listing in, the National Register of Historic Places (NRHP), and to afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. Millennium, as a non-federal party, is assisting the Commission in meeting our obligations under Section 106 and the implementing regulations by preparing the necessary information, analyses, and recommendations, as authorized by 36 CFR 800.2(a)(3).

### **7.1 Cultural Resource Investigations**

Millennium completed cultural resources survey investigations of the Project areas to determine if construction activities associated with the Eastern System Upgrade Project would have the potential to affect previously identified cultural resources within the Project's area of potential effects (APE). The APE for archaeological resources includes all surface and subsurface areas affected by construction, operation, and maintenance of the proposed facilities. More specifically, the archaeological APE typically includes a 200-foot-wide survey corridor over the proposed pipeline right-of-way. The archaeological APE also includes access roads, which were surveyed within an approximately 50-foot-wide survey corridor. In addition, any areas outside of the 200-foot-wide survey corridor, such as the contractor/pipe yards, staging areas, and meter stations, were also included within the archaeological APE and were subject to field survey.

The architectural APE includes project areas where direct effects on NRHP-listed or eligible architectural historic resources may occur, including within the 200-foot-wide survey corridor and within all areas proposed for the construction and operation of aboveground facilities. In addition to direct effects, Millennium assessed the

architectural APE for indirect effects, which includes historic architectural resources located adjacent to the proposed pipeline and existing aboveground facilities and within a 0.5-mile radius of the new proposed Highland Compressor Station site.

### **Summary of Consultations**

On January 28, 2016, Millennium submitted a request for Section 106 consultations with the New York State Historic Preservation Officer (SHPO). On March 1, 2016, Millennium's initial archaeological survey report was submitted to the SHPO describing all accessible areas surveyed at that time; a revised survey report was submitted for SHPO review in July 2016 for the remaining areas. The SHPO concurred with Millennium's findings and recommendations on March 9 and August 9, 2016, respectively.

On April 14, 2016, the SHPO requested an historic architectural survey be conducted for the Project. On July 29, 2016, Millennium submitted a letter report to the SHPO for the historic architectural resources survey completed for the Project. SHPO concurrence with the letter report was received on December 8, 2016.

## **7.2 Survey Results**

Prior to initiating the archaeological field survey, background research indicated that 10 previously recorded archaeological resources were located within or adjacent to the archaeological APE. Of these, only one known resource, Site 07110.000043 (an abandoned historic railroad bed), was re-identified during survey within the APE. Millennium proposes to avoid this resource by installing the pipeline beneath the railroad bed using the conventional bore technique. None of the other previously recorded sites were identified within the archaeological APE during the field survey.

As a result of the field surveys, Millennium recorded seven new archaeological sites described below:

- No. 07105.000147 – precontact site composed of buried lithic debris and ceramic fragments dated between circa A.D. 1000 and 1600;
- No. 07105.000142 – precontact site composed of a buried lithic scatter of unknown temporal affiliation; also contained a single whiteware ceramic sherd of unknown historic period affiliation;
- No. 07107.000042 – precontact site buried lithic scatter of unknown temporal affiliation; also contained a single whiteware ceramic sherd of unknown historic period affiliation;
- No. 07107.000041 – historic site comprised of a late nineteenth-century farmstead;

- No. 07107.000043 – historic site composed of a mid-nineteenth through late twentieth-century historic farmstead;
- No. 07105.000146 – historic site composed of an early twentieth-century residence constructed from mortared stone; and
- No. 07105.000148 – multicomponent site including a precontact lithic scatter of unknown temporal affiliation and a nineteenth century bank barn.

Based on low research potential, no further work was recommended at two of the precontact sites (07105.000142 and 07107.000042) and one of the historic sites (07105.000146). The New York SHPO concurred with these recommendations. Four of the newly identified sites (07105.000147, 07107.000041, 07107.000043, and 07105.000148) were recommended for avoidance or additional testing would be necessary to determine the eligibility of the resources for listing on the NRHP. Site 07105.000147 and Site 07107.000043 are located outside of the Project workspace and would be avoided by Project construction.

Prior to construction, Millennium would install protective fencing at the edge of the workspace to avoid Site 07107.000041. Similarly, prior to construction near multicomponent Site 07105.000148, a mechanical excavator would be used to place surface matting composed of timber and composite materials over the site. All Project construction work in the vicinity of the site would be done on top of the mats. Following construction, the mats would be removed. As such, disturbance of Site 07105.000148 would be avoided by Project construction activities.

The Project, as designed, would have no effect on historic properties. Should Project plans change and impacts on Sites 07105.000147 and 07105.000148 were deemed unavoidable, additional testing would be necessary to determine their NRHP eligibility. The New York SHPO concurred with these recommendations and the use of protective measures. We agree.

In addition, 36 segments of stone walls/fences were recorded within the archaeological APE. Of these, six segments of walls/fences would be avoided during construction by using the HDD construction method. Millennium would use existing openings in stone walls/fences to construct the Huguenot Loop. Where openings are not present, each wall would be photographed and mapped prior to removal by a cultural resources monitor. Following construction, Millennium would restore most removed sections, although some rock wall sections would be left open for future access along the right-of-way. All activity in the vicinity of stone walls would be monitored by a cultural resources monitor. The New York SHPO concurred with these recommendations and the use of protective measures. We agree.

Prior to conducting the architectural field survey, background research revealed one previously recorded historic resources located within the architectural APE. The Hulet Clark Farmstead was listed on the NRHP in 1998 and is located on a 75-acre tract adjacent to Millennium's existing pipeline right-of-way and the proposed pipeline. The field survey indicated that the structures associated with the farmstead including a dwelling, barn, and chicken house, are set back approximately 0.25 mile from the Project area. Because the pipeline would be buried, not visible and would have no impact on the integrity of the Hulet Clark Farmstead. In addition, there are no proposed or existing aboveground facilities are located within the viewshed of the Hulet Clark Farmstead. The field survey also identified 18 new resources within the architectural APE. Of these, 10 are located adjacent to the proposed pipeline and 8 are located within 0.5 mile of the proposed Highland Compressor Station, none of which would be visible to or from the new compressor station due to the presence of dense vegetation. The SHPO concurred with these findings and recommendations in the architectural survey report on December 8, 2016. We agree.

### **7.3 Tribal Consultation**

Millennium sent letters to four federally recognized tribes (Tribes) on January 8, 2016: the St. Regis Mohawk Tribe, the Delaware Tribe of Indians, the Stockbridge-Munsee Band of Mohicans, and the Delaware Nation. The Delaware Tribe of Indians and the Stockbridge-Munsee Band of Mohicans acknowledged receipt of the consultation letter and requested copies of the archaeological survey report. As described in section A.4, the Delaware Tribe of Indians and the Stockbridge-Munsee Band of Mohicans participated as cooperating agencies in the preparation of this EA. Millennium provided copies of the archaeological survey reports to both Tribes. The Stockbridge-Munsee Band of Mohicans concurred with the recommendations in the original survey report on March 7, 2016. On December 6, 2016, the Stockbridge-Munsee Band of Mohicans concurred with the archaeological resource management recommendations outlined in the revised survey report. No other comments have been filed.

### **7.4 Unanticipated Discoveries**

In consultation with the SHPO in March and July 2016, Millennium developed *Procedures Guiding the Discovery of Unanticipated Cultural Resources and Human Remains*, a plan that would be implemented in the event that previously unreported archaeological sites or human remains were encountered during construction. The plan provides for the notification of interested parties, including Tribes, in the event of any discovery. The New York SHPO concurred with the plan. We also find the plan to be acceptable.

## 7.5 Compliance with the National Historic Preservation Act

Based on the results of the cultural resources surveys, and through consultation with the New York SHPO and Tribes, we conclude that the Project, as designed, would have no effect on historic properties. The SHPO has concurred with the results of the cultural surveys and therefore Section 106 consultation is complete. Should Project plans change, additional cultural resources investigations would be required.

## 8. Air and Noise

### 8.1 Air Quality

Air quality would be affected by construction and operation of the Project. Temporary air emissions associated with construction activities involving the proposed pipeline and aboveground facilities would include fugitive dust from soil disruption and combustion emissions from construction equipment. However, the majority of the air emissions associated with the Project would result from long-term operation of the new Highland Compressor Station, the addition of a new compressor engine at the existing Hancock Compressor Station, and the addition of a new heater at the Ramapo Meter Station.

#### Existing Air Quality

The Project area is in southeastern New York, where the climate is characterized as continental. Winters are cold to moderately cold and summers are warm to hot. Maximum average daily temperatures peak at 81.9 degrees in July and minimum average daily temperatures are typically lowest in January at 18.5 degrees. Precipitation in the Project area varies, with an average monthly high of 4.1 inches in September and 2.0 inches in February (NOAA 2015).

Ambient air quality is protected by federal and state air quality standards. The EPA establishes National Ambient Air Quality Standards (NAAQS) for seven air contaminants designated "criteria air pollutants," including nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), ozone, sulfur dioxide (SO<sub>2</sub>), lead, inhalable particulate matter (PM) with an aerodynamic diameter less than or equal to 2.5 microns (PM<sub>2.5</sub>), and PM with an aerodynamic diameter less than or equal to 10 microns (PM<sub>10</sub>)<sup>14</sup>. The NAAQS include primary standards to protect human health, including sensitive populations such as children, the elderly, and asthmatics, and secondary standards to protect public welfare, including protection against reduced visibility and damage to crops, vegetation, animals, and buildings.

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<sup>14</sup> The current NAAQS are listed on EPA's website at <https://www.epa.gov/criteria-air-pollutants/naaqs-table>.

Under the Clean Air Act, each state prepares a State Implementation Plan (SIP) to demonstrate the state's air quality management program to attain or maintain the primary and secondary NAAQS. The SIP may also include stricter standards than the NAAQS. NYSDEC implements the SIP in New York and has established more stringent air quality standards for SO<sub>2</sub>, NO<sub>2</sub>, CO, PM, hydrogen sulfide, beryllium, fluorides, and non-methane hydrocarbons.

The EPA now defines air pollution to include GHGs, finding that the presence of GHGs in the atmosphere may endanger public health and welfare through climate change. As with any fossil fuel-fired project or activity, the Project would contribute GHG emissions. The primary GHGs that would be emitted by the Project are carbon dioxide (CO<sub>2</sub>), methane, and nitrous oxide (NO<sub>x</sub>). Emissions of GHGs are typically quantified in terms of carbon dioxide equivalents (CO<sub>2</sub>e) by multiplying emissions of each GHG by its respective global warming potential (GWP). The GWP is a ratio relative to CO<sub>2</sub> regarding each GHG's ability to absorb solar radiation and its residence time in the atmosphere. Accordingly, CO<sub>2</sub> has a GWP of 1 while methane has a GWP of 25, and NO<sub>x</sub> has a GWP of 298.<sup>15</sup> There are no federal regulations at this time limiting the emissions of CO<sub>2</sub>. Also, CO<sub>2</sub> reporting requirements for stationary sources do not apply to construction emissions. However, to be consistent with EPA's definition of air pollution to include GHGs, estimates of GHG emissions for construction and operation are provided below. Impacts from GHG emissions (i.e. climate change) are discussed in more detail in section B.10.7.

The EPA has established Air Quality Control Regions (AQCR), defined as contiguous areas considered to have relatively uniform ambient air quality, and treated as single geographical units for reducing emissions and determining compliance with the NAAQS. The AQCRs are intra- and interstate regions, such as large metropolitan areas, where improvement of the air quality in one portion of the AQCR requires emission reductions throughout the AQCR. Each AQCR, or portion thereof, is designated based on compliance with the NAAQS, for each pollutant. Designations fall under three main categories as follows: "attainment" (areas in compliance with the NAAQS); "nonattainment" (areas not in compliance with the NAAQS); or "unclassifiable" (areas lacking data to determine attainment). Areas formerly designated as nonattainment that have since demonstrated compliance with the NAAQS are considered "maintenance areas". Maintenance areas may be subject to more stringent regulatory requirements similar to nonattainment areas, to ensure continued attainment of the NAAQS. The SIP

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<sup>15</sup> The GWPs are based on a 100-year time period. We have selected their use over other published GWPs for other timeframes because these are the GWPs that the EPA has established for reporting GHG emissions and air permitting requirements. This allows for a consistent comparison with these regulatory requirements.

must include measures identifying how applicable air quality standards are achieved as well as maintained in each AQCR.

The entire Project area is designated as attainment for SO<sub>2</sub>, CO, NO<sub>2</sub>, PM<sub>10</sub>, and lead; however, Orange and Rockland Counties are within the designated New York-N. New Jersey-Long Island, NY-NJ-CT PM<sub>2.5</sub> maintenance area, and Rockland County is within the designated New York-N. New Jersey-Long Island, NY-NJ-CT ozone nonattainment area. New York is also within the Northeast Ozone Transport Region which includes 11 northeastern states in which ozone transports from one or more states and contributes to a violation of the ozone NAAQS in one or more other states. States in this region are required to submit a SIP, stationary sources are subject to more stringent permitting requirements, and various regulatory thresholds are lower for the pollutants that form ozone, even if they meet the ozone NAAQS.

The EPA and state and local agencies have established a network of ambient air quality monitoring stations to measure and track the background concentrations of criteria pollutants across the United States. This data is then used by regulatory agencies to compare the air quality of an area to the NAAQS. Background air quality data in the region surrounding each compressor station were obtained from representative air quality monitoring stations.

### **Federal Air Quality Requirements**

The Clean Air Act, and its amendments, provide the federal statutes and regulations governing air pollution in the United States. The provisions of the Clean Air Act that are applicable to the Project are discussed below.

### **Air Permitting**

New Source Review (NSR) is a pre-construction air permit program designed to protect air quality when air pollutant emissions are increased either through the construction of new stationary sources or modifications to existing stationary sources. In areas with good air quality, NSR ensures that the new emissions do not degrade the air quality, which is achieved through the implementation of the Prevention of Significant Deterioration (PSD) permitting program for major sources or state permit programs for minor sources. In areas with poor air quality, Nonattainment NSR ensures that the new emissions do not inhibit progress toward cleaner air. In addition, NSR ensures that any large, new, or modified industrial source employs appropriate air pollution control technologies. The NYSDEC administers minor source NSR program and the major source Nonattainment NSR and PSD program in New York.

Based on the estimated operating emissions presented in table B-17, below, major source NSR permits would not be required, but minor source air permits would be needed from the NYSDEC for construction and operation of the proposed new Highland

Compressor Station and modification of the Hancock Compressor Station. Any permits required for work at the Ramapo Meter Station would be obtained by Algonquin, in accordance with agreements between Millennium and Algonquin regarding operation and ownership responsibilities at the Ramapo Meter Station. The planned new heater at the Ramapo Meter Station is unlikely to require major source permitting, and operational emissions are not further quantified. All initial permit applications were submitted for these facilities as described in table A-11 (see section A.10).

Title V is an operating air permit program run by each state. Based on the potential emission rates for each stationary source facility presented in table B-17 below, the new Highland Compressor Station and proposed modified Ramapo Meter Station would not require Title V major source permits. However, the Hancock Compressor Station would be required to obtain a Title V permit.

### **New Source Performance Standards**

The EPA promulgates New Source Performance Standards (NSPS) to establish emission limits and fuel, monitoring, notification, reporting, and recordkeeping requirements for stationary source types or categories. These regulations apply to new, modified, or reconstructed sources. NSPS Subpart JJJJ sets emission standards for NO<sub>x</sub>, CO, and VOCs from new stationary spark ignition internal combustion engines. Subpart JJJJ would apply to the new emergency engines at the Highland and Hancock Compressor Stations. NSPS Subpart KKKK sets emission standards for NO<sub>x</sub> and SO<sub>2</sub> from new stationary combustion turbines, and would apply to the new turbines at the Highland and Hancock Compressor Stations. NSPS Subpart OOOOa implements the requirement of periodic surveys using optical gas imaging with the intent to reduce methane emissions from equipment leaks at compressor stations. Subpart OOOOa would apply to the Highland and Hancock Compressor Stations. Millennium has stated that it would comply with all applicable requirements of these NSPS.

### **National Emission Standards for Hazardous Air Pollutants**

The 1990 Clean Air Act amendments established a list of 189 hazardous air pollutants (HAP), resulting in the promulgation of National Emission Standards for Hazardous Air Pollutants (NESHAP). The NESHAPs regulate HAP emissions from specific source types located at major or area sources of HAPs by setting emission limits, monitoring, testing, record keeping, and notification requirements. The proposed new Highland Compressor Station and modifications to the Hancock Compressor Station both include the addition of a new emergency stationary internal combustion engine, which would require compliance with subpart ZZZZ. Millennium would comply with Subpart ZZZZ by meeting the requirements of NSPS JJJJ.

## General Conformity

The General Conformity Rule was developed to ensure that federal actions in nonattainment and maintenance areas do not impede states' attainment of the NAAQS. The lead federal agency must conduct a conformity analysis if a federal action would result in the generation of direct and indirect emissions that would exceed the general conformity applicability threshold levels of the pollutant(s) for which an air basin is designated nonattainment or maintenance.

Conforming activities or actions should not, through additional air pollutant emissions:

- cause or contribute to new violations of the NAAQS in any area;
- increase the frequency or severity of any existing violation of any NAAQS; or
- delay timely attainment of any NAAQS or interim emission reductions.

The General Conformity Rule entails both an applicability analysis and a subsequent conformity determination, if applicable. A General Conformity Determination must be completed when the total direct and indirect emissions of a project would equal or exceed specified pollutant thresholds on a calendar year basis for each nonattainment or maintenance area.

The operational emissions that would be permitted or otherwise covered by major or minor NSR permitting programs are not subject to the general conformity applicability analysis. Estimated emissions for the Project subject to review under the General Conformity thresholds (construction emissions and operational emissions not subject to major or minor NSR permitting), along with a comparison to the applicable general conformity threshold are presented in table B-15. Detailed emission calculations for the emission estimates identified in table B-15 were filed in appendix 9B of Millennium's July 20, 2016 application.

As shown in table B-15, during both construction and operation, emission estimates would not exceed general conformity applicability thresholds. Based upon this evaluation, a general conformity determination is not required.

<b>Table B-15 Comparison of Emissions for the Eastern System Upgrade Project to General Conformity Thresholds</b>						
<b>Air Pollutant</b>	<b>Designated Area</b>	<b>Threshold (tpy)</b>	<b>Pollutant or Precursor</b>	<b>2017 Construction Emissions (tpy)</b>	<b>2018 Construction Emissions (tpy)</b>	<b>Ongoing Operational Emissions (tpy)</b>
Ozone	Rockland County	50	VOC	0.0	0.34	-- <sup>b</sup>
		100	NO <sub>x</sub>	0.0	0.33	-- <sup>b</sup>
PM <sub>2.5</sub>	Orange County	100	PM <sub>2.5</sub>	2.14	4.08	0.0
	Delaware County	100	PM <sub>2.5</sub>	0.29	0.96	0.66
tpy = metric tons per year.						
<sup>a</sup> General Conformity is only applicable to nonattainment or maintenance areas. Thresholds for each pollutant are based on the severity of the nonattainment areas or maintenance area where the Project is located. Pollutants and counties for which the Project would not require a General Conformity determination are not shown.						
<sup>b</sup> Operational emissions for the proposed fuel gas heater at the Ramapo Meter Station have not been quantified; however, the planned new heater is unlikely to require major source permitting or exceed general conformity thresholds.						

### **Greenhouse Gas Mandatory Reporting Rule**

The EPA's Mandatory Reporting of Greenhouse Gases Rule requires reporting from applicable sources of GHG emissions if they emit greater than or equal to 25,000 metric tons of GHG (as CO<sub>2</sub>e) in one year. The Mandatory Reporting Rule is not a permit, does not require emission control devices, and is strictly a reporting requirement for stationary sources based on actual emissions. Although the rule does not apply to construction emissions, we have provided GHG construction emission estimates, as CO<sub>2</sub>e, for accounting and disclosure purposes below. Operational GHG emission estimates for the Project are also presented, as CO<sub>2</sub>e. Based on the emission estimates presented, actual GHG emissions from operation of the Hancock and Highland Compressor Stations, each of which would be considered separate stationary sources, have the potential to exceed the 25,000-metric tons per year (tpy) reporting threshold for the Mandatory Reporting Rule. Recent additions to the Mandatory Reporting Rule effective for calendar year 2016 require reporting of GHG emissions generated during operation of natural gas pipeline transmission system, which would include blowdown emissions, equipment leaks, and vent emissions at compressor stations, as well as blowdown emissions between compressor stations (40 CFR 98, Subpart W). Therefore, if the actual emissions during operations from any of the compressor stations are equal to or greater than 25,000 metric tpy, Millennium would be required to report GHG emissions under this rule.

### **State Air Quality Regulations**

This section discusses the potentially applicable state air regulations for the Project. Within Title 6 New York Codes, Rules, and Regulations (NYCRR) Parts 217 and 248, NYSDEC has implemented programs that are relevant to heavy construction

equipment and passenger vehicles for transport of workers to the Project site. These standards impose idling restrictions (6 NYCRR 217-3) and diesel engine retrofitting (6 NYCRR 248). The Project would be subject to these programs. The New York Vehicle Inspection Program is designed for light-duty vehicles. The Heavy Duty Diesel Vehicle Program is for on-road diesel powered vehicles greater than 8,500 pounds gross vehicle weight rating. Both of these programs require annual inspections for air emissions.

### **Construction Emissions Impacts and Mitigation**

Emissions associated with construction activities generally include: 1) fuel combustion exhaust emissions from operation of construction equipment, 2) fugitive dust emissions associated with construction vehicle movement on unpaved surfaces, and 3) fugitive dust associated with grading, trenching, backfilling, and other earth-moving activities. The exhaust emissions depend on variety of factors including the number and types of equipment, fuel burned, and hours of operation. Fugitive dust emission levels vary in relation to moisture content, composition, and volume of soils disrupted during construction. Estimated construction emissions for the Project are shown in table B-16.<sup>16</sup>

Millennium would use busses or vans to transport construction workers to the work site as practicable, thereby reducing the number of vehicles on unpaved roads. Fugitive dust and other emissions from construction activities generally do not result in a significant increase in regional pollutant levels, although local pollutant levels could increase temporarily. Millennium would implement the measures in its Fugitive Dust Control Plan to reduce fugitive emissions through the application of dust suppressants (such as water) to disturbed work areas, avoiding excessive vehicle speeds on unpaved roads, covering open-body haul trucks, maintaining construction entrances at road access points, and providing wash stations at problem areas. Millennium's Chief Inspector and EI would be responsible for identification of areas where dust control measures are needed, and for ensuring that measures are effective. We have reviewed the Fugitive Dust Control Plan and find it acceptable.

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<sup>16</sup> Detailed emission calculations were provided in Millennium's application filed on July 20, 2016 and supplemental filings data on August 4, 2016. These emission calculations can be found on the FERC eLibrary website using Accession Numbers 20160729-5231, 20160804-5104, and 20160804-5117.

**Table B-16  
Summary of Estimated Emissions from Construction of the Eastern System Upgrade Project<sup>a</sup>**

Source	2017 Construction Emissions (tpy)							2018 Construction Emissions (tpy)						
	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	CO <sub>2e</sub>	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	CO <sub>2e</sub>
<b>Huguenot Loop, Huguenot Meter Station, Westtown Meter Station, and Wagoner Interconnect</b>														
Commuter transit	0.40	<0.01	2.47	<0.01	<0.01	0.05	243	0.79	<0.01	5.34	0.02	0.02	0.09	544
On-road vehicles	0.18	<0.01	0.04	<0.01	<0.01	<0.01	48	0.35	<0.01	0.08	0.01	<0.01	0.01	107
Off-road vehicles	11.89	0.02	9.06	0.68	0.68	1.18	3,019	19.70	0.05	17.80	1.15	1.15	2.20	6,360
Fugitive dust	0.0	0.0	0.0	13.55	1.43	0.0	0.0	0.0	0.0	0.0	23.92	2.86	0.0	0.0
<b>Subtotal</b>	<b>12.46</b>	<b>0.02</b>	<b>11.57</b>	<b>14.24</b>	<b>2.12</b>	<b>1.24</b>	<b>3,309</b>	<b>20.84</b>	<b>0.05</b>	<b>23.22</b>	<b>25.10</b>	<b>4.04</b>	<b>2.30</b>	<b>7,011</b>
<b>Highland Compressor Station</b>														
Commuter Transit	0.22	<0.01	1.25	<0.01	<0.01	0.03	131	0.45	<0.01	2.70	0.01	0.01	0.05	294
On-road vehicles	0.05	<0.01	0.06	<0.01	<0.01	<0.01	15	0.35	<0.01	0.08	0.01	<0.01	0.01	107
Off-road vehicles	0.61	<0.01	0.27	0.05	0.05	0.07	189	3.24	<0.01	3.04	0.32	0.32	1.03	921
Fugitive dust	0.0	0.0	0.0	2.43	0.24	0.0	0.0	0.0	0.0	0.0	5.99	0.62	0.0	0.0
<b>Subtotal</b>	<b>0.88</b>	<b>&lt;0.01</b>	<b>1.58</b>	<b>2.49</b>	<b>0.29</b>	<b>0.10</b>	<b>335</b>	<b>4.03</b>	<b>0.01</b>	<b>5.82</b>	<b>6.33</b>	<b>0.96</b>	<b>1.10</b>	<b>1,322</b>
<b>Hancock Compressor Station</b>														
Commuter transit	0.08	<0.01	0.46	<0.01	<0.01	0.01	48	0.30	<0.01	1.84	<0.01	<0.01	0.04	200
On-road vehicles	0.02	<0.01	0.02	<0.01	<0.01	<0.01	6	0.32	<0.01	0.30	<0.01	<0.01	0.01	107
Off-road vehicles	0.32	<0.01	0.13	0.02	0.02	0.03	91	2.20	<0.01	2.06	0.22	0.22	0.70	626
Fugitive dust	0.0	0.0	0.0	1.68	0.17	0.0	0.0	0.0	0.0	0.0	4.15	0.43	0.0	0.0
<b>Subtotal</b>	<b>0.42</b>	<b>&lt;0.01</b>	<b>0.61</b>	<b>1.71</b>	<b>0.19</b>	<b>0.05</b>	<b>144</b>	<b>2.83</b>	<b>&lt;0.013</b>	<b>4.20</b>	<b>4.38</b>	<b>0.66</b>	<b>0.75</b>	<b>933</b>

**Table B-16 (continued)  
Summary of Estimated Emissions from Construction of the Eastern System Upgrade Project<sup>a</sup>**

Source	2017 Construction Emissions (tpy)										2018 Construction Emissions (tpy)						
	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	CO <sub>2e</sub>	NO <sub>x</sub>	SO <sub>2</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>	VOC	CO <sub>2e</sub>			
<b>Ramapo Meter Station</b>																	
Commuter Transit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	<0.01	0.71	<0.01	<0.01	0.01	78			
On-road vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2			
Off-road vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	<0.01	0.62	0.01	0.01	0.32	39			
Fugitive dust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.17	0.12	0.0	0.0			
<b>Subtotal</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.33</b>	<b>&lt;0.01</b>	<b>1.33</b>	<b>1.19</b>	<b>0.14</b>	<b>0.34</b>	<b>120</b>			

<sup>a</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.

Gasoline and diesel engines used during construction would be operated and maintained in a manner consistent with the manufacturers' specifications and the applicable EPA mobile source emission regulations (40 CFR 85), thus minimizing construction equipment emissions. Low-sulfur diesel fuel would also contribute to minimizing emissions from construction equipment. The construction equipment would be operated on an as-needed basis, and primarily during the daytime hours.

Once construction activities are completed, fugitive dust and construction equipment emissions would return to current levels. Emissions associated with the construction-related activities would be temporary in nature, and we conclude they would not cause, or significantly contribute to, a violation of any applicable ambient air quality standard.

### **Operational Emissions Impacts and Mitigation**

Sources of air emissions during the operation of the Project include combustion emissions at the Highland Compressor Station, Hancock Compressor Station, and Ramapo Meter Station as well as fugitive and vented emissions at the compressor stations and pipeline facilities. Table B-17 presents an estimate of representative potential emissions from the new and modified sources associated with the Project.

Operational emissions along the Huguenot Loop and at the Huguenot and Westtown Meter Stations would be limited to non-combustion-related fugitive emissions (see table B-17). In addition to fugitive emissions from natural gas leaks, the Hancock and Highland Compressor Stations would release vented emissions. These vented emissions would include maintenance, startup, and shutdown associated with the new compressor station and modifications to the existing Hancock Station, as well as compressor station blowdowns<sup>17</sup> for maintenance or in the event of an emergency. Full blowdown events releasing vented emissions for the Hancock and Highland Compressor Stations would occur a maximum of twice per year. Fugitive and vented emissions would be transmission-quality natural gas. Transmission-quality natural gas transported through the Project would be required to meet the quality requirements of Millennium's tariff to ensure that contaminants and hydrocarbons are within acceptable levels to ensure safe pipeline operation.

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<sup>17</sup> A blowdown event is a planned or unplanned venting of pressurized natural gas from pipelines or facilities to the atmosphere. Planned gas venting may be performed during operations and maintenance activities to ensure proper operation of safety systems as well as the equipment, or to release gas prior to performing work on the facilities. Unscheduled gas venting of the emergency shutdown system is an unplanned event and can occur at any time under an abnormal operating condition.

<b>Table B-17</b>								
<b>Summary of Annual Operational Emissions (tpy)<sup>a</sup></b>								
<b>Facility</b>	<b>NOx</b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>VOC</b>	<b>CO<sub>2e</sub></b>	<b>Total HAPs</b>
<b>Huguenot Loop</b>								
Fugitive emissions	N/A	N/A	N/A	N/A	N/A	4.6E-06	1.5	N/A
<b>Huguenot Meter Station</b>								
Fugitive emissions	N/A	N/A	N/A	N/A	N/A	1.9E-04	6.3	N/A
<b>Westtown Meter Station</b>								
Fugitive emissions	N/A	N/A	N/A	N/A	N/A	1.9E-04	6.3	N/A
<b>Highland Compressor Station</b>								
Proposed compressor	48.59	4.57	78.08	12.27	12.27	5.53	95,690	2.48
Proposed emergency generator	1.36	0.00	2.71	0.02	0.02	0.68	285	0.18
Proposed fuel gas heater	0.53	0.03	0.44	0.04	0.04	0.03	631	0.01
Fugitive and vented emissions	N/A	N/A	N/A	N/A	N/A	0.53	8,466.2	N/A
<b>Subtotal</b>	<b>50.48</b>	<b>4.60</b>	<b>81.23</b>	<b>12.33</b>	<b>12.33</b>	<b>6.77</b>	<b>105,086.2</b>	<b>2.67</b>
<b>Hancock Compressor Station</b>								
Existing PTE	35.21	8.26	49.56	12.49	12.49	4.43	69,718	0.74
Proposed compressor	47.92	4.51	77.28	12.10	12.10	5.45	94,373	2.45
Proposed emergency generator	1.36	0.00	2.71	0.02	0.02	0.68	285	0.18
Proposed fuel gas heater	0.53	0.03	0.44	0.04	0.04	0.03	631	0.01
Fugitive and vented emissions	N/A	N/A	N/A	N/A	N/A	0.54	8,652	N/A
<b>Subtotal</b>	<b>85.02</b>	<b>12.80</b>	<b>129.99</b>	<b>24.65</b>	<b>24.65</b>	<b>11.13</b>	<b>173,659</b>	<b>3.38</b>
<b>Ramapo Meter Station<sup>b</sup></b>								
Existing PTE	12.89	0.08	19.65	1.00	1.00	3.93	15,788	1.35
Fugitive emissions	N/A	N/A	N/A	N/A	N/A	1.9E-04	6.3	N/A
<b>Subtotal<sup>b</sup></b>	<b>12.89</b>	<b>.08</b>	<b>19.65</b>	<b>1.00</b>	<b>1.00</b>	<b>3.93</b>	<b>15,794.3</b>	<b>1.35</b>
PTE = potential to emit								
<sup>a</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.								
<sup>b</sup> Operational emissions for the proposed fuel gas heater at the Ramapo Meter Station have not been quantified; however, the planned new heater is unlikely to require major source permitting.								

Millennium would implement measures to reduce fugitive emissions, including the use of dry seals instead of wet seals on compressors, using electric starters, and conducting periodic testing for leaks. In addition, Millennium's operating company, Columbia, participates in the EPA's Natural Gas Star Program to share best practices for reducing methane emissions. To minimize vented emissions, Millennium would install valves on the station blowdown piping for both the Hancock and Highland Compressor Stations, which would enable the proposed facilities to contain the majority of the gas typically vented to the atmosphere during blowdown events. Millennium also proposes to implement a new design for the gas seal compression system that uses electric pumps in place of pneumatic pumps to reduce the number of needed blowdowns. Additionally, Millennium would comply with the EPA's 40 CFR Part 60, Subpart OOOOa standards, which require the implementation of a leak detection and repair program.

Each compressor station would also be equipped with a Solar dry low NO<sub>x</sub> emissions combustion system designed to reduce emissions of NO<sub>2</sub>, CO, and unburned hydrocarbons from the new turbines. As part of the process to obtain a minor source NSR Permit for the new Highland Compressor Station and to assess air quality impacts from the modifications to the Hancock Compressor Station, Millennium conducted an ambient air quality analysis for NO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, CO, and SO<sub>2</sub> using the EPA's AERMOD program. As shown in table B-18, the modeling analyses for all modeled pollutants shows that both the existing Hancock Compressor Station, with the proposed modifications, and the proposed new Highland Compressor Station, combined with applicable background pollutant levels, would not contribute to a violation of the NAAQS. We reviewed the modeling analyses and agree with these conclusions.

Based on the identified estimated emissions from operation of the proposed Project facilities and review of the modeling analyses, we find that the Project would result in continued compliance with the NAAQS, which are protective of human health, including children, the elderly, and sensitive populations.

We received comments claiming that compressor stations release large quantities of toxic pollutants. Some commenters also cited reports from the Pennsylvania Department of Environmental Protection and Southwest Pennsylvania Environmental Health Project linking compressor station emissions to health impacts. The majority of the reports/studies that were referenced by commenters are based on natural gas production facilities that transport and process raw field gas, which typically contains more pollutants than transmission-quality natural gas. Therefore, we do not find the referenced studies applicable for relating health impacts from operation of the Highland and Hancock Compressor Stations. At a transmission compressor station using gas-driven compressors, the overwhelming majority of operational emissions are criteria pollutants, particularly NO<sub>x</sub> and CO. The modeling that was performed, and is discussed above, indicates that emissions of these pollutants would be within the levels established by EPA to be protective of human health.

<b>Table B-18</b>					
<b>Summary of Predicted Air Quality Impacts for the Eastern System Upgrade Project</b>					
<b>Facility/ Pollutant</b>	<b>Average Period</b>	<b>NAAQS (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Facility Impact (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Background Concentration (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Facility Impact + Background (<math>\mu\text{g}/\text{m}^3</math>)</b>
<b>Highland Compressor Station (New)</b>					
CO	1-Hour	40,000	312	2,070	2,382
	8-Hour	10,000	89	1,495	1,584
SO <sub>2</sub>	1-Hour	196	1.8	21.0	22.8
	3-Hour	1,300	1.7	23.6 <sup>a</sup>	25.3
	24-Hour	260	0.8	13.9	14.7
	Annual	60	0.1	2.1	2.2
PM <sub>10</sub>	24-Hour	150	2.1	45.0	47.1
PM <sub>2.5</sub>	24-Hour	35	0.7	22.3	23.0
	Annual	12	0.1	9.5	9.6
NO <sub>2</sub>	1-Hour <sup>b</sup>	188	20.9 <sup>b</sup>	75.8	96.7
	Annual <sup>c</sup>	100	1.6 <sup>c</sup>	20.0	21.6
<b>Hancock Compressor Station (Existing and Proposed)</b>					
CO	1-Hour	40,000	452	2,070	2,522
	8-Hour	10,000	192	1,495	1,687
SO <sub>2</sub>	1-Hour	196	9.2	21.0	30.2
	3-Hour	1,300	8.9	23.6 <sup>a</sup>	32.5
	24-Hour	260	5.2	13.9	19.1
	Annual	60	0.4	2.1	2.5
PM <sub>10</sub>	24-Hour	150	7.8	45.0	52.8
PM <sub>2.5</sub>	24-Hour	35	3.8	22.3	26.1
	Annual	12	0.5	9.5	10.0
NO <sub>2</sub>	1-Hour <sup>b</sup>	188	34.9 <sup>b</sup>	75.8	110.7
	Annual <sup>c</sup>	100	5.0 <sup>c</sup>	20.0	25.0
<sup>a</sup> Background concentrations for 3-hour SO <sub>2</sub> were based upon the maximum 1-hour SO <sub>2</sub> monitored concentration. <sup>b</sup> Hourly NO <sub>2</sub> emissions were assumed to be equal to 80% of maximum hourly NO <sub>x</sub> emissions, as per guidance by the EPA. <sup>c</sup> Annual NO <sub>2</sub> emissions were assumed to be equal to 75% of annual NO <sub>x</sub> emissions, as per guidance by the EPA.					

Small quantities of a number of HAPs can form from combustion of natural gas and blowdown events. However, the applicable NESHAP requirements would limit these emissions. Further, a toxic ambient air contaminant analysis was conducted as part of Millennium's air permit applications submitted to NYSDEC for the Highland and Hancock Compressor Stations. All maximum modeled toxic air pollutants assessed were below NYSDEC's annual and short-term guideline concentrations at both the Highland and Hancock Compressor Stations. Therefore, we find that the health risks from operation of the Project would not be significant.

## 8.2 Noise

The ambient sound level of a region is defined by the total noise generated within the specific environment, over varying land use types, and is usually comprised of natural and artificial sounds. The land use in the Project area is primarily open and agricultural land, upland forest, or industrial/commercial land. At any location, both the magnitude and frequency of environmental sounds may vary considerably over the course of a day and throughout the week. This variation is caused in part by changing weather conditions, the effect of seasonal vegetation cover, and human activities.

Ambient sound quality can be affected during construction and operation of the Project, and the magnitude and frequency of sound levels can vary considerably during the day, week, or the seasons, changing weather conditions, vegetative cover, and non-Project sources of noise (i.e., unwanted sound). Two measures that associate the time-varying quality of sound to its effect on people are the 24-hour equivalent sound level ( $L_{eq}$ ) and day-night sound level ( $L_{dn}$ ). The  $L_{eq}$  is the level of steady sound with the same total (equivalent) energy as the time-varying sound of interest, averaged over a 24-hour period. The  $L_{dn}$  is the  $L_{eq}$  plus 10 decibels on the A-weighted scale (dBA), added to account for people's greater sensitivity to nighttime sound (between the hours of 10:00 pm and 7:00 am). The A-weighted scale is used as human hearing is less sensitive to low and high frequencies than mid-range frequencies. The human ear's threshold of perceptible sound level change is considered to be 3 dBA; 6 dBA is clearly noticeable to the human ear, and 9 dBA is perceived as a doubling of sound.

Noise sensitive areas (NSAs) within the vicinity of a project may include residences, schools, churches, or any location where people reside or gather and may be affected by construction and operation of the Project. Construction equipment would contribute to ambient sound levels during construction of the Eastern System Upgrade Project. Once construction is complete, sound would return to pre-construction levels with the exception of NSAs near the Hancock and Highland Compressor Stations and the Ramapo and Huguenot Meter Stations, where ongoing operations would contribute to an increase in ambient sound levels.

### **Regulatory Noise Requirements**

In 1974, the EPA published its *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* providing information for state and local regulators to use when developing their own ambient noise standards. The EPA has determined that an  $L_{dn}$  of 55 dBA protects the public from indoor and outdoor activity noise interference. An  $L_{dn}$  of 55 dBA is equivalent to a continuous sound level of 48.6 dBA. For comparison, normal speech at a distance of 3 feet averages 60 to 70 dBA  $L_{eq}$ . We have adopted this 55 dBA  $L_{dn}$  criterion and use it to evaluate the potential noise impact from operation of compressor facilities and certain construction-related activities.

The State of New York does not have any noise regulations or ordinances applicable to the Project facilities. The Town of Deerpark and Town of Ramapo have ordinances in place designed to restrict noise. The Town of Deerpark noise ordinances apply to non-transportation operations or facilities, and require that sound levels at the property line not exceed a variable limit based on the octave band range, character of the noise, and time/duration of activity. Portions of the Project that may emit noise within the Town of Deerpark includes the Huguenot Meter Station.

The Town of Ramapo has an ordinance in place that prevents sound that disrupts normal activities within noise sensitive zones (such as hospitals, nursing homes, schools, courts, libraries, or houses of worship), and limits construction between the hours of 10:00 pm and 8:00 am that would create noise that would affect the comfort of a reasonable person. In addition, the ordinance states that no commercial business or industrial operation that produces an unreasonable sound level shall be operated. The Ramapo Meter Station would be located in the town of Ramapo.

## **Impacts and Mitigation**

### **Construction**

Construction of the Project would result in temporary increases in ambient sound levels. Construction sound would be primarily limited to daytime hours, except during 24-hour HDD operations, and could be highly variable due to intermittent equipment operation. The type of equipment operating at any location changes with each construction phase. The sound level impacts on NSAs near the Project sites would depend upon the duration of use for each piece of equipment, the number of construction vehicles and equipment used simultaneously, and the distance between the sound source and receptor. The Project would utilize conventional construction techniques and equipment, including graders, clearers, heavy trucks, and similar heavy construction equipment.

Millennium proposes to use the HDD construction method at three locations and each of these HDDs would require about 10 weeks to complete. Each HDD could be installed using the intersect method, and NSAs on each side of the drill could experience noise impacts from entry site equipment. Table B-19 summarizes the sound level impacts on the nearest NSA associated with each side of the HDD. Where Millennium could implement the intersect method at the Neversink River and Interstate Highway 84 HDDs, the acoustical assessment was conducted assuming that the drill rig and other noise sources associated with drilling operations would be present at each side of the HDD crossing. The noise analysis provided by Millennium for the Mountain Road/Bedell Drive HDD did not assume the drilling rig and other entry site equipment would be present at the site at MP 3.8, and is not representative of noise impacts that would occur using the intersect method. Therefore, **we recommend that:**

- Prior to construction using any drilling equipment or performing entry-side activity at MP 3.8 of the Mountain Road/Bedell Drive HDD, Millennium should file with the Secretary for review and written approval by the Director of the OEP, a revised HDD noise assessment for entry-side activity at MP 3.8 and an estimate of the number of days/weeks/months required to complete the HDD. If the results of the assessment show that noise levels would exceed 55 dBA  $L_{dn}$  at any NSA, Millennium should file a noise mitigation plan that identifies all reasonable measures Millennium commits to implementing to reduce noise levels attributable to the proposed drilling operations at NSAs, and the resulting noise levels at each NSA with mitigation.**

Without mitigation, preliminary estimates suggest that sound levels from HDD construction alone could exceed 55 dBA  $L_{dn}$  at three NSAs if no sound control measures are implemented. HDD activities may occur over a 24-hour per day timeframe. Additional NSAs are also present farther from the sound-generating sources at the proposed HDD entrance/exit points; however, Project sound levels at farther NSAs in each direction would be lower than presented in table B-19 due to additional attenuation provided by the greater distance from the sound generating activity/source. To reduce sound level impacts at these three locations, Millennium has committed to implementing site-specific noise mitigation including installation of temporary noise-reduction barriers around HDD area workspaces (including hydraulic power units, engine-driven pumps, engine jacket-water coolers, and the mud mixing/cleaning system).

Table B-19 includes the estimated noise impacts from HDD activities inclusive of these mitigation measures. Based on the acoustical analysis, sound levels at these NSAs would not be impacted by sound from HDD construction that could exceed 55 dBA  $L_{dn}$  with the implementation of proposed noise control measures.

We reviewed Millennium's noise assessment and agree that the mitigation measures committed to by Millennium should result in noise levels in compliance with the FERC's noise criterion of 55 dBA  $L_{dn}$  at nearby NSAs for all HDD entry/exit positions assessed.

Based on the analyses conducted and the mitigation measures proposed, we believe that construction of the Project would not result in significant noise impacts on residents, and the surrounding communities.

**Table B-19**  
**Acoustical Survey and Analysis Summary for Horizontal Directional Drills <sup>a</sup>**

<b>Closest NSA</b>	<b>Distance and Direction of NSA from HDD Location</b>	<b>Estimated L<sub>dn</sub> due to Project Construction, No Noise Control (dBA)</b>	<b>Estimated L<sub>dn</sub> due to Project Construction, Noise Control (dBA)</b>	<b>Existing Ambient L<sub>dn</sub> (dBA)</b>	<b>L<sub>dn</sub> of Construction plus Ambient L<sub>dn</sub> (dBA)</b>	<b>Potential Increase Above Ambient (dB) <sup>b</sup></b>
<b>Neversink River</b>						
HDD Side A, residence (MP 0.9)	1,000 feet SW	53.2	40.8	40.1	43.5	3.4
HDD Side B, residence (MP 0.4)	600 feet SW	62.4	49.3	56.2	57.0	0.8
<b>Mountain Road/Bedell Drive</b>						
Entry, residence (MP 2.9)	500 feet E to SE	63.2	50.1	48.5	52.4	3.8
Exit, residence (MP 3.8)	450 feet W to N	52.5	N/A	44.6	53.2	8.6
<b>Interstate Highway 84</b>						
HDD Side A, residence (MP 3.9)	950 feet NW	56.8	43.9	44.6	47.3	2.7
HDD Side B, residence (MP 4.7)	1,100 feet SE	52.2	N/A	53.7	56.0	2.3

<sup>a</sup> NSA = noise sensitive area, SW = southwest; SE = southeast; NE = northeast; W = west; N = north; NW = northwest

<sup>a</sup> The noise analysis presented in this table assumes the use of the intersect method for the Neversink and Interstate Highway 84 HDDs, and includes the presence of a drilling rig and other entry side equipment on each side of the HDD. The Mountain Road/Bedell Drive HDD assumes noise impacts associated with the different equipment present for entry and exit sites.

<sup>b</sup> Potential increase above ambient (dB) uses the estimated peak noise impact with noise control measures implemented, where applicable.

## Operation

The new and modified compressor stations would generate sound on a continuous basis (i.e., up to 24 hours per day) when operating. Some sound would also be generated by the operation of the modified meter stations. Noise impacts associated with the operation of these aboveground facilities would be limited to the vicinity of the facilities. The specific operational noise sources associated with these facilities and their estimated impact at the nearest NSAs are described below.

Millennium conducted ambient sound surveys and acoustical impact assessments for the nearest NSAs to the proposed new Highland Compressor Station and modified Hancock Compressor Station. In addition, Millennium conducted ambient sound surveys and acoustical analyses for the Huguenot and Ramapo Meter Stations, both of which are located in areas with local noise ordinances. The distances and directions to the nearest NSAs from the existing or proposed compressor station buildings are presented in table B-20 and shown in appendix G. Millennium completed an acoustical analysis to identify the estimated sound level impacts at the nearest NSAs from the proposed new Highland Compressor Station and modified Hancock Compressor Station. The results of these acoustical analyses are presented in table B-20 and include various assumed noise control measures that Millennium would implement, including:

- enclosing the new turbine(s) and compressor(s) within a compressor building, including the use of appropriate building materials;
- installation of an adequate muffler system for each turbine exhaust system;
- installation of a low-noise lube oil cooler for each compressor unit and a low-noise gas cooler for each new gas cooler;
- use of acoustical pipe insulation for outdoor aboveground gas piping if necessary;
- use of an adequate silencer for gas blowdowns;
- installation of low noise control/recycle valves; and
- use of a horizontal stand by generator with hospital grade silencer.

**Table B-20**  
**Acoustical Analysis of the Highland and Hancock Compressor Stations**

<b>NSA</b>	<b>Distance and Direction of NSA</b>	<b>Existing Ambient L<sub>dn</sub> (dBA)</b>	<b>L<sub>dn</sub> Attributable to New Station or Station Modifications (dBA)</b>	<b>Existing L<sub>dn</sub> + L<sub>dn</sub> of Proposed Changes (dBA)<sup>a</sup></b>	<b>Potential Increase Above Ambient (dB)</b>
<b>Highland Compressor Station</b>					
NSA #1, residences	3,300 feet NW	41.0	29.0	42.0	1.0
NSA #2, residences	3,000 feet W	41.0	29.8	42.2	1.2
NSA #3, residence	2,900 feet SW	41.0	30.1	42.3	1.3
NSA #4, residence	3,750 feet N-NW	41.0	27.9	41.8	0.8
<b>Modifications to Hancock Compressor Station</b>					
NSA #1, residence	675 feet E	42.6	44.7	47.8	5.2
NSA #2, residence	1,550 feet W-SW	41.5	37.9	43.7	2.2
NSA #3, residence	2,175 feet NE	41.1	33.6	42.1	1.0
NSA #4, residence	3,775 feet S-SE	41.6	29.0	42.0	0.4
NSA #5, residences	3,475 feet N-NE	41.4	29.4	41.8	0.4
N-NW = north-northwest; W-SW = south-southwest; S-SE = south-south east; N-NW = north-northwest.					
<sup>a</sup> For the modified Hancock Compressor Station, values represent the total L <sub>dn</sub> of the existing ambient sound levels, the existing station at full load operation, and the proposed new facilities.					

Millennium's noise control measures would also minimize vibration from operation of the compressor stations. Based on these results, the sound generated by the new compressor station and modifications to the existing station would meet FERC's sound level requirements at the nearest NSAs. With the exception of NSA #1 near the Hancock Compressor Station, the increase in noise at all NSAs during operation of the compressor stations would be less than 3 dBA, which is the level of change detectable to the human ear. The predicted sound level increase for NSA #1 at the Hancock Compressor Station is 5.2 dBA, however this increase combined with existing ambient sound and sound from operation of the existing compressor station would remain well below the 55 dBA L<sub>dn</sub> threshold. To ensure that Project-related sound level impacts do not exceed our criterion, **we recommend that:**

- **Millennium should make all reasonable efforts to ensure its predicted noise levels from the new Highland Compressor Station and modified Hancock Compressor Station are not exceeded at nearby NSAs, and file noise surveys showing this with the Secretary no later than 60 days after placing each station into service. If a full load condition noise survey of the entire station is not possible, Millennium should file an interim survey**

**at the maximum possible horsepower load and file the full load survey within 6 months. If the noise attributable to the operation of all of the equipment at either compressor station under interim or full horsepower load conditions exceeds an  $L_{dn}$  of 55 dBA at any nearby NSA, Millennium should file a report on what changes are needed and should install additional noise controls to meet the level within 1 year of the in-service date. Millennium should confirm compliance with this requirement by filing a second noise survey with the Secretary no later than 60 days after it installs the additional noise controls.**

In addition to the operational sound level impacts discussed above, there would also be blowdown events during which the compressor stations would generate additional sound for short periods of time. Millennium has indicated that the new compressor units would each be outfitted with a blowdown silencer, and that the sound level from blowdowns would be below the FERC guidance level at the nearest NSAs. Given the non-routine nature and short-term duration of these blowdown events, we do not believe that there would be a significant contributor to operational sound levels from the Project.

To ensure compliance with local noise ordinances, Millennium also completed acoustical analyses for the Huguenot and Ramapo Meter Stations where modifications would result in additional sound. Table B-21 provides the estimated noise sound level impacts resulting from the operation of these stations at the nearest NSAs, and appendix G depicts each NSA.

Based on these results, the sound level impacts generated by the modifications to the Huguenot and Ramapo Meter Stations existing facilities would not exceed 55 dBA  $L_{dn}$  for five out of the six nearest NSAs. At NSA #1 near the Ramapo Meter Station, predicted ambient sound levels would exceed 55 dBA  $L_{dn}$ , but the increase in predicted sound level at this NSA due to operation of the modified Ramapo Meter Station would be 0.1 dBA. This increase is below the level of human perception.

Millennium determined that the Town of Deerpark ordinance requirements could be exceeded by operation of the Huguenot Meter Station at the boundary of one adjacent property currently in industrial use. Millennium consulted with the landowner, who did not object to the potential sound level impacts that would be associated with the Huguenot Meter Station. At the Ramapo Meter Station, the FERC guidance levels establish more stringent noise requirements than the local ordinance; thus, the impacts discussed are based on the FERC standards.

Table B-21 Acoustical Analysis of the Ramapo and Huguenot Meter Stations					
NSA	Distance and Direction of NSA	Existing Ambient $L_{dn}$ (dBA)	$L_{dn}$ Attributable to Meter Station Modifications (dBA)	Existing $L_{dn}$ + $L_{dn}$ of Proposed Changes (dBA)	Potential Increase Above Ambient (dB)
<b>Ramapo Meter Station</b>					
NSA #1, residences	975 feet E to SE	58.7	42.3	58.8	0.1
NSA #2, residences	1,900 feet N-NE to NE	45.4	35.1	45.8	0.4
NSA #3, county park	1,900 feet S-SW	43.3	34.9	43.9	0.6
<b>Huguenot Meter Station</b>					
NSA #1, residences	250 feet S to NE	48.9	43.3	52.1	3.2
NSA #2, residences	475 feet NE to NW	48.8	43.3	49.9	1.1
NSA #3, residences	700 feet NW to W-NW	46.5	39.5	47.3	0.9

Millennium would implement noise control measures to minimize impacts at the meter stations, including:

- placing all flow and pressure control valves below grade;
- using a low-noise burner for the water bath heater; and
- using acoustical pipe insulation for outdoor aboveground gas piping if necessary.

It is our experience that meter stations can vary widely in terms of actual sound level impacts after being placed in service relative to the predicted impacts from these stations. In addition, the number of residences in proximity to meter stations further justifies the need for post-construction sound level surveys.

To verify the accuracy of Millennium's acoustical analyses and ensure sound levels do not exceed our criterion, **we recommend that:**

- **Millennium should file noise surveys with the Secretary no later than 60 days after placing the modified Ramapo and Huguenot Meter Stations in service. If the noise attributable to the operation of either meter station exceeds the previously existing noise levels at any nearby NSAs that are currently at or above an  $L_{dn}$  of 55 dBA, or exceeds 55 dBA  $L_{dn}$  at any nearby NSAs that are currently below 55 dBA  $L_{dn}$ , Millennium should file a report on what changes are needed and should install the additional noise controls to meet the requirements within 1 year of the in-service date. Millennium should confirm compliance with the above requirement**

**by filing a second sound level survey with the Secretary no later than 60 days after it installs the additional noise controls.**

Based on the analyses conducted, Millennium's proposed mitigation measures, and our recommendation, we believe that operation of the Eastern System Upgrade Project would not result in significant noise or vibration impacts on residents or the surrounding communities.

## **9. Reliability and Safety**

The transportation of natural gas by pipeline involves some incremental risk to the public due to the potential for accidental release of natural gas. The greatest hazard is a fire or explosion following a major pipeline rupture.

Methane, the primary component of natural gas, is colorless, odorless, and tasteless. It is not toxic, but is classified as a simple asphyxiate, possessing a slight inhalation hazard. If inhaled in high concentrations, oxygen deficiency can result in serious injury or death. Methane has an auto-ignition temperature of over 1,000 degrees Fahrenheit and is flammable at concentrations between 5 and 15 percent in air. An unconfined mixture of methane and air is not explosive; however, it may ignite if there is an ignition source present. A flammable concentration within an enclosed space in the presence of an ignition source can explode. Methane is buoyant at atmospheric temperatures and disperses upward rapidly in air.

### **9.1 Safety Standards**

The DOT is mandated to provide pipeline safety under 49 U.S.C. Chapter 601. The DOT's Pipeline and Hazardous Materials Safety Administration (PHMSA) administers the national regulatory program to ensure the safe transportation of natural gas and other hazardous materials by pipeline. It develops safety regulations and other approaches to risk management that ensure safety in the design, construction, testing, operation, maintenance, and emergency response of pipeline facilities. Many of the regulations are written as performance standards that set the level of safety to be attained and require the pipeline operator to use various technologies to achieve safety. PHMSA ensures that people and the environment are protected from the risk of pipeline incidents. This work is shared with state agency partners and others at the federal, state, and local levels.

Section 5(a) of the Natural Gas Pipeline Safety Act provides for a state agency to assume all aspects of the safety program for intrastate facilities by adoption and enforcing the federal standards, while Section 5(b) permits a state agency that does not qualify under Section 5(a) to perform certain inspection and monitoring functions. A state may also act as DOT's agent to inspect interstate facilities within its boundaries; however, the DOT is responsible for enforcement actions. New York is authorized by PHMSA under

Section 5(a) to assume all aspects of the safety program intrastate, but not interstate, facilities (PHMSA 2016a).

The DOT pipeline standards are published in 49 CFR 190 - 199. Part 192 specifically addresses natural gas pipeline safety issues. Under a MOU on Natural Gas Transportation Facilities, dated January 15, 1993, between the DOT and the FERC, the DOT has the exclusive authority to promulgate federal safety standards used in the transportation of natural gas. Section 157.12(a)(9)(vi) of the FERC's regulations require that an applicant certify that it would design, install, inspect, test, construct, operate, replace, and maintain the facility for which a Certificate is requested in accordance with federal safety standards and plans for maintenance and inspection. Alternatively, an applicant must certify that it has been granted a waiver of the requirements of the safety standards by the DOT in accordance with Section 3(e) of the Natural Gas Pipeline Safety Act. The FERC accepts this certification and does not impose additional safety standards. If the FERC becomes aware of an existing or potential safety problem, there is a provision within the MOU to promptly alert the DOT. The MOU also provides for referring complaints and inquiries made by state and local governments and the general public involving safety matters related to pipelines under the FERC's jurisdiction. The FERC also participates as a member of the DOT's Technical Pipeline Safety Standards Committee, which determines if proposed safety regulations are reasonable, feasible, and practicable.

The pipeline and aboveground facilities associated with the Project must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR 192. The regulations are intended to ensure adequate protection for the public and to prevent natural gas facility accidents and failures. The DOT specifies material selection and qualification, minimum design requirements; and protection from internal, external, and atmospheric corrosion.

The DOT also defines area classifications, based on population density near the pipeline and specifies more rigorous safety requirements for populated areas. The class location unit is an area that extends 220 yards on either side of the centerline of any continuous 1-mile length of pipeline. The four area classifications are defined below:

- Class 1: Location with 10 or fewer buildings intended for human occupancy;
- Class 2: Location with more than 10, but less than 46 buildings intended for human occupancy;
- Class 3: Location with 46 or more buildings intended for human occupancy, or where the pipeline lies within 100 yards of any building, or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks during any 12-month period; and

- Class 4: Location where buildings with four or more stories aboveground are prevalent.

Class locations representing more populated areas require higher safety factors in pipeline design, testing, and operation. For instance, pipelines constructed on land in Class 1 locations must be installed with a minimum depth of cover of 18 inches in consolidated rock and 30 inches in normal soil. Class 2, 3, and 4 locations, as well as drainage ditches of public roads and railroad crossings, require a minimum cover of 36 inches in normal soil and 24 inches in consolidated rock.

Class locations also specify the maximum distance to a sectionalizing block valve (e.g., 10.0 miles in Class 1, 7.5 miles in Class 2, 4.0 miles in Class 3, and 2.5 miles in Class 4). Pipe wall thickness and pipeline design pressures; hydrostatic test pressures; MAOP; inspection and testing of welds; and the frequency of pipeline patrols and leak surveys must also conform to higher standards in more populated areas. The Project would be constructed through Class 1, 2, and 3 areas. However, Millennium would comply with the minimum depth requirements for Class 2, 3, and 4 areas in those areas identified as Class 1 and would install the pipeline with a minimum depth of cover of 4 feet in agricultural land. Throughout the life of the pipeline, Millennium would monitor population changes in accordance with CFR 49, Title 192, Subpart L (Section 192.609 and 192.611) to determine whether the pipeline requires upgrades to meet changes in population.

The Pipeline Safety Improvement Act of 2002 requires operators to develop and follow a written integrity management program that contains all the elements described in 49 CFR 192.911 and addresses the risks on each transmission pipeline segment. More specifically, the law establishes an integrity management program that applies to all high consequence areas (HCAs).

The DOT has published rules that define HCAs as areas where a gas pipeline accident could considerably harm people and their property and that require an integrity management program to minimize the potential for an accident. This definition satisfies, in part, the Congressional mandate for the DOT to prescribe standards that establish criteria for identifying each gas pipeline facility in a high-density population area.

The HCAs may be defined in one of two ways. In the first method, an HCA includes:

- current Class 3 and 4 locations;

- any area in Class 1 or 2 locations where the potential impact radius<sup>18</sup> is greater than 660 feet and there are 20 or more buildings intended for human occupancy within the potential impact circle;<sup>19</sup> or
- any area in Class 1 or 2 locations where the potential impact circle includes an identified site (as described below).

An identified site is an outside area or open structure that is occupied by 20 or more persons on at least 50 days in any 12-month period; a building that is occupied by 20 or more persons on at least 5 days per week for any 10 weeks in any 12-month period; or a facility that is occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate.

In the second method, an HCA includes any area within a potential impact circle that contains:

- 20 or more buildings intended for human occupancy; or
- an identified site.

Once a pipeline operator has determined the HCAs along its pipeline, it must apply the elements of its integrity management program to those segments of pipeline within HCAs. The DOT regulations specify the requirements for the integrity management plan in Section 192.91. The pipeline would cross one HCA from MP 0.0 to MP 0.3 in the town of Deerpark, New York. Millennium would implement all elements of its integrity management plan for the pipeline HCA. Key elements include data gathering, risk assessments, integrity assessments, response and remediation, and continual evaluation and assessment. The pipeline integrity management rule for HCAs requires inspection of pipeline HCAs at a rate of once every seven years. Millennium would be subject to criteria specified by the DOT to identify additional HCAs if conditions change along the proposed pipeline.

The DOT prescribes the minimum standards for operating and maintaining pipeline facilities, including the requirement to establish a written plan governing these activities. Each pipeline operator is required to establish an emergency plan that includes procedures to minimize the hazards of natural gas pipeline emergency. Key elements of the plan include procedures for:

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<sup>18</sup> The potential impact radius is calculated as the product of 0.69 and the square root of: the MAOP of the pipeline in pounds per square inch gauge multiplied by the square of the pipeline diameter in inches.

<sup>19</sup> The potential impact circle is a circle of radius equal to the potential impact radius.

- receiving, identifying, and classifying emergency events, gas leakage, fires, explosions, and natural disasters;
- establishing and maintaining communications with local fire, police, and public officials, and coordinating emergency response;
- emergency system shutdown and safe restoration of service;
- making personnel, equipment, tools, and materials available at the scene of an emergency; and
- protecting people first and then property, and making them safe from actual or potential hazards.

Under 49 CFR 192.615, each pipeline operator must also establish an Emergency Plan that provides written procedures to minimize hazards from a natural gas pipeline emergency. Millennium is operated by Columbia Pipeline Group (Columbia Pipeline), which would implement procedures in its site-specific Emergency Plan to enable the public and officials to recognize and report a natural gas emergency. Columbia would establish and maintain a liaison with public officials to coordinate emergency response planning, to notify officials of Columbia's emergency response capabilities, and to facilitate communication during emergencies. We received public comments requesting that Millennium participate in the code red community notification system; however, Millennium does not plan to implement the code red system at the Hancock and Highland Compressor Stations. Millennium would implement the measures in its site-specific Emergency Plan as described above to facilitate communication during emergencies.

The DOT requires that each operator establish and maintain liaison with appropriate fire, police, and public officials to learn the resources and responsibilities of each organization that may respond to a natural gas pipeline emergency, and to coordinate mutual assistance. The operator must also establish a continuing education program to enable customers, the public, government officials, and those engaged in excavation activities to recognize a gas pipeline emergency and report it to appropriate public officials. Millennium maintains an ongoing liaison with the appropriate fire, police, and public officials to coordinate mutual assistance during emergencies.

## **9.2 Pipeline Accident Data**

The DOT requires that all operators of natural gas transmission pipelines notify the DOT of any significant incident and submit an incident report within 20 days. Significant incidents are defined as any leaks that:

- caused a death or personal injury requiring hospitalization; or

- involved property damage of more than \$50,000 (1984 dollars).<sup>20</sup>

During the 20-year period from 1996 through 2015, a total of 1,309 significant incidents were reported on more than 301,000 total miles of natural gas transmission pipelines nationwide (PHMSA 2016b). Additional insight into the nature of service may be found by examining the primary factors that caused the failures. Table B-22 provides a distribution of the causal factors as well as the number of each incident by cause.

<b>Table B-22 Natural Gas Transmission Pipeline Significant Incidents by Cause 1996-2015</b>		
<b>Cause</b>	<b>Number of Incidents</b>	<b>Percentage<sup>a</sup></b>
Corrosion	311	23.7
Excavation <sup>b</sup>	210	16.0
Pipeline material, weld, or equipment failure	361	27.5
Natural force damage	147	11.2
Outside forces <sup>c</sup>	85	6.5
Incorrect operation	42	3.2
All other causes <sup>d</sup>	159	12.1
<b>Total</b>	<b>1,315</b>	<b>--</b>
Source: PHMSA 2016b.		
<sup>a</sup> Due to rounding, column does not total 100 percent.		
<sup>b</sup> Includes third party damage.		
<sup>c</sup> Fire, explosion, vehicle damage, previous damage, intentional damage, electrical arcing from other equipment/facilities, fishing or maritime activity, maritime equipment or vessel adrift, and unspecified or other outside force damage.		
<sup>d</sup> Miscellaneous causes or unknown causes.		

The dominant causes of pipeline incidents are corrosion, pipeline material and weld or equipment failure, constituting 50.7 percent of all significant incidents. The pipelines included in the dataset in table B-22 above, vary widely in terms of age, diameter, and level of corrosion control. Each variable influences the incident frequency that may be expected for a specific segment of the pipeline.

The frequency of significant incidents is strongly dependent upon pipeline age. Older pipelines have a higher frequency of corrosion incidents, since corrosion is a time-dependent process. The use of both an external protective coating and a cathodic

<sup>20</sup> \$50,000 in 1984 is approximately \$115,807 as of September 2016 (U.S. Census Bureau 2016c).

protection system<sup>21</sup> required on all pipelines installed after July 1971, significantly reduces the corrosion rate compared to unprotected or partially protected pipe.

Outside forces, excavation, and natural forces are the cause of 33.6 percent of significant pipeline incidents. These result from the encroachment of mechanical equipment such as bulldozers and backhoes; earth movements due to soil settlement, washouts, or geologic hazards; and weather effects such as winds, storms, and thermal strains and willful damage. Older pipelines have a higher frequency of outside forces incidents, partly because their location may be less well known and less well marked as compared to newer pipelines. In addition, the older pipelines contain a disproportionate number of smaller-diameter pipelines, which have a greater rate of outside forces incidents. Small diameter pipelines are more easily crushed or broken by mechanical equipment or earth movement. Table B-23 provides a breakdown of outside force incidents by cause.

Since 1982, operators have been required to participate in “One Call” public utility programs in populated areas to minimize unauthorized excavation activities near pipelines. The “One Call” program is a service used by public utilities and some private sector companies (for example oil pipelines and cable television) to provide preconstruction information to contractors or other maintenance workers on the underground location of pipes, cables, and culverts.

Millennium would construct in close proximity to other utility lines and its existing mainline pipeline (see table A-9). It would monitor excavations, avoid mechanical excavations within 3 feet of existing pipelines, and give other operators the opportunity to be present during work around their pipelines.

### **9.3 Impact on Public Safety**

As stated in section B.9.1, Millennium would comply with all applicable DOT pipeline safety standards as well as regular monitoring and testing of the pipeline. While pipeline failures are rare, the potential for pipeline systems to rupture and the risk to nearby residents is discussed below.

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<sup>21</sup> Cathodic protection is a technique to reduce corrosion (rust) of the natural gas pipeline through the use of an induced current or a sacrificial anode (like zinc or manganese) that corrodes at a faster rate to reduce corrosion.

<b>Table B-23</b>		
<b>Outside Forces Incidents by Cause<sup>a</sup> 1996-2015</b>		
<b>Cause</b>	<b>Number of Incidents<sup>b</sup></b>	<b>Percent of Outside Force Incidents<sup>c</sup></b>
Third party excavation damage	172	38.8
Operator excavation damage	25	5.6
Unspecified excavation damage/previous damage	13	2.9
Heavy rain/floods	76	17.2
Earth movement	32	7.2
Lightning/temperature/high winds	27	6.1
Natural force (unspecified or other)	13	2.9
Vehicle (not engaged with excavation)	49	11.1
Fire/explosion	9	2.0
Previous mechanical damage	6	1.4
Fishing or maritime activity	7	1.6
Maritime equipment or vessel adrift	2	0.5
Intentional damage	1	0.2
Electrical arcing from other equipment/facility	1	0.2
Unspecified/other outside force	10	2.3
<b>Total</b>	<b>443</b>	-
Source: PHMSA 2016b.		
<sup>a</sup> Excavation, Outside Force, and Natural Force from table B-22.		
<sup>b</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.		
<sup>c</sup> Due to rounding, column does not total 100 percent.		

The service incidents data summarized above in table B-23 included pipeline failures of all magnitudes with widely varying consequences. Table B-24 presents the average annual injuries and fatalities that occurred on natural gas transmission pipelines in the 5-year period between 2011 and 2015. The majority of fatalities from pipelines are due to incidents with local distribution pipelines not regulated by the FERC. These are natural gas pipelines that distribute natural gas to homes and businesses after transportation through interstate natural gas transmission pipelines. In general, these distribution lines are smaller diameter pipes and/or plastic pipes, which are more susceptible to damage. Local distribution systems do not have large rights-of-way and pipeline markers common to the FERC-regulated natural gas transmission pipelines.

<b>Table B-24 Injuries and Fatalities - Natural Gas Transmission Pipelines</b>		
<b>Year</b>	<b>Injuries</b>	<b>Fatalities</b>
2011	1	0
2012	7	0
2013	2	0
2014	1	1
2015 <sup>a</sup>	14	6

Source: PHMSA 2016b.

<sup>a</sup> The majority of injuries and fatalities in 2015 resulted from two incidents. One incident resulting from third-party excavation damage resulted in 11 injuries and 1 fatality in 2015 in California. One incident from incorrect operation and pipeline damage resulted in four fatalities and 1 injury in Louisiana.

The nationwide totals of accident fatalities from various anthropogenic and natural hazards are listed in table B-25 to provide a relative measure of industry-wide safety of natural gas transmission pipelines. Direct comparisons between accident categories should be made cautiously, however, because individual exposures to hazards are not uniform among all categories. The data nonetheless indicate a low risk of death due to incidents involving natural gas transmission pipelines compared to other hazard categories. Furthermore, the fatality rate associated with natural gas distribution lines is much lower than the fatalities from natural hazards such as lightning, tornadoes, or floods.

<b>Table B-25 Nationwide Accidental Deaths<sup>a</sup></b>	
<b>Type of Accident</b>	<b>Annual No. of Deaths</b>
All accidents	123,706
Motor vehicle	456,844
Poisoning	29,846
Falls	22,631
Injury at work	4,551
Drowning	3,443
Fire, smoke inhalation, burns	3,286
Floods	56
Lightning	34
Tornadoes <sup>b</sup>	74
Natural gas distribution pipelines <sup>c</sup>	14
Natural gas transmission pipelines <sup>c</sup>	2

<sup>a</sup> All data, unless otherwise noted, reflect 2007 or 2009 statistics from the U.S. Census Bureau 2012.

<sup>b</sup> Data are sourced from National Oceanic and Atmospheric Administration 2015.

<sup>c</sup> Data are sourced from PHMSA 2016b.

The available data show that natural gas transmission pipelines continue to be a safe, reliable means of energy transportation. From 1996 to 2015, there were an average

of 66 significant incidents, 9 injuries, and 2 fatalities per year (PHMSA 2016b). The operation of the Project would represent a slight increase in risk to the nearby public; however, the number of significant incidents over more than 301,000 miles of natural gas transmission lines indicates that the risk is low for an incident at any given location.

## 10. Cumulative Impacts

The eastern United States has been affected by human activity for over 15,000 years beginning with indigenous peoples who lived in large settlements and associated satellite villages. Today about 19.7 million people reside in New York. This includes over 0.8 million people that live in the four counties where the Eastern System Upgrade Project would be constructed (U.S. Census Bureau 2016a).

In accordance with NEPA and FERC policy, we evaluated the potential for cumulative impacts of the Project on the environment. Cumulative impacts are considered as impacts on the environment that result from the incremental effects of the Project when added to other past, present, or reasonably foreseeable future actions, regardless of the agency or party undertaking such actions. Cumulative effects generally refer to impacts that are additive or synergistic in nature and result from the construction of multiple projects in the same vicinity and time frame. Cumulative impacts can result from individually minor, but collectively significant actions, taking place over a period of time. In general, small-scale projects with minimal impacts of short duration do not significantly contribute to cumulative impacts.

The Project's cumulative impact analysis generally follows the methodology set forth in relevant guidance (CEQ 2005, EPA 1999). Under these guidelines, inclusion of other projects in the analysis is based on identification of impacts on environmental resources from other projects that would directly or indirectly result in similar effects as the Project. The cumulative impacts analysis includes those past, present, and reasonably foreseeable projects meeting the following three criteria:

- impact a resource area potentially affected by the Project;
- cause this impact within all, or part of, the Project area; and
- cause this impact within all, or part of, the timespan for the potential impact for the Project.

Construction and operation of the Eastern System Upgrade Project would affect a confined corridor in Orange County, New York, as well as discrete areas within Delaware, Sullivan, Orange and Rockland Counties, New York. In this cumulative impact analysis we considered past, present, or reasonably foreseeable actions expected to affect similar resources during similar timeframes with the Project. Information on past, present, and relatively foreseeable future projects were identified through

Millennium's consultation with local authorities and through our own research. A geographic scope was identified for each specific environmental resource that would be affected by the Project.

Millennium consulted public sources to obtain information on planned future developments. To date, no planned commercial or other developments have been identified that may be located within 0.25 mile of the Project facilities; however, we received comments from Ozdan Development, LLC and Amytra Development, LLC regarding future residential developments that would be located on lands adjacent to and bordering Millennium's existing pipeline and the proposed Highland Compressor Station (see section B.5.2). While specific details on the configuration and timing of these developments are not known, based on their proximity to the proposed Highland Compressor Station, we analyze potential cumulative impacts associated with the general development of these projects.

Potential cumulative impacts associated with recently completed, current, proposed, or reasonably foreseeable future actions within the Project area are described in table B-26. This area accounts for the largest extent defined by the resource specific geographic scopes, specifically the sub-watersheds (HUC-12) crossed by the Project. The geographic scope for each resource is described in the resource-specific assessments, below. The projects identified include 14 energy projects, including the non-jurisdictional project associated with the Eastern System Upgrade Project (see section A.8), and 1 major transportation projects. In addition, future developments by Ozdan Development, LLC and Amytra Development, LLC would be located in the vicinity of the Highland Compressor Station. Millennium identified additional transportation projects, as well as other small projects including: 15 minor roadway reconstruction projects, 9 water and sewer projects, 16 residential projects, 8 recreation projects, 17 commercial projects, 2 restoration/mitigation projects, 1 drainage restoration project, and 1 retaining wall replacement project that are not included in table B-26. None of these projects would be crossed by or are immediately adjacent to the Eastern System Upgrade Project, and most were identified as being in proximity to the Ramapo Meter Station. We feel these types of projects are typical of ongoing urban development, would have minimal impacts of short duration, and may result in positive (e.g., tax revenue, employment) or negative (e.g., traffic) socioeconomic effects that do not require further assessment. Also not included in table B-26 but discussed in section B.1.1, is one reclaimed aboveground sand and gravel mining operation in proximity to the Eastern System Upgrade Project.

**Table B-26  
Existing or Proposed Projects with Potential Cumulative Impacts in the Region of Influence**

<b>Project and Proponent</b>	<b>Status</b>	<b>Potential Impact Area</b>	<b>Closest Known Distance to Project</b>	<b>Description</b>	<b>Sources</b>
<b>Energy and Pipeline Projects<sup>a</sup></b>					
Minisink Compressor Station (Millennium)	Existing	10.6 acres	0.5 mile	A natural gas compressor station including two 6,130 hp gas compressor units. Construction was completed in 2013 (Docket No. CP11-515-000).	Millennium 2016; FERC 2012
Hancock Compressor Station (Millennium)	Existing	76 acres	0.0 mile	A natural gas compressor station including one 15,900 hp gas compressor unit. Construction was completed in 2014 (Docket No. CP13-14-000).	FERC 2013
Valley Lateral Project (Millennium)	Current	117.1 acres	0.0 mile	7.8-mile-long, 16-inch-diameter pipeline with one delivery meter station, one launcher facility, and one receiver facility (Docket No. CP16-17-000).	Millennium 2016; FERC 2016
Northeast Energy Direct Pipeline Project (Tennessee Gas Pipeline Company)	Suspended	4,398.07 acres	22 miles	PA to Wright Pipeline segment Broome, Chenango, Delaware and Schoharie Counties, new compression and meter stations.	Millennium 2016, FERC 2015a
Constitution Pipeline Project (Constitution)	Current	1,871.5 acres (642.8 acres in Delaware County)	28 miles	124-mile-long natural gas pipeline in Susquehanna County, Pennsylvania and in Broome, Chenango, and Delaware Counties, and Schoharie counties, New York	Millennium 2016
Access Northeast Project (Algonquin)	Current	1.24 miles	0.0 mile	Hanover 42-inch-diameter Take-up and Relay (Ramapo, Rockland County) 1.24 miles removal and replacement of 26-inch pipeline with 42-inch-diameter pipeline upstream of existing Ramapo Meter Station. Additional regulation at the existing Ramapo Meter Station. (Docket No. PF16-1-000).	Millennium 2016

**Table B-26 (continued)  
Existing or Proposed Projects with Potential Cumulative Impacts in the Region of Influence**

<b>Project and Proponent</b>	<b>Status</b>	<b>Potential Impact Area</b>	<b>Closest Known Distance to Project</b>	<b>Description</b>	<b>Sources</b>
Algonquin Incremental Market Project (Algonquin)	Existing	575.6 acres (105.6 in Rockland County)	4.7 miles	Construction of approximately 20.1 miles of 42-inch-diameter pipeline in Connecticut and New York; additional pipeline in Connecticut and Massachusetts; Six new compressor units at 5 existing compressor stations in New York, Connecticut, and Rhode Island; modification to an existing Compressor Station in Connecticut; Construction of one new meter station in Connecticut and two new meter stations in Massachusetts; modifications to existing meter stations in New York, Connecticut, and Massachusetts. In-service October 2016 (Docket No. CP14-96-000).	Millennium 2016; FERC 2015b
East Side Expansion Project (Columbia)	Current	248.9 acres (0.8 acre in Orange County)	7.5 miles	Modification to a meter station in Orange County, New York associated with construction of 19.1 miles of 20- and 26-inch-diameter pipeline loop to provide 312,000 Dth/d of natural gas transportation capacity. In-service October 2015 (Docket No. CP14-17-000).	Millennium 2016, FERC 2014
President Container	Existing	Unknown	5.5 miles	Construction of a solar electric generator plant at an existing facility.	Millennium 2016
Edic to Fraser Project (New York Transmission)	Proposed	Unknown	25.7 miles	New 345 kilovolt electric transmission line.	Millennium 2016
Oakdale to Fraser Project (NextEra Energy Transmission New York, Inc.)	Proposed	57 miles	26.7 miles	New 345 kilovolt electric transmission line.	Millennium 2016

**Table B-26 (continued)  
Existing or Proposed Projects with Potential Cumulative Impacts in the Region of Influence**

<b>Project and Proponent</b>	<b>Status</b>	<b>Potential Impact Area</b>	<b>Closest Known Distance to Project</b>	<b>Description</b>	<b>Sources</b>
CPV Valley to Rock Taven (Boundless Energy NE, LLC)	Proposed	29 miles	7 miles	Electric transmission replacement project. Replacing 29 miles of conductors with new technology, and adding underground transmission under the Hudson River.	Millennium 2016
CPV Valley Energy Center	Existing	35 acres	6.6 miles	Construction of a new 650 megawatt natural gas combined cycle power generation facility and associated electrical interconnect right-of-way. Construction commenced in August 2015.	Millennium 2016, FERC 2016
<b>Non-Jurisdictional Projects</b>					
Overhead Electric Transmission (New York State Electric and Gas Corporation)	Proposed	1.5 miles	0.0 mile	Construction of an overhead medium or high voltage electric transmission line along Route 15/22 to power Millennium's proposed Highland Compressor Station.	Millennium 2016
Modifications of Existing Transformers (New York State Electric and Gas Corporation)	Proposed	Unknown	0.0 mile	Minor upgrades to an existing transformer at the Hancock Compressor Station and relocation or replacement of an existing transformer at the Ramapo Meter Station.	Millennium 2016
<b>Infrastructure Projects<sup>b</sup></b>					
US 17 Transportation Corridor Study (NYSDOT)	Proposed	Unknown	11.0 miles	Corridor study completed in 2013; road improvements to be considered as funding is available.	Millennium 2016

<sup>a</sup> Projects identified by Millennium (Millennium 2016) that include renewable of existing permits were not included in the cumulative impacts assessment, such as Alliance Energy's Shoemaker and Hillburn Gas Turbine Facilities.

<sup>b</sup> Projects identified by Millennium (Millennium 2016) that include renovation or replacement of existing infrastructure and no new ground disturbance were not included in the cumulative impacts assessment, such as the NYSDOT reconstruction projects.

Potential impacts most likely to be cumulative with the Project's impacts are related to geology and soils, water resources and wetlands, vegetation and wildlife (including federally and state listed endangered and threatened species), land use and visual resources, air quality, and noise. The proposed pipeline facilities could contribute to these cumulative impacts; however, Millennium would minimize adverse Project impacts by implementing mitigation measures identified in section B of this EA, and has collocated the Huguenot Loop with its existing right-of-way.

### **10.1 Geology and Soils**

The Project occurs within a region of relatively low historical earthquake activity and in an area of low, rolling topography with a low to moderate susceptibility and incidence of landslides, soil liquefaction, and land subsidence hazards. Because direct effects of geologic hazards would be highly localized and limited primarily to the period of construction, cumulative impacts from geologic hazard impacts would only occur if other projects are constructed at the same time and place as the proposed facilities. Therefore, the geographic scope for cumulative impacts on geology and soils is the construction footprint of the Project. The Project, in addition to other projects within the geographic scope of the cumulative impact assessment, may have cumulative impacts on geology since projects may be subject to natural geological hazards and soil resources resulting in soil erosion and compaction.

Five projects identified in table B-26 fall within the area of geographic scope for geology and soils, including: Millennium's existing Hancock Compressor Station, the Valley Lateral Project (Docket No. CP16-17-000), the East Side Expansion Project (Docket No. CP14-17-000), Algonquin's Access Northeast Project (Docket No. PF16-1-000), and the non-jurisdictional electric transmission line expansion. Each of these projects would overlap with portions of the Project. As discussed, the geologic setting of the Project poses minimal geologic hazards. In addition, applicants for the other FERC permitted projects would employ best management practices to limit effects on soils, and would implement NYSDAM guidelines for agricultural soil removal and restoration during construction the respective projects. Permanent impacts would occur where soils are encumbered by the applicants' aboveground facilities.

While the construction footprints for projects would overlap, only Algonquin's Access Northeast Project and the non-jurisdictional electric transmission line expansion would be constructed at the same time as the Project. Algonquin and Millennium would implement measures in the FERC Plan, to minimize impacts associated with the projects. Further, these applicants would minimize incremental impacts on soils through implementation of the respective ECS; soil impacts would be short term as revegetation would occur quickly. Therefore, we conclude that cumulative impacts on geology and soils from the Project in consideration with other projects would be minor.

## 10.2 Water Resources and Wetlands

Because impacts on surface waters and wetlands can result in downstream contamination or turbidity, the geographic scope for assessing cumulative impacts on water resources and wetlands includes each HUC-12 subwatershed crossed by the Project. HUCs define the source area that contributes surface water to a specified outlet point, and are delineated based on surface water flow along natural topographic and hydrologic breaks. HUC-12 subwatersheds typically define the drainage area upstream of tributaries to major rivers, and range from 10,000 to 40,000 acres in size. The Project would cross seven subwatersheds: Pea Brook-Delaware River, Halfway Brook, Lower Neversink River, Rutgers Creek, Headwaters to Shawangunk Kill, Indigot Creek, and Mahwah River (see table B-4).

The Project, in addition to other projects within the geographic scope, may have cumulative impacts on water resources and wetlands including changes in groundwater recharge; impacts on surface and groundwater quality; sedimentation and increased turbidity due to erosion or construction within surface waters; and temporary and permanent impacts on wetlands. Construction of the Project would result in temporary and minor impacts on groundwater, surface water resources, and PEM wetlands. Impacts on PFO wetlands would be long-term within the temporary construction right-of-way. Permanent impacts on PFO wetlands would include conversion to PEM and PSS wetlands within the maintained portion of the permanent right-of-way (a 10-foot-wide maintenance corridor centered over the pipeline), and a minor loss of PFO wetlands associated with the access road proposed for the Highland Compressor Station.

Many of the projects identified in table B-26, and the Ozdan and Amytra Developments, are within the same subwatersheds that would be crossed by the Eastern System Upgrade Project, including the Valley Lateral Project, East Side Expansion Project, Access Northeast Project. Some of these projects would result in direct and indirect impacts on wetlands and waterbodies during construction and operation. Therefore, the Project, when considered with other projects in the vicinity, would result in cumulative impacts on water resources and wetlands. However, impacts on surface waters associated with the Project would be temporary, including sedimentation from construction areas. Similarly, while the Eastern System Upgrade Project would result in temporary impacts on three PEM wetlands that would also be affected by construction of the Valley Lateral Project, these wetlands would be restored such that no permanent impacts would occur.

Because the Project and other projects would be required to comply with any mitigation requirements and permit conditions in their CWA Section 404 and state wetland permits for any permanent wetland impacts, and the incremental impacts of the Project would be temporary and minor, we conclude that cumulative impacts would not be significant.

### 10.3 Vegetation and Wildlife

Cumulative effects on vegetation and wildlife, including threatened and endangered species, affected by the Project could occur in the HUC-12 watersheds crossed by the Project. Most of the projects in table B-26, and the Ozdan and Amytra Developments, are within the HUC-12 watersheds crossed by the Project. Eleven of these projects (including the two residential developments) could be under construction at the same time as the Eastern System Upgrade Project, based on available information regarding construction timeframes. Many of the commercial developments and infrastructure projects are in areas of developed land and would not affect natural vegetation communities or wildlife habitat. However, the Valley Lateral Project would result in combined temporary and permanent impacts on open and agricultural land (71.3 acres), forested land (24.8 acres), open land (7.1 acres), and wetland (1.9 acres) areas. A portion of this land would also be used during construction of the Project; however together, the Project and the Valley Lateral Project would affect a total of about 249.5 acres of vegetation during construction and 91.3 acres during operation.

Residential subdivisions would result in some loss of vegetative cover from the addition of impervious surfaces (e.g., building footprint, driveways, sidewalks). Since the details of the Ozdan and Amytra developments are not known, we are unable to determine the amount of vegetation that would be lost. However, cumulative impacts on vegetation resulting from these types of projects are generally expected to be minor, considering the limited area impacted within the HUC-12 watersheds crossed by the Project. For aesthetic reasons, residential areas outside of impervious surfaces would be restored following its construction.

Cumulative impacts, such as those on vegetative cover types and wildlife habitat, are additive. Many wildlife species depend on mature contiguous tracts of forest to sustain their migratory and reproduction cycles. These species include songbirds and terrestrial mammals that require large tracts of forest to support their home ranges. Similar habitats are adjacent to and near construction activities that are expected to be sufficient to support wildlife displaced during construction. Millennium would minimize impacts on vegetation and wildlife habitat by collocating the Project with existing right-of-way where practicable and by implementing the measures in its ECS.

Cumulative impacts on federally and state listed threatened and endangered species and federal species of concern could occur if other projects were to affect the same habitats as the Project. However, the ESA consultation process includes a consideration of the current status of affected species and cumulative impacts would be minimized. We conclude that the cumulative impacts on vegetation and wildlife resources, including threatened and endangered species, would not be significant based on the addition of the Project's impacts on these resources.

## 10.4 Land Use and Visual Resources

The Project could contribute to cumulative impacts on land use with other projects within 1 mile to encompass any large areas with specialized or recreational uses, as well as potential visual impacts. Of the projects identified in table B-26 above, eight are within this 1 mile area, as well as the Ozdan and Amytra developments. The construction and operation of the Project and other projects could result in temporary and permanent cumulative impacts on land use. While many of the impacts of the Project would be temporary, construction of the proposed facilities would result in some permanent land use changes, including forest conversion to maintained rights-of-way and conversion of agricultural land and upland forest for aboveground facilities and access roads to developed, industrial land.

Millennium would minimize impacts on land use by implementing its ECS, which includes provisions from the NYSDAM pipeline construction guidance document and our Plan and Procedures, and by collocating with existing right-of-way where practicable to minimize forest fragmentation and reduce the visual impacts associated with a new corridor. The Huguenot Loop alignment is not proposed to be collocated with the existing mainline along the HDD crossing of the Neversink River (MP 0.2 to 1.1). HDD construction is discussed in section A.8.2. However, we recognize that collocation with existing utility corridors may, in some cases, also have negative consequences to particular tracts such as small privately held properties. Although collocation may reduce cumulative impacts overall, the cumulative impacts of two or more rights-of-way at individual properties or managed sites may be magnified.

As discussed in section B.10.3, several commercial developments and infrastructure projects within the area of geographic scope are located in areas of developed land and would not likely result in noticeable changes in land use. The Valley Lateral, East Side Expansion, Access Northeast projects, as well as the non-jurisdictional facilities, and the Ozdan and Amytra developments would result in the conversion of open, agricultural, and forested land to developed land. However, most of the land use impacts associated with these projects would be temporary and most land would revert to its prior uses following construction. Alternatively, according to the town of Highland's Deputy Supervisor, the planned Ozdan development would include construction of a golf course. Depending on the specific configuration of the golf course and existing land use types, portions or all of these lands would be permanently converted to open land.

The only project listed in table B-26 above that appears to cross the same recreation areas (Kakiat County Park) as the Project is the Access Northeast Project. While this project is currently on hold, the draft resource reports filed with FERC in December of 2015 state that activities near the park would be associated with pipeline removal and replacement within an existing right-of-way and the addition of regulation at the existing Ramapo Station. As discussed in section B.5.2, Millennium's expansion of the Ramapo Meter Station is proposed to occur on 0.9 acre of land currently part of the

Kakiat County Park. However, the terrain and forested land at this site would minimize the visibility of construction and operation of the projects for park users, as well as mitigate dust and noise from construction. Overall the collective impacts from these projects on the 376-acre park are expected to be limited to a few acres. Therefore, we conclude that cumulative impacts would not be significant.

Visual resources are a function of geology, climate, and historical processes, and include topographic relief, vegetation, water, wildlife, land use, and human uses and development. Temporary visual impacts would be evident during Project construction due to clearing, grading, and the presence of construction equipment and personnel. Much of the construction workspace along the Huguenot Loop that would be disturbed by the Project would be within or adjacent to existing right-of-way (88 percent), consisting of Millennium's pipeline right-of-way and public roadways. Further, the modifications to Millennium's existing facilities would be constructed within or adjacent to the existing facility boundaries. As a result, the visual resources along the majority of the Project have been previously affected by pipeline or other operations. Alternatively, the newly proposed compressor station would be built on land that does not have existing infrastructure, however, Millennium has designed the facility to be located toward the back of the parcel, thereby minimizing visibility of construction activities and the new facility.

Of the projects listed in table B-26 above, the Valley Lateral, East Side Expansion, Access Northeast, as well as the Ozdan and Amytra residential development projects would have the greatest impact on visual resources in the Project area. The majority of Millennium's and Algonquin's projects would be buried and Columbia's project would be constructed at an existing aboveground facility, the Wagoner Meter Station. These projects would add incrementally to visual impacts in the Project area, but overall the contribution would be relatively minor given the majority of the facilities would be buried (i.e., pipeline) or adjacent to existing facilities, in industrial settings. Most of the area disturbed during construction of the projects would be restored, including revegetation where appropriate, which would limit permanent visual impacts to forested land that would not be allowed to reestablish within pipeline rights-of-way or within the fence line of an aboveground facility. Residential projects would generally occur over a short construction period and these developers could configure the projects such that the existing natural buffers (trees and/or hills) would mitigate visual impacts on future residents. Minor long-term and permanent cumulative impacts on visual resources could result from the clearing of forested land for construction and maintenance of the permanent right-of-way for the proposed Eastern System Upgrade Project and other projects. However, we conclude these impacts would not be significant.

## **10.5 Air Quality**

Construction of the Project and other projects were considered for cumulative impacts on air quality if they occur within 0.25 mile of the pipeline and aboveground

facilities, because construction emissions are highly localized. Operation of the Project and other projects were considered for cumulative impacts on air quality if they occurred within 50 kilometers (31 miles) of the Eastern System Upgrade Project.

Air emissions from projects in the vicinity of the Project would be additive. Each project listed in table B-26 above would be required to meet applicable state and federal air quality standards to avoid significant impacts on air quality. Construction of Algonquin's Access Northeast Project was anticipated to begin early in 2018, and is anticipated to be completed in time for a November 2018 in-service date; however, that project is currently on hold and it is possible that construction of the Access Northeast Project would be delayed. Cumulative construction emissions from the Access Northeast Project and concurrent construction of the Ramapo Meter Station in Rockland County, New York would not be expected to result in an exceedance of applicable general conformity thresholds; table B-15, in section 8.1, shows the construction emissions anticipated for the Ramapo Meter Station compared with applicable general conformity thresholds. If the residential developments were constructed at the same time as the proposed Highland Compressor Station, the combined construction vehicles and equipment would result in temporary, localized emissions that would last for the duration of the construction period but not be expected to result in an exceedance of applicable general conformity thresholds. As discussed in section B.8.1, impacts from construction and operation of the Eastern System Upgrade Project would not result in any violation of applicable ambient air quality standards, and impacts from construction would be temporary. Any potential cumulative impacts from construction would be limited to the duration of the construction period, and would be temporary and minor.

Construction of the CPV Valley Energy Center began in August 2015, and is anticipated to be completed in December 2017. In addition, the Valley Lateral Project is expected to be under construction in 2017. Although cumulative emissions are not subject to General Conformity, the cumulative construction emissions from the CPV Valley Energy Center, Valley Lateral Project, and concurrent construction of the Eastern System Upgrade Project in Orange County, New York would be below the applicable general conformity thresholds, as shown in table B-27. Concurrent construction of these projects would occur during 2017; construction of the Valley Lateral Project and CPV Valley Energy Center is anticipated to be complete in 2017. As discussed in section B.8.1, impacts from construction and operation of the Eastern System Upgrade Project would not result in an exceedance of applicable general conformity thresholds. The Project would not result in any violation of applicable ambient air quality standards, and impacts from construction would be temporary. Any potential cumulative impacts from construction would be limited to the duration of the construction period, and would be temporary and minor.

<b>Table B-27</b>						
<b>Summary of Estimated Emissions from Construction of the Eastern System Upgrade Project, Valley Lateral Project, and CPV Valley Energy Center in Orange County, New York</b>						
<b>Source</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>2</sub></b>	<b>VOC</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>2017 Construction Emissions</b>						
Eastern System Upgrade Project	12.46	11.57	0.02	1.24	14.24	2.12
Valley Lateral Project	12.72	6.48	0.03	1.36	49.65	7.31
CPV Valley Energy Center	16.71	101.11	0.05	3.06	13.92	2.17
<b>Total</b>	41.89	119.16	0.1	5.66	29.08	5.2
<b>General Conformity Threshold <sup>a</sup></b>	N/A	N/A	N/A	N/A	N/A	<b>100</b>
<sup>a</sup> General Conformity is only applicable to nonattainment or maintenance areas and does not apply to cumulative projects. Thresholds for each pollutant are based on the severity of the nonattainment areas or maintenance area where the Project is located and are presented for a frame of reference. N/A = not applicable.						

During operation, emissions from the Highland and Hancock Compressor Stations and Ramapo Meter Station would contribute to ongoing air emissions throughout the life of the Project. Project emissions during operation would not contribute to a violation of the NAAQS. Cumulative impacts from combustion emissions could occur where modification of the Stony Point Compressor Station would result in operational emissions in the vicinity of the Ramapo Meter Station in Rockland County, New York. Due to the location of Algonquin's existing Stony Point Compressor Station within a designated moderate nonattainment area for ozone, it is subject to non-attainment NSR regulations for emissions of NO<sub>x</sub> and VOCs and is required to demonstrate compliance with the NAAQS. Other projects would also contribute ongoing, operational emissions of air pollutants; however, each of the projects identified in table B-26 above would be required to meet all applicable federal and state air quality standards that are designed to avoid significant impacts on air quality. Therefore, we conclude that the Project would not result in significant cumulative impacts on regional air quality.

Operation of the non-jurisdictional CPV Valley Energy Center would impact regional air quality. The CPV Valley Energy Center has been issued the following air quality permits required for its operation: NYSDEC Air State Facility Permit and Title IV (Phase II Acid Rain) Permit. During operation, emissions from the Valley Lateral Project and Eastern System Upgrade Project in Orange County, New York would be limited to fugitive emissions of CO<sub>2e</sub> and VOCs.

## 10.6 Noise

The analysis in section B.8.2 quantifies future sound levels, which include Project-related and ambient sound levels. Sound level impacts were analyzed by looking at NSAs nearest to the proposed Highland Compressor Station, existing Hancock Compressor Station, Huguenot and Ramapo Meter Stations, and HDD sites. Sound level impacts during construction would be highly localized and attenuate quickly as the distance from the sound source increases, except at HDD construction locations. The one exception to this would be certain HDD activities at the crossings of the Neversink River, Interstate 84, and Mountain Road/Bedell Drive. Millennium would implement mitigation where necessary to reduce the predicted noise generated by the HDD operations below the FERC noise level guideline (of 55 dBA  $L_{dn}$ ) at the nearest NSAs. The Eastern System Upgrade Project, together with the other projects listed in table B-26, would all produce sound during construction; however, this sound would be temporary in the vicinity of each of the proposed projects.

Concurrent construction and operation of the Project and other projects in the vicinity of the same NSA could result in cumulative sound level impacts. Construction of the pipeline facilities associated with Algonquin's Access Northeast Project and the two residential development projects that are within the area of geographic scope for noise could have construction phases that are concurrent with the Eastern System Upgrade Project. Millennium's existing compressor and meter stations (Hancock, Huguenot, Westtown, and Ramapo) would also be operating at the same time as construction of Algonquin's project. Millennium's sound level assessment for the Project included background noise and operational noise associated with the existing facilities. While the sound level increase associated with the construction or modification of aboveground facilities and operation of these facilities would generate perceptible sound level changes, the mitigation measures discussed in section B.8.2 and committed to by Millennium would ensure that the FERC noise criterion of 55 dBA would not be exceeded. We anticipate that the Access Northeast Project would result in sound level impacts similar to the Eastern System Upgrade Project during construction, and Algonquin would be required, like Millennium is for this Project, to propose and apply appropriate mitigation for construction activities occurring at the station site to ensure that the total noise from the construction is below the 55 dBA  $L_{dn}$ . Following construction Algonquin's facilities (i.e., pipeline) would be buried. Overlapping construction of the Ozdan and Amytra Developments and construction and/or operation of the proposed Highland Compressor Station could result in noise disturbances on nearby receptors. Cumulative impacts would be greatest where construction equipment for each project are in close proximity to generate an increase in perceptible noise but would be temporary and localized. For these reasons, we do not anticipate significant noise impacts associated with construction and operation of the Eastern System Upgrade Project, when considered together with the other projects.

## 10.7 Climate Change

Climate change is the change in climate over time, whether due to natural variability or as a result of human activity, and cannot be represented by single annual events or individual anomalies. For example, a single large flood event or particularly hot summer are not indications of climate change, while a series of floods or warm years that statistically change the average precipitation or temperature over years or decades may indicate climate change.

The Intergovernmental Panel on Climate Change (IPCC) is the leading international, multi-governmental scientific body for the assessment of climate change. The United States is a member of the IPCC and participates in the IPCC working groups to develop reports. The leading scientific body in the United States on climate change is the U.S. Global Change Research Program (USGCRP). Thirteen federal departments and agencies participate in the USGCRP, which began as a presidential initiative in 1989 and was mandated by Congress in the Global Change Research Act of 1990. The IPCC and USGCRP have recognized that:

- globally, GHGs have been accumulating in the atmosphere since the beginning of the industrial era (circa 1750);
- combustion of fossil fuels (coal, petroleum, and natural gas), combined with agriculture and clearing of forests is primarily responsible for this accumulation of GHG;
- these anthropogenic GHG emissions are the primary contributing factor to climate change; and
- impacts extend beyond atmospheric climate change alone, and include changes to water resources, transportation, agriculture, ecosystems, and human health.

In May 2014, the USGCRP issued a report, *Climate Change Impacts in the United States*, summarizing the impacts that climate change has already had on the United States and what projected impacts climate change may have in the future (USGCRP 2014). The report includes a breakdown of overall impacts by resource and impacts described for various regions of the United States. Although climate change is a global concern, for this cumulative analysis, we focus on the potential cumulative impacts of climate change in the Project area. The USGCRP's report notes the following observations of environmental impacts that may be attributed to climate change in the Northeast region:

- average temperatures have risen about 2 degrees Fahrenheit between 1895 and 2011 and are projected to increase another 1 to 8 degrees Fahrenheit over the next several decades with more frequent days above 90 degrees Fahrenheit;

- areas that currently experience ozone pollution problems are projected to experience an increase in the number of days that fail to meet the federal air quality standards;
- an increase in health risks and costs for vulnerable populations due to projected additional heat stress and poor air quality;
- precipitation has increased by about 5 inches and winter precipitation is projected to increase 5 to 20 percent by the end of the century;
- extreme/heavy precipitation events have increased more than 70 percent between 1958 and 2010 and are projected to continue to increase;
- sea levels have risen about 1 foot since 1900 and are projected to continue increasing 1 to 4 feet by 2100 stressing infrastructure (e.g., communications, energy, transportation, water, and wastewater);
- severe flooding due to sea-level rise and heavy downpours is likely to occur more frequently;
- crop damage from intense precipitation events, delays in crop plantings and harvest, and heat stress negatively affect crop yields;
- invasive weeds are projected to become more aggressive due to their benefit of higher CO<sub>2</sub> levels;
- a change in range, elevation, and intra-annual life cycle events of vegetation and wildlife species; and
- an increase in carrier habitat and human exposure to vector-borne diseases (e.g., Lyme disease or West Nile virus).

Our analysis presents the direct and indirect GHG emissions associated with construction and operation of the projects and the potential impacts of GHG emissions in relation to climate change, to the extent practicable.

The GHG emissions associated with construction and operation of the Eastern System Upgrade Project are discussed in section B.8.1. While upstream and downstream emissions are not causally connected to the Project, we recognize the availability of a reasonable, EPA-developed methodology to estimate the downstream GHG emissions from a project, assuming all of the gas to be transported is eventually combusted. As such, we estimated the GHG emissions from the end-use combustion of the natural gas to be transported by the Project. The Project can deliver up to 223,000 Dth/d of new volumes, which can produce 4.3 million metric tons of CO<sub>2</sub> per year from end-use

combustion. However, this value may represent a significant overestimation of emissions because it assumes the total maximum capacity is transported 365 days per year. Many projects in front of the Commission are designed for peak use. As such, it is unlikely that this total amount of GHG emissions would occur. Currently, there is no scientifically-accepted methodology available to correlate specific amounts of GHG emissions to discrete changes in average temperature rise, annual precipitation fluctuations, surface water temperature changes, or other physical effects on the environment in the Northeast region. However, contributions to GHG emissions globally results in the climate impacts discussed above for the Northeast region.

As discussed above, we have disclosed the potential GHG emissions from the Project, mitigation measures to minimize GHG emissions, and climate change impacts in the Northeast region associated with global GHG emissions. Additionally, burning natural gas emits less CO<sub>2</sub> compared to other fuel sources (e.g., fuel, oil, or coal). Therefore, we find that GHG emissions have been sufficiently minimized.

## **10.8 Conclusions on Cumulative Impacts**

We conclude that impacts associated with the Eastern System Upgrade Project would be relatively minor, and we are recommending additional measures to further reduce the environmental impacts associated with the Project. We anticipate that the Project would contribute to a negligible to minor cumulative impact when the effects of the Project are added to past, present, and reasonably foreseeable projects in the region of influence and would not be significant.

## C. ALTERNATIVES

In accordance with NEPA and FERC policy, we evaluated alternatives to the Project to determine whether they would be reasonable and environmentally preferable to the proposed action. These alternatives included the no action alternative, system alternatives, major pipeline route alternatives, minor route variations, and aboveground facility alternative sites. The evaluation criteria used for developing and reviewing alternatives were:

- ability to meet the Project's stated objective;
- technical and economic feasibility and practicality; and
- significant environmental advantage over the proposed action.

With regard to the first criteria and for the purposes of NEPA, the applicant's stated objectives for the Project is to provide 223,000 Dth/d of firm natural gas transportation capacity from Millennium's Corning Compressor Station to an existing interconnect with Algonquin in Ramapo, New York. Millennium states that the Project facilities would also ensure that current customer demand along Millennium's system is met during the summer months and that current deliveries to interconnecting pipelines continue.

It is important to note that not all conceivable alternatives are technically feasible or practical. Some alternatives may be limited by the extent of existing technologies or by system capacities, while others may not be practical because sites are unavailable or cannot be developed for the proposed use. Also it is important to consider the environmental advantages and disadvantages of the proposed action, as some alternatives may reduce impacts on resources that are not relevant to the analysis, while others may reduce impacts on one resource but increase impacts on others.

Our analysis that follows is based on information used to evaluate alternatives to the Project including review of area maps, comments and suggestions from regulatory agencies, comments from the public, data provided by Millennium in its application, and our independent research. Unless otherwise noted, we used the same desktop sources of information to standardize comparisons between the Project and corresponding alternative. Therefore, data presented in our analysis may differ from that presented elsewhere in this environmental assessment, which included Project-specific data collected during field surveys and based on engineer drawings.

In addition to these adopted route variations, minor alignment shifts may be required prior to and during construction to accommodate currently unforeseeable site-specific constraints related to engineering, landowner, and environmental concerns. All

such alignment shifts that occur outside of the permanent right-of-way would be subject to review and approval by the FERC.

## **1. No-Action Alternative**

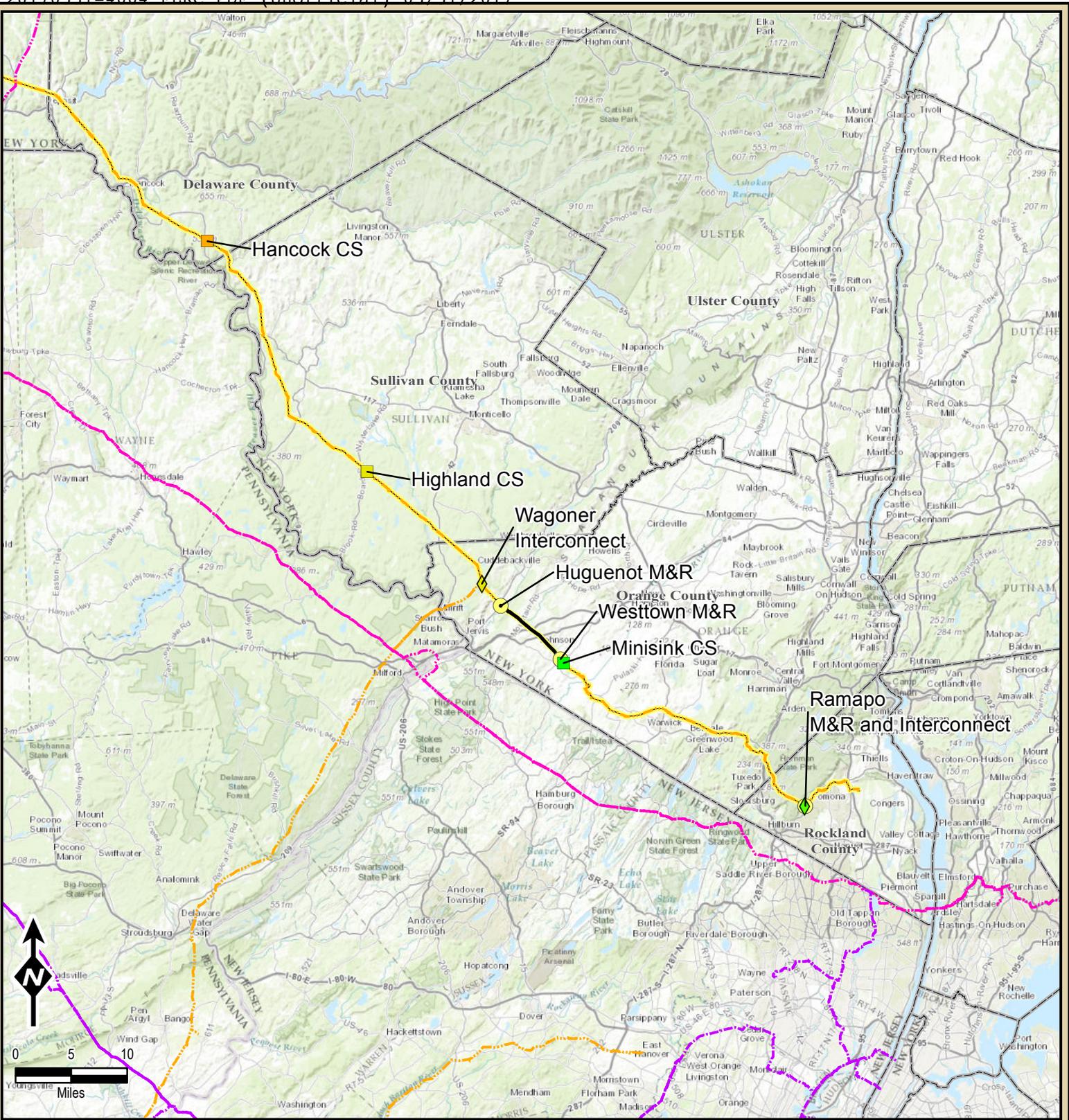
Under the no-action alternative, the Project would not be built so the environmental impacts identified in this EA would not occur. Other natural gas transmission companies could propose to construct similar facilities to supply Algonquin with additional natural gas. As discussed below, such actions could result in impacts similar to or greater than the Project, and might not meet the Project's purpose and need within the proposed time frames. Therefore, we have concluded that the no-action alternative would not satisfy the Project objectives.

## **2. System Alternatives**

System alternatives would use existing, modified, or proposed pipeline systems to meet the purpose and need of the Eastern System Upgrade Project. Although modifications or additions to existing or proposed pipeline systems may be required, implementation of a system alternative would deem it unnecessary to construct all or part of the Project. These modifications or additions could result in environmental impacts that are less than, similar to, or greater than those associated with construction and operation of the Project.

The purpose of identifying and evaluating system alternatives is to determine whether the environmental impacts associated with construction and operation of the Project could be avoided or reduced by using another pipeline system, while still meeting the objectives of the Project. The remainder of this section includes a discussion of the feasibility of using existing natural gas pipeline systems or looping alternatives to achieve the Project objectives.

We evaluated the use of four existing natural gas distribution pipeline systems in the proximity to Millennium's interconnection with the Algonquin System, including Millennium's existing mainline, that could serve as a system alternative to the Eastern System Upgrade Project. These existing systems and their relative proximity to Millennium's interconnection with the Algonquin System are depicted on figure 4.



- Existing CS (Modifications)
- Proposed CS
- Existing CS
- ◆ Existing Interconnect
- ◆ Interconnect (Modifications)
- Existing MS (Modifications)
- Proposed Loop
- Existing Transco Pipeline System
- Existing Tennessee Pipeline System
- Existing Columbia Pipeline System
- Existing Millennium Pipeline

**Existing System Alternatives to the Eastern System Upgrade Project**

**Figure 14**

Sources: ESRI, Millennium, TRC, and Hart Energy

Millennium evaluated the option of replacing its existing 24-inch-diameter mainline with a new 36-inch-diameter pipeline to accommodate the additional 233,000 Dth/d. This would require replacement of about 7.2 miles of pipe and a 125-foot-wide construction right-of-way, which would result in temporary impacts on about 109 acres. Additional impacts would occur from the need for access roads, contractor/pipe yards and storage areas, and additional temporary workspace to accommodate construction through sensitive resources, across roadways, and for topsoil segregation. While this system alternative would minimize the need for establishment of new, permanent right-of-way, it would require Millennium to take the existing system out of service for about three months, thus interrupting service for residences and businesses throughout the southern portion of New York State. Further, this option would still require additional compression similar to that of the Project.

About 5 miles south of the desired interconnect is an existing system that delivers natural gas to the northeast via an approximate 11,900-mile-long pipeline system operated by Tennessee Gas Pipeline Company (Tennessee), a subsidiary of Kinder Morgan (Kinder Morgan 2016). A second system operated by Columbia, a subsidiary of TransCanada Corporation, is located about 20 miles south of the desired interconnect. This 12,000-mile system delivers natural gas to the northeast, mid-Atlantic, and southern states. The third system is about 60 miles south of the desired interconnect. The 10,200-mile system is operated by Transcontinental Gas Pipeline Company (Transco), a subsidiary of William Companies, Inc. and delivers natural gas to the Atlantic Coast and southeast states.

Millennium stated that based on the current projects approved by FERC and recent applications filed by Tennessee, Columbia, and Transco with FERC, all three of these systems are operating at or near capacity. Consequently, for any of these systems to transport an additional 223,000 Dth/d, modifications such as adding new piping to reach the desired interconnect, as well as additional compression and other alterations to the systems would likely be required.

Each of the four existing systems would require upgrades or modifications that would result in similar or greater environmental impacts than those proposed for the Eastern System Upgrade Project. Therefore, we do not consider expansions of the existing Tennessee, Columbia, or Transco systems or replacement of Millennium's mainline to be reasonable alternatives that would provide a significant environmental advantage over the Project.

### **3. Major Route Alternatives**

A route alternative deviates from a relatively large segment of a proposed pipeline alignment for a substantial length and distance in an effort to reduce overall environmental impacts. Route alternatives would involve construction of a new pipeline

route that interconnects with Millennium's mainline, but would ultimately interconnect with the Algonquin System.

Primary criteria in evaluating route alternatives included following existing rights-of-way wherever possible to minimize impacts, as well as avoiding impacts on residences, wetlands, forested land, known cultural sites, and other resources. Millennium designed the Huguenot Loop to be collocated with its mainline to the extent practicable, resulting in a nominal 12 percent of the proposed route being greenfield. The 0.9 mile that would not be collocated with the existing mainline would be to accommodate the HDD crossing of the Neversink River as identified in table A-4 in section A.6.1.

Based on the design of the proposed route, and its collocation with Millennium's existing right-of-way, no major route alternatives were identified by Millennium. Further, we received no comments regarding potential major pipeline route alternatives (see section A.4). Therefore, an analysis of major route alternatives was dismissed and not considered further.

#### **4. Looping Only Alternative**

A looping only alternative was evaluated that would eliminate the need for additional compression at the Hancock Compressor Station, as well as the new Highland Compressor Station. Based on hydraulic modeling, it was estimated that an additional 54.0 miles of pipeline looping facilities would be required to meet the needs of the Project without additional compression. This 61.8-mile-long alternative would include the 7.8-mile-long Huguenot Loop, as well as 30.9 miles and 23.1 miles of 36-inch-diameter loop upstream and downstream, respectively, of the Hancock Compressor Station.

While this alternative would be collocated along existing Millennium rights-of-way for about 98 percent of its length, it would be 54.0 miles longer than the proposed route, and would result in greater construction and operation impacts (see table C-1). Although impacts on specific resources are not quantified in table C-1, because the alternative route would be significantly longer than the Huguenot Loop it would result in greater impacts on wetlands and forested land than the Project route, and would likely be within 50 feet of many more residences. The Looping Only Alternative does not show a significant environmental advantage, and is not considered further.

<b>Table C-1</b>		
<b>Looping Only Alternative to the Eastern System Upgrade Project</b>		
<b>Resource</b>	<b>Proposed Route</b>	<b>Looping Only Alternative</b>
<b>Pipeline Facilities</b>		
Pipeline length (miles)	7.8	61.8
Operation acres <sup>a</sup>	35.2	347.7
Construction acres <sup>b</sup>	82.1	903.9
Length of adjacent right-of-way (miles)	6.9	61.0
<b>Aboveground Facilities</b>		
Compression required (hp)	44,800	None
Construction acres	41.0	0.0
Operation acres	21.6	0.0
<sup>a</sup>	Operation acres estimated based on an assumed 50-foot-wide easement.	
<sup>b</sup>	Construction acres estimated based on an assumed 125-foot-wide construction corridor for the alternative and the temporary workspace and permanent easements for the proposed route.	

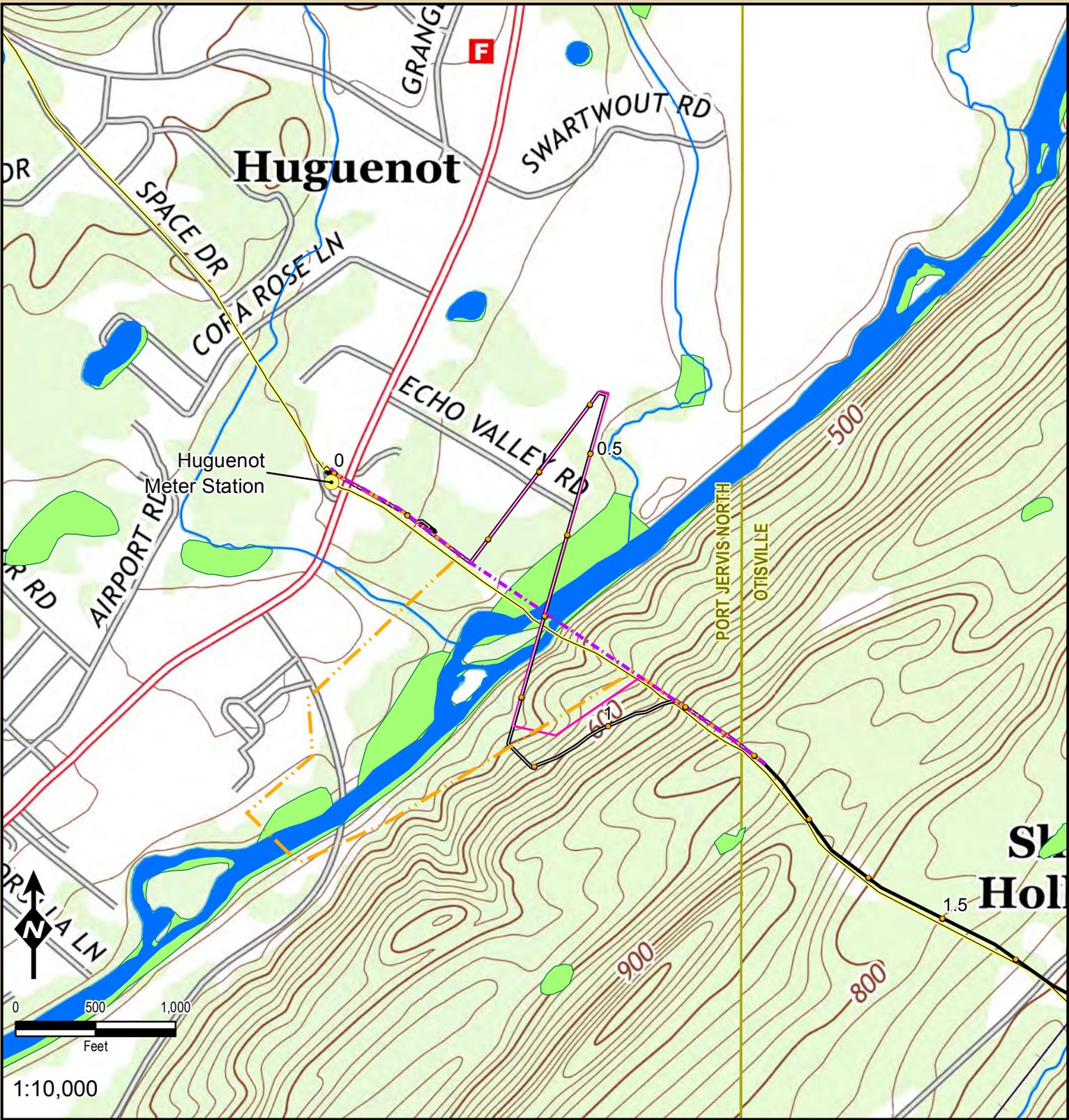
## 5. Minor Route Variations

Route variations are identified to reduce construction impacts on localized, specific resources such as waterbodies, wetlands, cultural resource sites, and residences; route variations are also identified to address landowner concerns. While route variations may be a few miles in length, most are relatively short and in close proximity to the proposed route. Route variations are identified in response to specific local concerns and may not always clearly display an environmental advantage other than to reduce impacts on a localized level. Table C-2 lists the two variations we have taken into consideration in our analysis, the associated segment along the proposed route that they would replace, and the rationale for the variation. Millennium worked with affected landowners during development of the application and during the pre-filing process, and incorporated three variations into the proposed pipeline route. These variations are included in the proposed route evaluated in section B of this EA.

Additionally, prior to filing its Application, Millennium had identified four staging areas to support construction of the Project. As a result of the completion of field surveys in April 2016, Millennium identified a sensitive resource within the staging area planned for use at MP 2.8. To avoid impacts on this resource, Millennium removed this staging area from the Project, and added Contractor/Pipe Yard 4 (about 0.7 miles northwest of MP 0.0) to accommodate construction needs for the Project.

<b>Table C-2 Neversink River Route Variations</b>			
<b>Resource</b>	<b>Proposed Route<sup>a</sup> (HDD)</b>	<b>Route Variation 1 (HDD)</b>	<b>Route Variation 2 (Conventional Bore)</b>
Pipeline length (miles)	1.3	0.6	1.3
Operation acres <sup>b</sup>	4.5	0.6	6.8
Construction acres <sup>c</sup>	26.9	4.0	23.3
Length of adjacent right-of-way (miles) <sup>d</sup>	0.3	0.5	0.4
Number of roads crossed	3	1	3
Residential structures within 50 feet of the construction right-of-way <sup>e</sup>	3	2	4
NYSDEC Protected Stream Buffer impacted (construction/operation)	1.0/0.0	0.0/0.0	0.9/0.3
Number of forested wetlands crossed	1	1	1
Acres of forested wetland impacted (construction/operation)	0.0/0.0	0.3/1.1	0.0/0.0
Acres of forested land impacted (construction/operation)	11.2/2.6	1.9/0.2	11.3/3.1
Acres of agricultural land impacted (construction/operation)	8.2/0.6	0.0/0.0	0.0/0.0
Number of waterbodies crossed	1	1	2
Number of public lands crossed and crossing length (miles)	2/1,680	0/0	1/2,438
Length of shallow depth to bedrock (miles)	0.3	<0.1	0.5
<p><sup>a</sup> The data provided for the proposed route is based on desktop data to allow for consistent comparison of data types between the proposed route and variations.</p> <p><sup>b</sup> Operation acres estimated based on an assumed 50-foot-wide easement.</p> <p><sup>c</sup> Construction acres estimated based on an assumed 75-foot-wide construction corridor and 100-foot-wide corridor in agricultural lands.</p> <p><sup>d</sup> Estimated from 2013 aerial photography, and utility and transportation layers. Based on an assumed 50-foot-wide permanent easement centered on the route.</p> <p><sup>e</sup> Estimated based on an assumed 110-foot-wide construction right-of-way centered on the Proposed Route and System Alternative lateral lines. Accessory structures such as sheds not included.</p>			

Route Variation 1, like the proposed route, would involve an HDD of the Neversink River, however it would be collocated with Millennium's mainline, allowing for a perpendicular crossing (see figure 5). This route variation would be about 0.6 mile shorter than the corresponding portion of the proposed route, thereby reducing construction and operational impacts by 22.9 and 3.9 acres, respectively. This route variation would be collocated for an additional 0.2 mile, would avoid impacts on two parks (see section B.5.3) and the NYSDEC Protected Stream Buffer. Route Variation 1 would also have less impacts on forested land, including forested wetlands, and prime farmland soils as compared to the proposed route (see table C-2).



● Existing Meter Station (Modifications)	— Proposed Loop
● Milepost (0.1 mile)	— Existing Millennium Pipeline
--- Route Variation 1	□ US Topo 7.5 Minute Quadrangle
--- Route Variation 2	— NHD Stream
— Route April 2016	■ NHD Waterbody
— Preferred Route July 2016	■ NWI Wetland

**Route Variations for the Neversink River Crossing**

**FIGURE 26**

Sources: USGS National Map 2013 (accessed December 2015), ESRI, Millennium, and TRC

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However, the change in elevation between the entry and exit pits is about 375 feet, representing a 16.5 percent slope, which increases the potential for an inadvertent return of drilling fluids during construction. A release of these fluids into the waters of the Neversink River would impact water quality, which, depending on the severity of the release, could result in impacts on the dwarf wedgemussel. Therefore, we do not recommend incorporation of Route Variation 1 into the proposed route.

A conventional bore crossing of the river was also evaluated. The conventional bore, like HDD, is a trenchless crossing method; however, the crossing distance is generally limited to about 300 feet. As depicted in figure 5, Route Variation 2 would deviate from the proposed route near MP 0.1, taking a predominately southwest path for about 0.4 mile, crossing a horse farm before turning southeast for 0.1 mile to the crossing the river. This route variation would be less than 0.1 mile longer than the corresponding portion of the proposed route and would have slightly more collocation (less than 0.1 mile).

While the conventional bore method would result in a smaller construction footprint compared to the proposed route, permanent impacts would be greater, including impacts on NYSDEC Protected Stream Buffer and farmland soils. Also, while Route Variation 2 would only cross one park, the total crossing distance would be 758 feet longer than the proposed route's crossing of parks. Finally, this route variation would affect a forested wetland and a horse farm, both of which would be avoided by the proposed route. Therefore, we do not recommend incorporation of Route Variation 2 into the proposed route.

## **6. Aboveground Facility Alternatives**

Millennium would construct one new compressor station (Highland), add compression at the existing Hancock Compressor Station, modify or upgrade three existing meter stations (Huguenot, Westtown, and Ramapo), modify an existing interconnect (Wagoner Interconnect), and install a new interconnect (Alternate Interconnect). Millennium owns the property where the proposed Highland Compressor Station would be located, as well as the existing facility sites. All updates or modifications would occur within or immediately adjacent to the existing sites. Therefore, our assessment of alternative sites was limited to the new compression facilities.

### **6.1 New Compressor Station Site Alternative**

As part of the design process, Millennium preformed hydraulic modeling to identify the optimal location for a new compressor station with a goal of minimizing the amount of compression required for the Project and to maintain operational pressure on the system. The results of the hydraulic modeling identified the optimal placement of a new compressor station between MPs 134 and 136 of Millennium's mainline. Within

this area, we evaluated the proposed site and one alternative site: Compressor Station Alternative Site.

The Compressor Station Alternative Site would be located about 600 feet northwest of the proposed site on the west side Millennium's existing pipeline (see figure 6). The 44-acre parcel is composed mostly of forested land, with some open land. The alternative site would have a smaller construction and operational footprint as compared to the proposed site and does not contain any prime farmland soils, however, there are 16 residences within 0.5 mile of the alternative site. In addition, Halfway Brook and an associated NYSDEC-regulated wetland system are located on the northeast side of the parcel. For these reasons, we conclude that Compressor Station Alternative Site provides no significant environmental advantage over the proposed site.

## **6.2 Compression Design Alternatives**

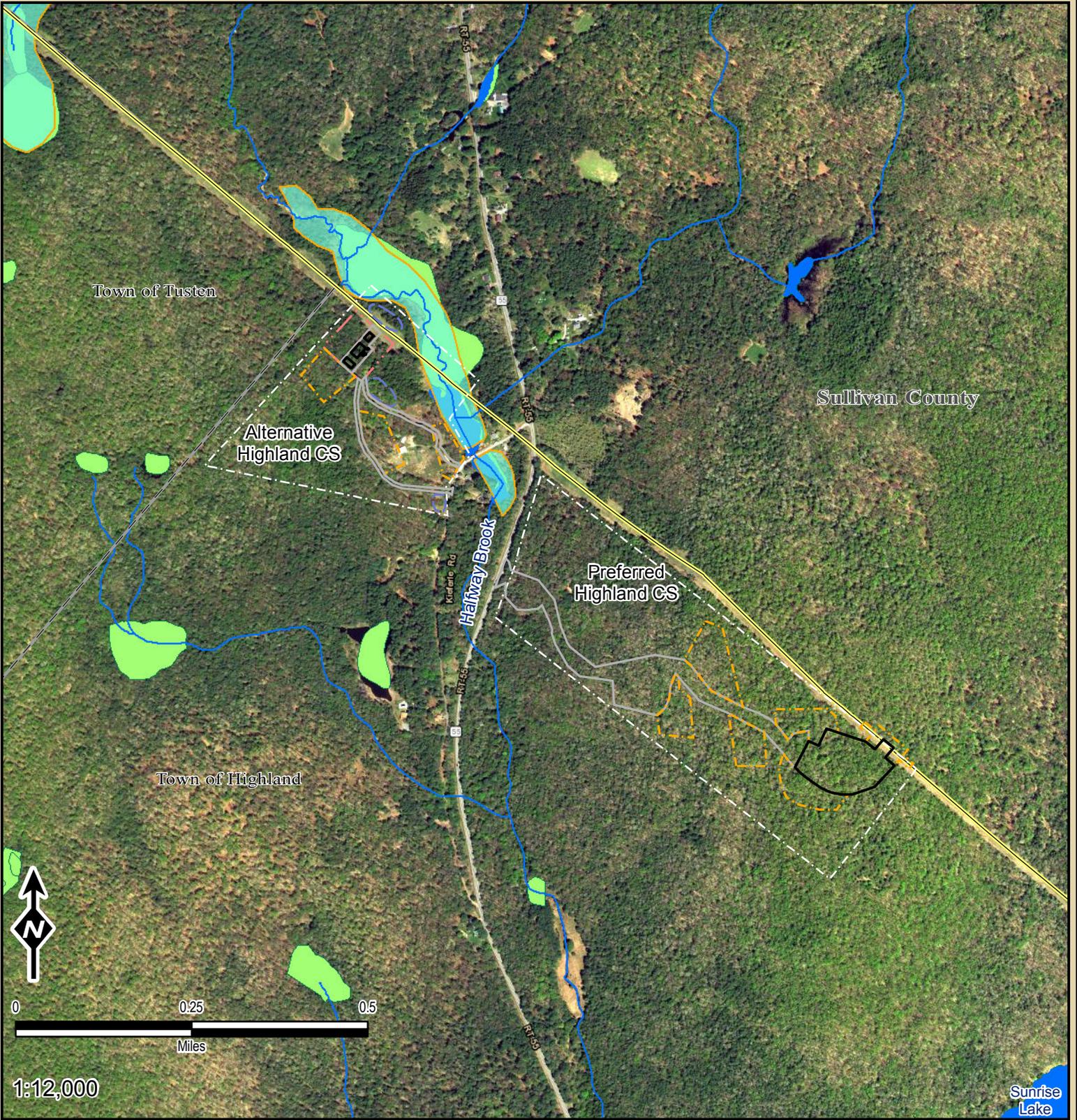
### **Additional Compression Only**

To eliminate the need for a new compressor station, we evaluated the possibility of additional compression at Millennium's facilities sufficient to support the Project. This Additional Compression Only Alternative would require a total of 66,600 hp be added to Millennium's system at three existing facilities: 4,700 hp at the Wagoner Interconnect, 22,400 hp at the Hancock Compressor Station, and 39,500 hp at the Minisink Compressor Station. The additional 21,800 hp as compared to the Project would cause significant costs for the Project. The closest residence to the Minisink Compressor Station is 540 feet from the station, as compared to 2,900 feet for the proposed Highland Compressor Station. Given the residential setting of the Minisink Compressor Station impacts such as increased noise and air emissions would affect 95 new residences that are located within 0.5 mile of this facility.

In consideration of these factors, we conclude the Additional Compression Only Alternative would not be preferable to or provide significant environmental advantage over the Project.

### **Electric Compressors**

In order to minimize air emissions, we evaluated the feasibility of using electric motor-driven compressor units in lieu of the proposed natural gas-fired compressor units at the Highland Compressor Station. Several factors were considered in evaluating the type of unit to install, including: proximity to existing electric power sources; the need for new or modified electric power sources or transmission facilities; the need for additional ancillary facilities, such as substations; the ability of power companies to design, permit, and construct new facilities in a timeframe reasonably close to the Project; additional environmental impacts associated with construction of new facilities; and the ability to comply with emissions standards during operations at each site.



PERM	NHD Stream
PAR	NHD Waterbody
TWS	NYDEC Wetland
ATWS	NWI Wetland
Stormwater	
Property Boundary	
Existing Millennium Pipeline	

Highland  
Compressor  
Station Alternative

**Figure 9**

Sources: ESRI, Millennium, and TRC. Basemap: USDA NAIP 2015 5 m

Although technically feasible, Millennium stated the use of electric units would fail to meet the Project's purpose and need due to the following: 1) the amount of time required to install required electrical supply to the area; 2) the increase in acres of impact to install 7 miles of high voltage line, a substation and transformer, and 3) the greater Project costs required for installation of these electric facilities.

Millennium researched the potential for the existing electrical service along Route 12/55 to supply power required to operate a 22,400-hp compressor and found the existing power line was not sufficient. The closest existing high voltage line was identified about 7 miles southeast of the proposed site. In order to connect the compressor unit to this power line, a new 7-mile-long medium or high voltage line within a 75- to 200-foot-wide permanent right-of-way would be required, as well as a substation and transformer at the Highland Compressor Station site. A new power line would cause significant costs for the Project, while the proposed gas-driven compressor station could be supported with only minor upgrades for the existing electrical service that runs along Route 12/55. The cost of establishing electric power for the compressor would increase the construction cost of compressor station. Also, the New York Independent System Operator would have to conduct a load study to ensure the electric grid could even accommodate the unit, which could take up to one year to complete.

Finally, gas-driven turbines are generally preferred over electric compression for providing reliable, uninterrupted natural gas transmission because the fuel supply does not require a third party for operation. Gas-driven emergency generators with capacity to power electric compressors would be infeasible, and would be significantly larger than the proposed turbines. Gas-driven turbines would not be affected by an electrical outage at the Highland Compressor Station. For these reasons, we concluded that an electric-driven compressor unit at the proposed Highland Compressor Station would not offer a significant environmental advantage over the proposed gas-driven turbines.

## D. STAFF CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis contained within this EA, we have determined that if Millennium constructs and operates the proposed facilities in accordance with its application and supplements and our recommended mitigation measures, approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment. We recommend that the Order contain a finding of no significant impact and include the following mitigation measures listed below as conditions to any Certificate the Commission may issue.

1. Millennium shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. Millennium must:
  - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary;
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of the OEP **before using that modification.**
  
2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Project. This authority shall allow:
  - a. the modification of conditions of the Order; and
  - b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from Project construction and operation.
  
3. **Prior to any construction,** Millennium shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel would be informed of the EIs' authority and have been or would be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.

4. The authorized facility locations shall be as shown in the EA, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, Millennium shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

Millennium's exercise of eminent domain authority granted under NGA Section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Millennium's right of eminent domain granted under NGA Section 7(h) does not authorize it to increase the size of its natural gas pipelines or aboveground facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

5. Millennium shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, contractor/pipe yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

This requirement does not apply to extra workspace allowed by the FERC Plan, and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by state regulatory authorities; and

- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
6. **Within 60 days of the acceptance of the Certificate and before construction begins**, Millennium shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Millennium must file revisions to the plan as schedules change. The plan shall identify:
- a. how Millennium will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;
  - b. how Millennium will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
  - c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
  - d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
  - e. the location and dates of the environmental compliance training and instructions Millennium will give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change);
  - f. the company personnel and specific portion of Millennium's organization having responsibility for compliance;
  - g. the procedures (including use of contract penalties) Millennium will follow if noncompliance occurs; and
  - h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
    - (1) completion of all required surveys and reports;
    - (2) the environmental compliance training of onsite personnel;
    - (3) the start of construction; and
    - (4) the start and completion of restoration.
7. Millennium shall employ at least one EI per construction spread. The EIs shall be:

- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
  - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see Condition 6 above) and any other authorizing document;
  - c. empowered to order the correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
  - d. a full-time position, separate from all other activity inspectors;
  - e. responsible for documenting compliance with the environmental conditions of that Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
  - f. responsible for maintaining status reports.
8. Beginning with the filing of its Implementation Plan, Millennium shall file updated status reports with the Secretary on a **biweekly basis until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
- a. an update on Millennium's efforts to obtain the necessary federal authorizations;
  - b. the construction status of the Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
  - c. a listing of all problems encountered and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
  - d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
  - e. the effectiveness of all corrective actions implemented;
  - f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and

- g. copies of any correspondence received by Millennium from other federal, state, or local permitting agencies concerning instances of noncompliance, and Millennium's response.
9. **Prior to receiving written authorization from the Director of OEP to commence construction of any Project facilities**, Millennium shall file with the Secretary documentation that it has received all authorizations required under federal law (or evidence of waiver thereof).
  10. Millennium must receive written authorization from the Director of OEP **before placing the Project into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Project are proceeding satisfactorily.
  11. **Within 30 days of placing the authorized facilities in service**, Millennium shall file an affirmative statement with the Secretary, certified by a senior company official:
    - a. that the facilities have been constructed and installed in compliance with all applicable conditions, and that continuing activities would be consistent with all applicable conditions; or
    - b. identifying which of the conditions in the Order Millennium has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
  12. Millennium shall offer to conduct, with the well owner's permission, pre- and post-construction monitoring of well yield and water quality for wells within 150 feet of construction workspace.
  13. Millennium **shall not begin construction** of the Project **until**:
    - a. the staff receives comments from the FWS regarding the proposed actions;
    - b. the FERC staff completes any necessary Section 7 consultation with the FWS; and
    - c. Millennium has received written notification from the Director of the OEP that construction and/or use of mitigation (including implementation of conservation measures) may begin.
  14. **Prior to construction**, Millennium shall file with the Secretary documentation of its consultation regarding Project construction and operation within the Huckleberry

Ridge State Forest, including any specific procedures or permits identified by the NYSDEC.

15. **Prior to construction**, Millennium shall file with the Secretary documentation of its consultation regarding Project construction and operation within private parcels protected under conservation easements, including any specific procedures identified in coordination with The Nature Conservancy.
16. **Prior to construction using any drilling equipment or performing entry-side activity at MP 3.8 of the Mountain Road/Bedell Drive HDD**, Millennium shall file with the Secretary for review and written approval by the Director of the OEP, a revised HDD noise assessment for entry-side activity at MP 3.8 and an estimate of the number of days/weeks/months required to complete the HDD. If the results of the assessment show that noise levels would exceed 55 dBA  $L_{dn}$  at any NSA, Millennium shall file a noise mitigation plan that identifies all reasonable measures Millennium commits to implementing to reduce noise levels attributable to the proposed drilling operations at NSAs, and the resulting noise levels at each NSA with mitigation.
17. Millennium shall make all reasonable efforts to ensure its predicted impact on noise levels from the new Highland Compressor Station and modified Hancock Compressor Station are not exceeded at nearby NSAs, and file noise surveys showing this with the Secretary **no later than 60 days** after placing each station into service. If a full load condition noise survey of the entire station is not possible, Millennium shall file an interim survey at the maximum possible horsepower and file the full load survey **within 6 months**. If the noise attributable to the operation all of the equipment at either compressor station under full or interim horsepower load conditions exceeds an  $L_{dn}$  of 55 dBA at any nearby NSA, Millennium shall file a report on what changes are needed and shall install additional noise controls measures to meet the level **within 1 year** of the in-service date. Millennium shall confirm compliance with this requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.
18. Millennium shall file noise surveys with the Secretary **no later than 60 days** after placing the modified Ramapo and Huguenot Meter Stations in service. If the noise attributable to the operation of either meter station exceeds the previously existing noise levels at any nearby NSAs that are currently at or above an  $L_{dn}$  of 55 dBA, or exceeds 55 dBA  $L_{dn}$  at any nearby NSAs that are currently below 55 dBA  $L_{dn}$ , Millennium shall file a report on what changes are needed and shall install the additional noise controls to meet the requirements **within 1 year** of the in-service date. Millennium shall confirm compliance with the above requirement by filing a second sound level survey with the Secretary **no later than 60 days** after it installs the additional noise controls.

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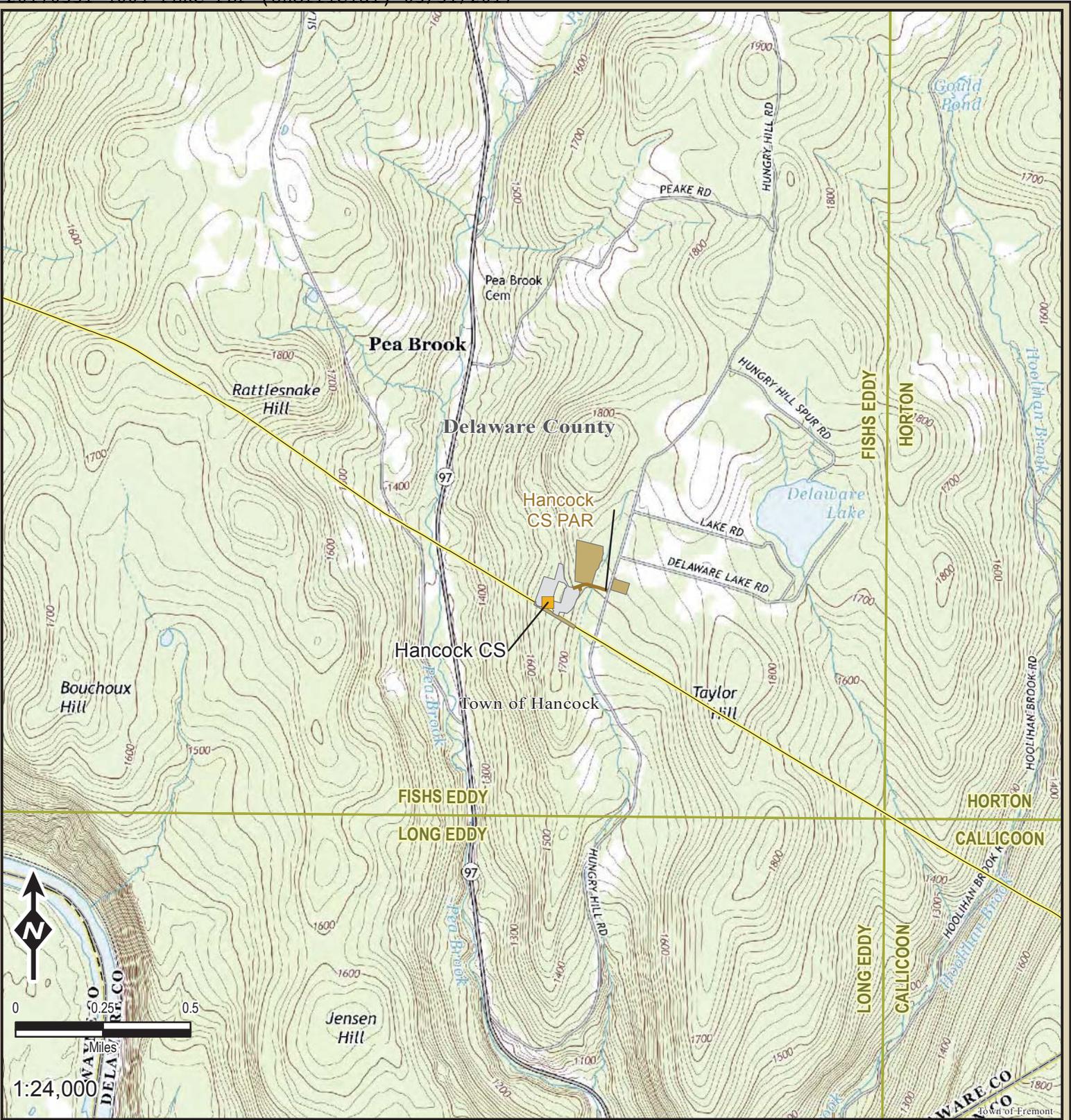
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*Edge Engineering and Science, LLC is a third party contractor assisting the Commission staff in reviewing the environmental aspects of the project application and preparing the environmental documents required by NEPA. Third party contractors are selected by Commission staff and funded by project applicants. Per the procedures in 40 CFR 1506.5(c), third party contractors execute a disclosure statement specifying that they have no financial or other conflicting interest in the outcome of the project. Third party contractors are required to self-report any changes in financial situation and to refresh their disclosure statements annually. The Commission staff solely directs the scope, content, quality, and schedule of the contractor's work. The Commission staff independently evaluates the results of the third party contractor's work and the Commission, through its staff, bears ultimate responsibility for full compliance with the requirements of NEPA.*

**APPENDIX A**  
**TOPOGRAPHIC MAPS OF THE PROJECT**



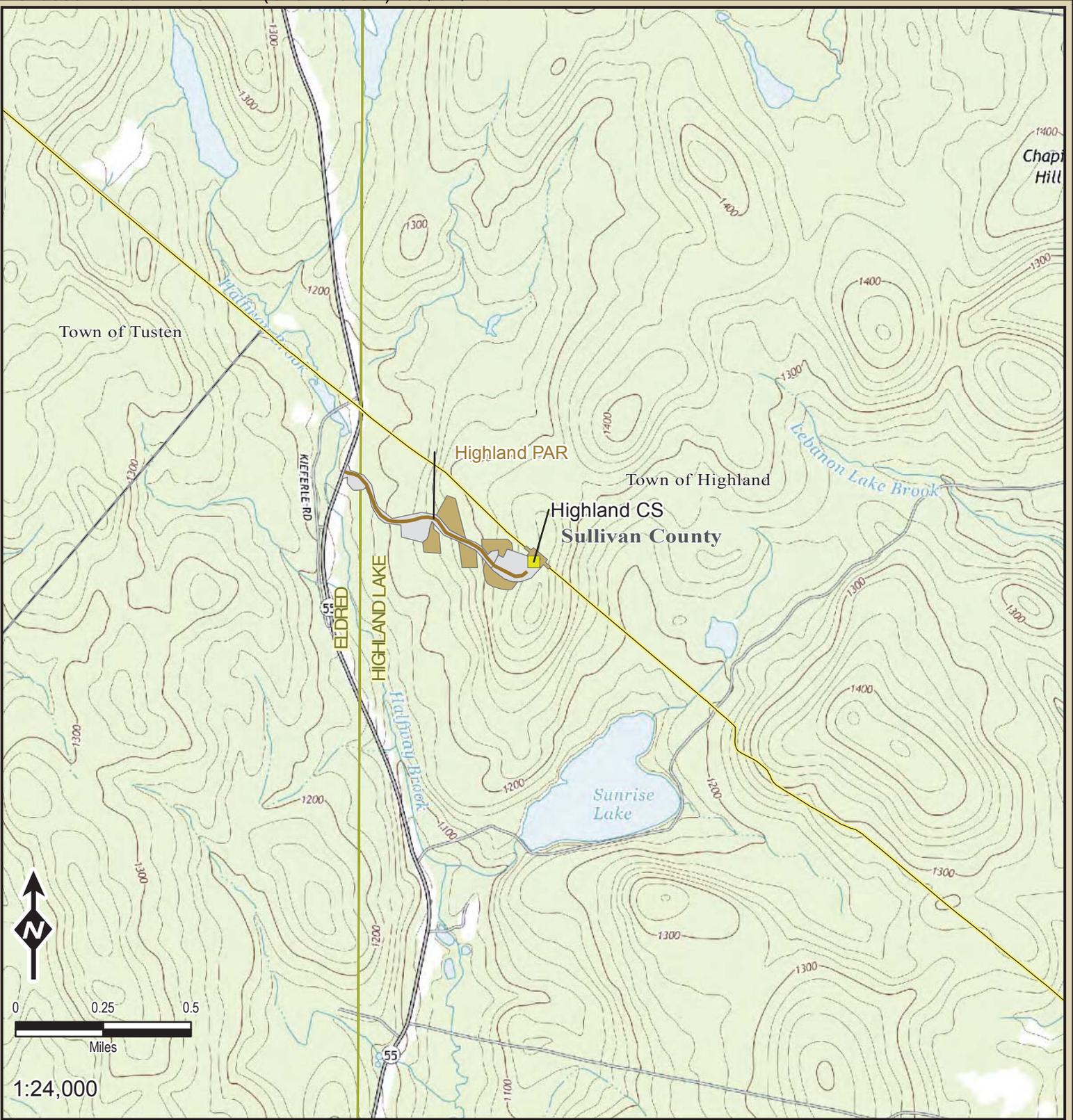
	Existing Compressor Station (Modifications)		Construction Workspace
	Proposed Access Road		US Topo 7.5 Minute Quadrangle
	Existing Millennium Pipeline		
	Operation Workspace		

**Eastern System Upgrade Project  
Project Facilities**

Page 1 of 7

Appendix A

Sources: USGS National Map 2013 (accessed December 2015), ESRI, Millennium, and TRC



	Compressor (Proposed)		US Topo 7.5 Minute Quadrangle
	Proposed Access Road		
	Existing Millennium Pipeline		
	Operation Workspace		
	Construction Workspace		

**Eastern System Upgrade Project Facilities**

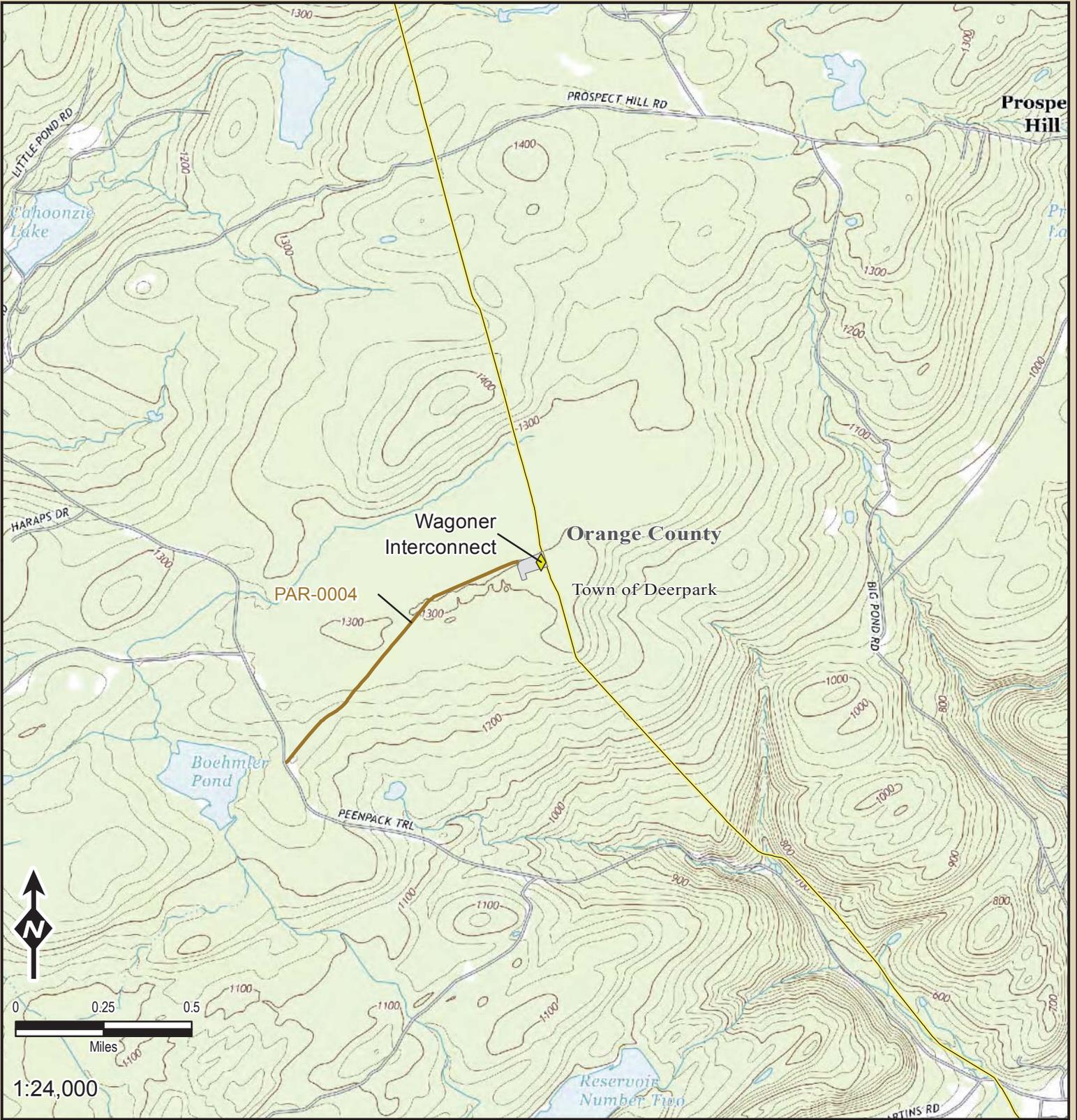
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Page 2 of 7

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Appendix A

Sources: USGS National Map 2013 (accessed December 2015), ESRI, Millennium, and TRC



-  Interconnect (Modifications)
-  Proposed Access Road
-  Existing Millennium Pipeline
-  Operation Workspace
-  US Topo 7.5 Minute Quadrangle

**Eastern System Upgrade Project Project Facilities**

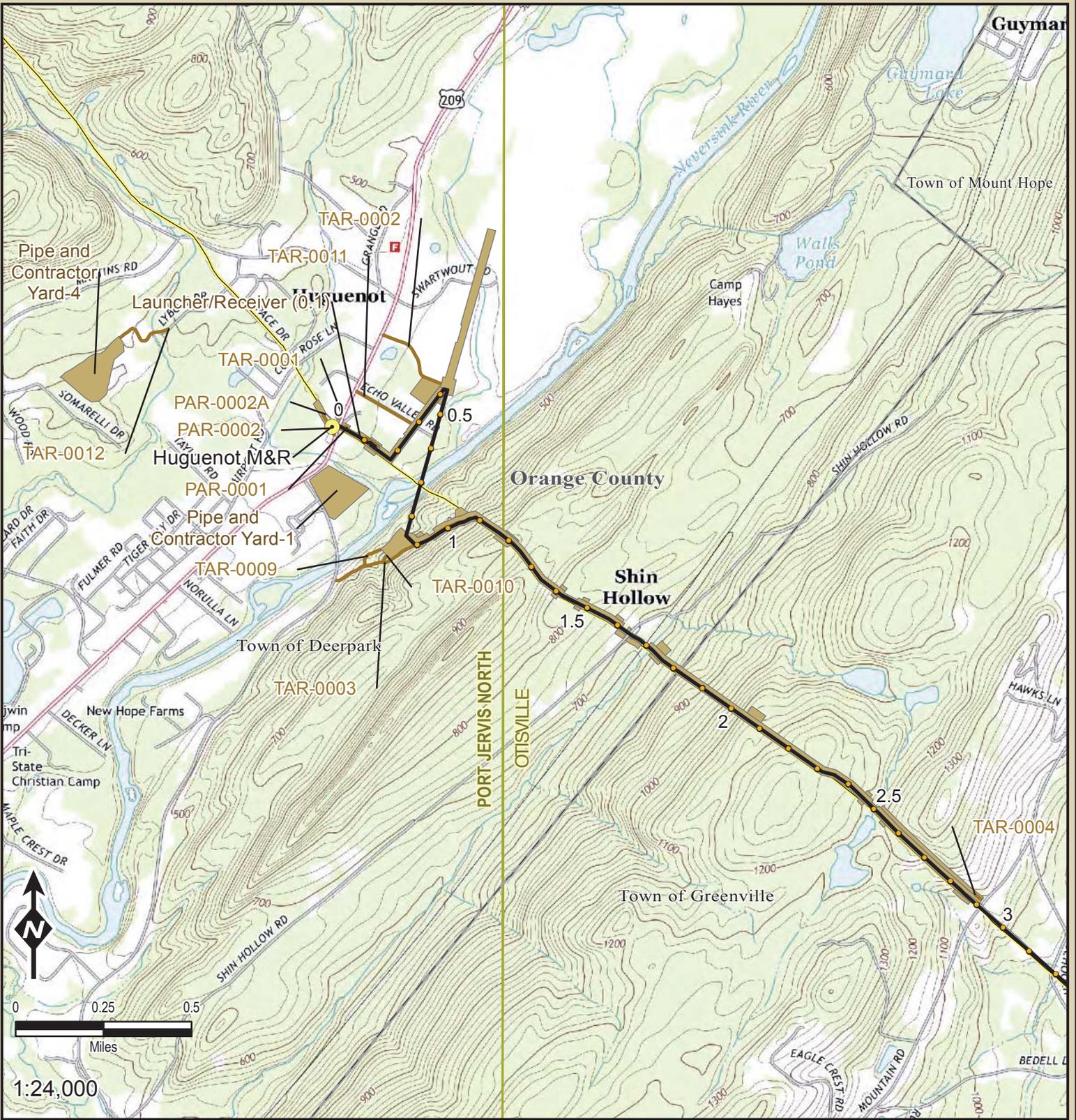
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Page 3 of 7

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**APPENDIX A**

Sources: USGS National Map 2013 (accessed December 2015), ESRI, Millennium, and TRC



<ul style="list-style-type: none"> <li>Existing Meter Station (Modifications)</li> <li>Milepost (0.1 mile)</li> <li>Proposed Loop</li> <li>Proposed Access Road</li> <li>Existing Millennium Pipeline</li> </ul>	<ul style="list-style-type: none"> <li>Operation Workspace</li> <li>Construction Workspace</li> <li>US Topo 7.5 Minute Quadrangle</li> </ul>
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**Eastern System Upgrade Project Project Facilities**

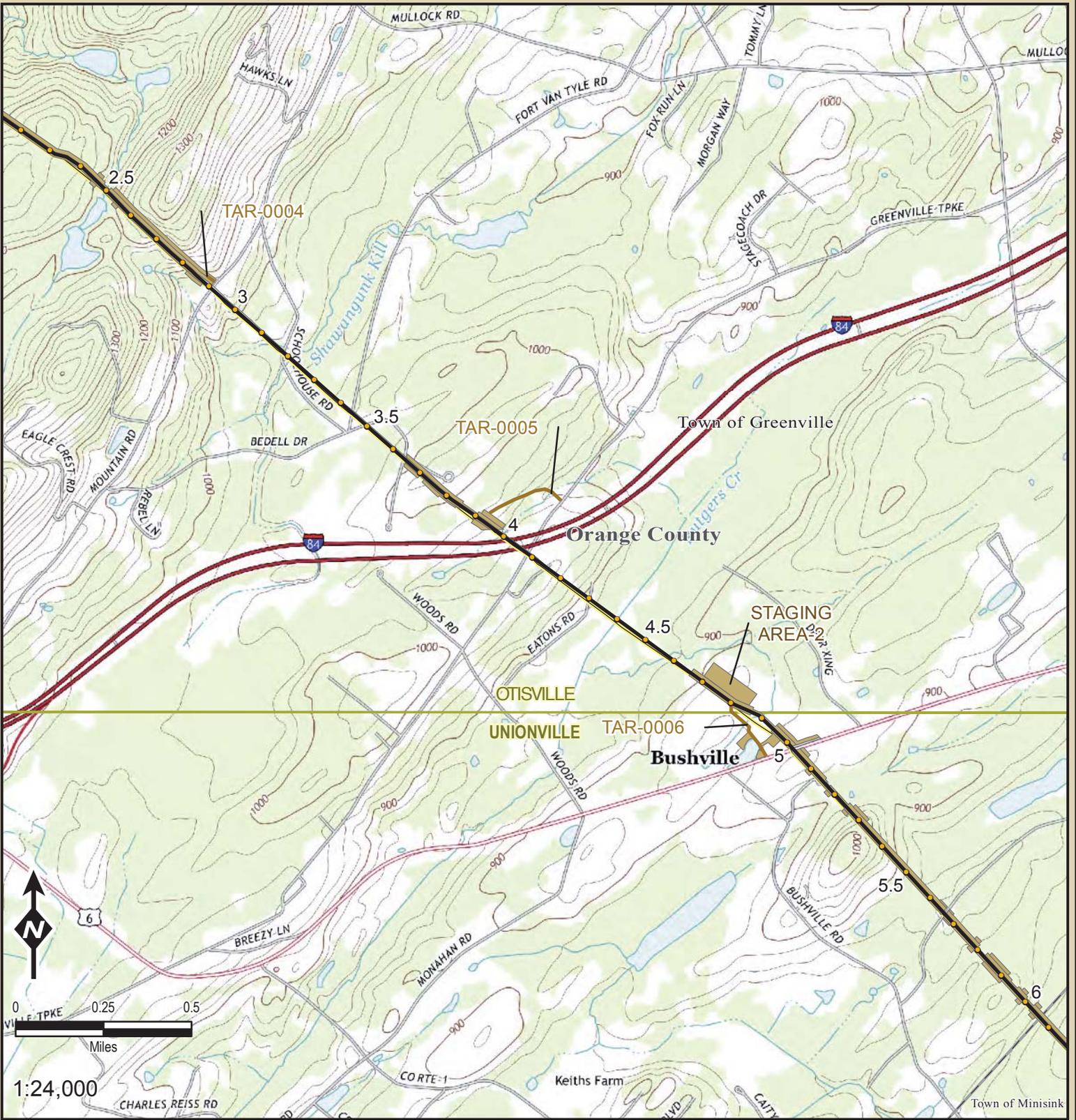
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Page 4 of 7

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Appendix A

Sources: USGS National Map 2013 (accessed December 2015), ESRI, Millennium, and TRC



● Milepost (0.1 mile)	■ Construction Workspace
— Proposed Loop	■ US Topo 7.5 Minute Quadrangle
— Proposed Access Road	□ Operation Workspace
— Existing Millennium Pipeline	

**Eastern System Upgrade Project Project Facilities**

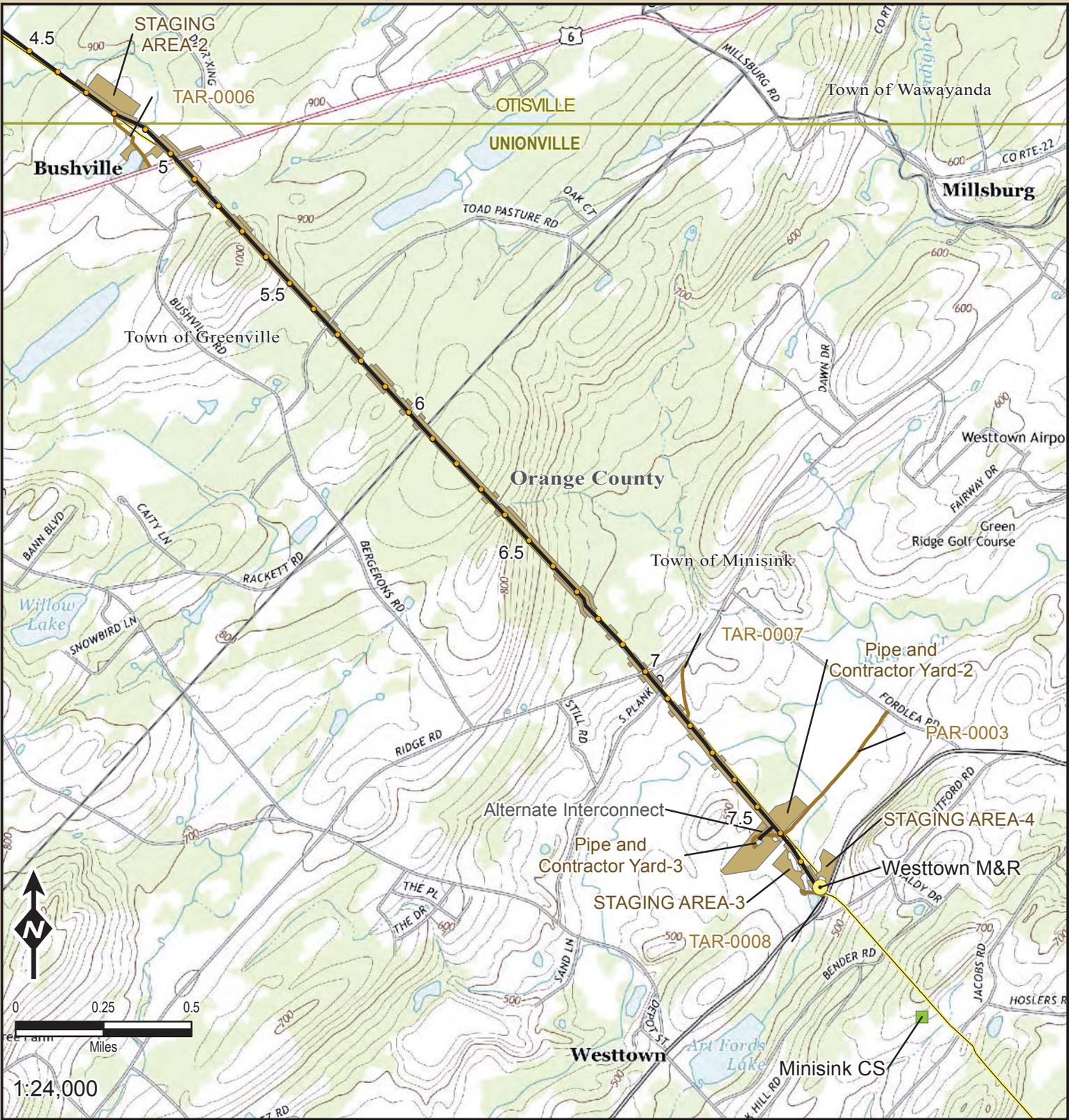
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Page 5 of 7

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Appendix A

Sources: USGS National Map 2013 (accessed December 2015), ESRI, Millennium, and TRC



	Existing Compressor Station		Existing Millennium Pipeline
	Existing Meter Station (Modifications)		Operation Workspace
	Milepost (0.1 mile)		Construction Workspace
	Proposed Loop		US Topo 7.5 Minute Quadrangle
	Proposed Access Road		

**Eastern System Upgrade Project  
Project Facilities**

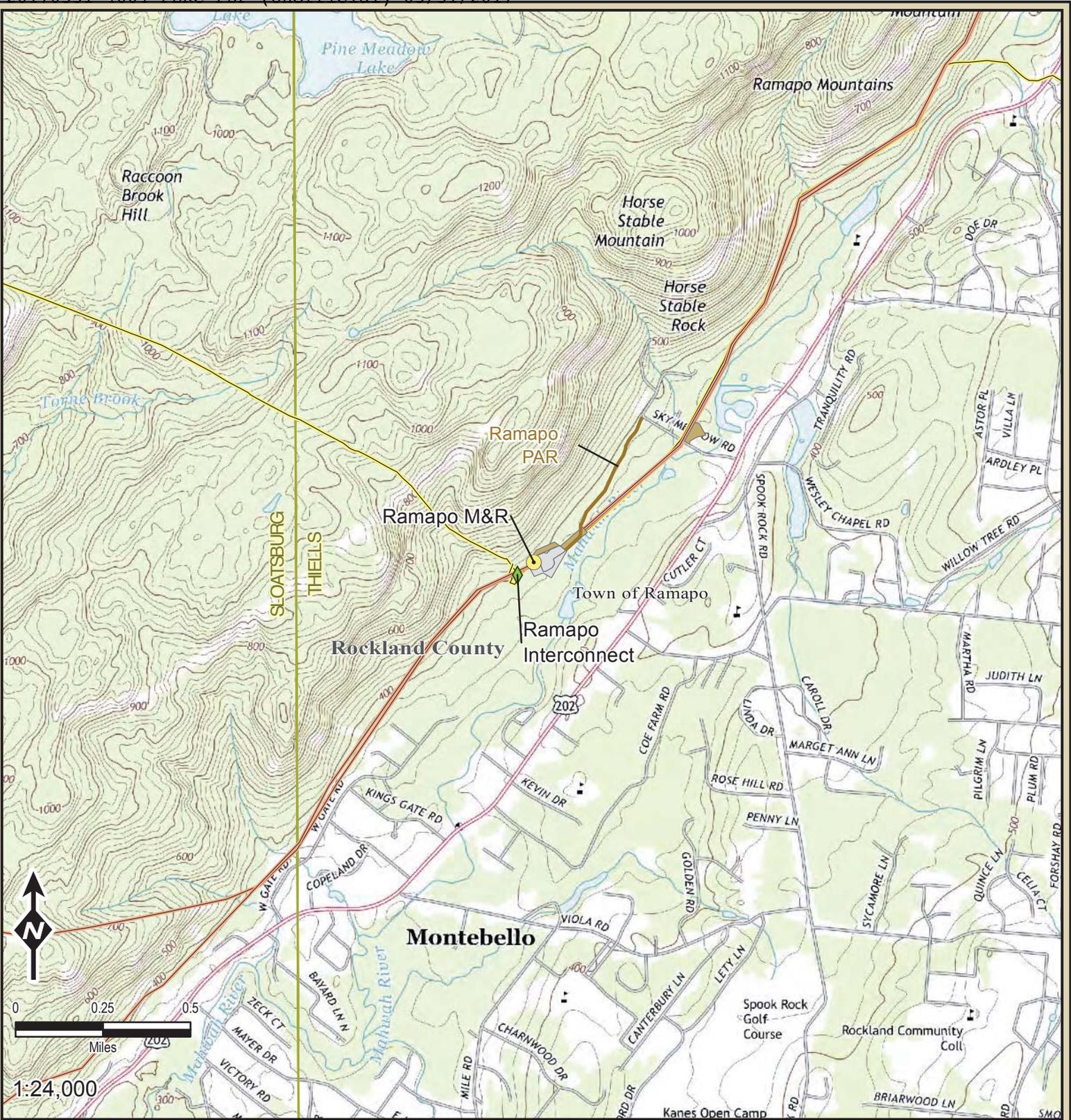
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Page 6 of 7

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Appendix A

Sources: USGS National Map 2013 (accessed December 2015), ESRI, Millennium, and TRC



	Existing Interconnect		Existing Millennium Pipeline
	Existing Meter Station (Modifications)		Operation Workspace
	Proposed Access Road		Construction Workspace
	Existing Algonquin Gas		US Topo 7.5 Minute Quadrangle

**Eastern System Upgrade Project Facilities**

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Page 7 of 7

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Appendix A

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**APPENDIX B**  
**LOCATION OF ADDITIONAL TEMPORARY WORKSPACES FOR THE**  
**PROJECT**

<b>Appendix B</b>					
<b>Location of Additional Temporary Workspaces for the Project</b>					
<b>ATWS Identification Number</b>	<b>Reference MP</b>	<b>Approximate Dimensions (feet)</b>	<b>Acres<sup>a</sup></b>	<b>Predominant Existing Land Use<sup>b</sup></b>	<b>Justification</b>
<b>Huguenot Loop</b>					
ATWS 1-01	0.0	360 x 260	1.43	RL, OL, UF	Needed for work mobilization
ATWS 1-02	0.0	75 X 60	0.08	CI	Need extra work space to construct permanent aboveground facilities
ATWS 1-03	0.0	75 x 46	0.07	CI	Need extra work space to construct permanent aboveground facilities
ATWS 1-04	0.1	200 X 55	0.25	OL, UF	Need extra work space to construct permanent aboveground facilities
ATWS 1-05	0.1	200 X 20	0.09	UF	Need extra work space to construct permanent aboveground facilities
ATWS 2-01	0.4	182 X 35	0.14	AG	Workspace needed for HDD
ATWS 2-02	0.4	358 X 289 250 X 200 550 X 125 270 X 100	7.30	AG, OL, RL, UF	Workspace needed to string HDD
ATWS 2-03	0.9	245 X 445	2.25	UF	Workspace needed for HDD
ATWS 2-04	0.9	105 X 63	0.15	UF	Extra space for crossover
ATWS 2-05	0.9	168 X 25	0.10	UF	Extra space needed near Wetland
ATWS 3-01	1.0	694 X 25	0.39	UF	Extra space for crossover
ATWS 3-02	1.1	150 X 120	0.40	UF, OL	Extra space for crossover
ATWS 3-03	1.2	250 X 20	0.11	UF	Extra space for staging equipment and material over ridge
ATWS 3-04	1.2	250 X 55	0.32	UF, OL	Extra space for staging equipment and material over ridge
ATWS 3-05	1.4	100 X 50	0.11	UF	Extra space needed near wetland
ATWS 3-06	1.4	100 X 50	0.11	UF, OL	Extra space needed near wetland

<b>Appendix B (continued)</b>					
<b>Location of Additional Temporary Workspaces for the Project</b>					
<b>ATWS Identification Number</b>	<b>Reference MP</b>	<b>Approximate Dimensions (feet)</b>	<b>Acres<sup>a</sup></b>	<b>Predominant Existing Land Use<sup>b</sup></b>	<b>Justification</b>
ATWS 3-07	1.5	100 X 50	0.11	UF	Extra space needed near wetland
ATWS 3-08	1.5	100 X 50	0.11	UF, OL	Extra space needed near wetland
ATWS 3-09	1.6	130 X 50	0.15	UF, RL	Needed for road crossing near waterbody
ATWS 3-10	1.6	150 X 75	0.25	RL, OL	Extra space needed for road crossing and avoid pond
ATWS 3-11	1.7	222 X 75	0.39	OL	Extra space needed for road crossing, railroad crossing
ATWS 3-12	1.7	200 X 120	0.55	UF	Extra space needed for road crossing, railroad crossing and near wetland
ATWS 3-13	1.7	203 X 50	0.23	UF, OL	Needed for construction near streams and railroad crossing
ATWS 4-01	2.0	250 X 125	0.72	UF	Turnaround area
ATWS 4-02	2.5	100 X 50	0.11	UF	Needed for road crossing
ATWS 4-03	2.5	100 X 50	0.11	OL, UF	Needed for road crossing and construction near stream
ATWS 4-04	2.5	100 X 50	0.11	OL, UF	Needed for road crossing
ATWS 4-05	2.5	2,054 x 50	2.31	UF, OL	Workspace needed for HDD string
ATWS 4-06	2.8	300 X 50	0.35	UF, OL	Workspace needed for HDD
ATWS 5-03	3.7	350 x 50	0.40	UF, OL	Workspace needed for HDD
ATWS 5-04	3.8	388 X 75	0.67	OL, UF	Extra space needed near wetland
ATWS 5-05	3.8	236 X 75	0.41	OL, UF	Extra space needed near wetland
ATWS 6-01	5.0	250 X 142	0.61	AG, RL	Workspace added for pond water withdrawal
ATWS-6-02	4.9	399 X 20	0.19	AG, WL	Workspace added for HDD string
ATWS 7-01	5.0	275 X 150	0.33	AG	Extra space needed for road crossing and near wetland

<b>Appendix B (continued)</b>					
<b>Location of Additional Temporary Workspaces for the Project</b>					
<b>ATWS Identification Number</b>	<b>Reference MP</b>	<b>Approximate Dimensions (feet)</b>	<b>Acres<sup>a</sup></b>	<b>Predominant Existing Land Use<sup>b</sup></b>	<b>Justification</b>
ATWS-6-03	4.9	302 X 15	0.10	WL, UF	Workspace added for HDD string
ATWS 7-02	5.0	150 X 150 121 X 40	0.62	AG	Needed for road crossing
ATWS 7-03	5.0	390 X 50 310 X 50	0.85	AG, UF	To provide adequate workspace while avoiding residences
ATWS 7-04	5.0	150 X 50	0.19	AG	Extra space needed near wetland
ATWS 7-05	5.1	100 X 50	0.11	AG	Extra space needed near wetland
ATWS 7-06	5.2	100 X 50	0.11	UF	Extra space needed near wetland
ATWS 7-07	5.3	300 X 50	0.34	UF, OL	Needed for road crossing
ATWS 7-08	5.3	100 X 50	0.11	UF, OL	Needed for road crossing
ATWS 7-09	5.7	150 X 25	0.08	UF	Needed for road crossing
ATWS 7-10	5.7	100 X 25	0.06	RL	Extra space needed near wetland
ATWS 7-11	5.7	150 X 25	0.08	OL, UF	Extra space needed near wetland
ATWS 7-12	5.8	100 X 50	0.11	UF	Extra space needed near wetland
ATWS 7-13	5.8	100 X 50	0.11	UF, OL	Extra space needed near wetland
ATWS 7-14	5.8	415 X 50	0.47	UF	Extra space needed near wetland
ATWS 7-15	5.8	412 X 50	0.45	UF, OL	Extra space needed near wetland
ATWS 8-01	6.0	100 X 50	0.11	UF	Extra space needed near wetland
ATWS 8-02	6.0	100 X 50	0.11	UF, OL	Extra space needed near wetland
ATWS 8-03	6.0	100 X 50	0.11	UF	Extra space needed near wetland
ATWS 8-04	6.0	100 X 50	0.12	UF, OL	Extra space needed near wetland
ATWS 8-05	6.3	100 X 50	0.11	UF, OL	Extra space needed near wetland and stream
ATWS 8-06	6.3	100 X 50	0.11	UF	Extra space needed near wetland and stream
ATWS 8-07	6.4	100 X 50	0.11	UF, OL	Extra space needed near wetland and stream

<b>Appendix B (continued)</b> <b>Location of Additional Temporary Workspaces for the Project</b>					
<b>ATWS Identification Number</b>	<b>Reference MP</b>	<b>Approximate Dimensions (feet)</b>	<b>Acres<sup>a</sup></b>	<b>Predominant Existing Land Use<sup>b</sup></b>	<b>Justification</b>
ATWS 8-08	6.4	400 X 50	0.46	UF	Extra space needed near wetland and stream
ATWS 8-09	6.7	825 X 50	0.94	UF, OL	Needed for crossover and near wetland
ATWS 8-10	6.7	424 X 50	0.48	UF, OL	Needed for crossover and near wetland
ATWS 8-11	6.8	171 X 50	0.20	OL, UF	Extra space needed near wetland
ATWS 8-12	6.8	86 X 50	0.10	UF	Extra space needed near wetland
ATWS 9-01	7.0	66 X 50	0.08	UF	Extra space needed for road crossing, near wetland and stream
ATWS 9-02	7.0	100 X 25	0.06	OL, UF	Needed for road crossing
ATWS 9-03	7.0	126 X 50	0.14	AG	Needed for road crossing
ATWS 9-04	7.0	298 X 25	0.17	AG	Needed for road crossing
ATWS 9-05	7.1	100 X 50	0.11	AG	Extra space needed for road crossing and near wetland
ATWS 9-06	7.1	100 X 50	0.11	AG	Extra space needed for road crossing and near wetland
ATWS 9-07	7.2	100 X 50	0.11	AG	Extra space needed near wetland
ATWS 9-08	7.2	100 X 50	0.11	AG	Extra space needed near wetland
ATWS 9-09	7.3	100 X 50	0.11	AG	Needed for stream crossing
ATWS 9-10	7.3	100 X 50	0.11	AG	Needed for stream crossing
ATWS 9-11	7.6	295 X 25	0.11	IC	Needed for tie-in to CPV Valley Lateral
ATWS 9-12	7.7	245 X 35	0.20	AG	Needed for tie-in to Westtown Meter Station
<b>Project Total<sup>c</sup></b>			<b>29.7</b>		
<p><sup>a</sup> Acreage calculated from actual footprint, which may not correspond to the approximate dimensions.</p> <p><sup>b</sup> AG = Agricultural; IC = Industrial/commercial; UF = Upland forest; OL = Open land; RL = Residential land; WL = Wetland.</p> <p><sup>c</sup> The numbers in this table have been rounded for presentation purposes. As a result, the totals may not reflect the sum of the addends.</p>					

**APPENDIX C**  
**PROPOSED ALTERNATIVE MEASURES TO THE FERC PROCEDURES FOR**  
**THE PROJECT**

**Appendix C  
Proposed Alternative Measures to the FERC Procedures for the Project**

<b>Requirement</b>	<b>Deviation Location</b>	<b>Feature</b>	<b>Justification/Description</b>	<b>Additional Mitigation</b>
<p><b>Section V.B.2</b> Locate all extra work areas at least 50 feet away from water's edge, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.</p>	MP 0.4	S-18	ATWS 2-02 needed for HDD string.	<p>Designation of a minimum of one EI to monitor HDD activities. Additionally, the EI would conduct daily inspections in these locations, even when active construction is not occurring, until permanent restoration measures are implemented.</p>
	MP 2.9	S-11	ATWS 4-06 needed for HDD site.	<p>Designation of a minimum of one EI to monitor water withdrawal activities at WB-04 to ensure erosion controls are maintained and to order corrective action where necessary.</p>
	MP 4.9	WB-04	ATWS 6-01 needed for water withdrawal.	

**Appendix C (continued)  
Proposed Alternative Measures to the FERC Procedures for the Project**

<b>Requirement</b>	<b>Deviation Location</b>	<b>Feature</b>	<b>Justification/Description</b>	<b>Additional Mitigation</b>
	MP 1.7	S-13	Temporary workspace needed for active railroad bore.	Designation of a minimum of one EI to monitor construction at MPs 1.7 and 7.6 at the crossing locations for the duration of the crossings to ensure erosion controls are maintained and to order corrective action where necessary.
	MP 7.6	W-04	Temporary workspace needed for abandoned railroad bore.	Additionally, the EI would conduct daily inspections in these locations until permanent restoration measures are implemented.
Section VI.A.3 Limit construction right-of-way to 75 feet or less (within wetlands).	MP 4.6	W-16	Temporary workspace needed for HDD string	Installation of timber mats across the wetland to protect the soil from rutting during stringing activities. Designation of a minimum of one EI to monitor stringing activities. The designated EI would conduct daily inspections in these locations until permanent restoration measures are implemented.
	MP 7.3	W-06	Temporary workspace needed for agricultural/wetland topsoil segregation. Workspace width requested by NYSDDAM during site visit.	Designation of a minimum of one EI, with an agricultural background, to monitor construction within wetland W-06. The designated EI would be onsite at the crossing location for the duration of the crossing and would conduct daily inspections at this location until permanent restoration measures are implemented.

**Appendix C (continued)  
Proposed Alternative Measures to the FERC Procedures for the Project**

<b>Requirement</b>	<b>Deviation Location</b>	<b>Feature</b>	<b>Justification/Description</b>	<b>Additional Mitigation</b>
<p>Section VI.B.1.a</p> <p>Locate all extra work areas (such as staging areas and additional spoil areas) at least 50 feet away from wetland boundaries, except where the adjacent upland consists of cultivated or rotated cropland or other disturbed land.</p>	<p>MP 0.4</p> <p>MP 0.9</p> <p>MP 2.9</p>	<p>W-26</p> <p>W-27</p> <p>W-28C</p>	<p>ATWS 2-02 needed for HDD string.</p> <p>ATWS 2-03 needed for HDD site.</p> <p>ATWS 4-06 needed for HDD site.</p>	<p>Designation of a minimum of one EI to monitor HDD activities. Additionally, the EI would conduct daily inspections in these locations, even when active construction is not occurring, until permanent restoration measures are implemented.</p> <p>Installation of timber mats across the wetland to protect the soil from rutting during stringing activities. Designation of a minimum of one EI to monitor stringing activities. The designated EI would conduct daily inspections in these locations until permanent restoration measures are implemented.</p>
<p>Section VI.B.1.d</p> <p>The only access roads, other than the construction right-of-way that can be used in wetlands are those existing roads that can be used with no modifications or improvements, other than routine repair, and no impact on the wetland.</p>	<p>Highland Compressor Station</p>	<p>HL-W-01</p>	<p>New permanent access road needed to access the Highland Compressor Station.</p>	<p>Designation of a minimum of one EI to monitor construction of the access road across wetland HL-W-01; the EI would be onsite at the crossing location for the duration of and would conduct daily inspections in this location until permanent restoration measures are implemented.</p>

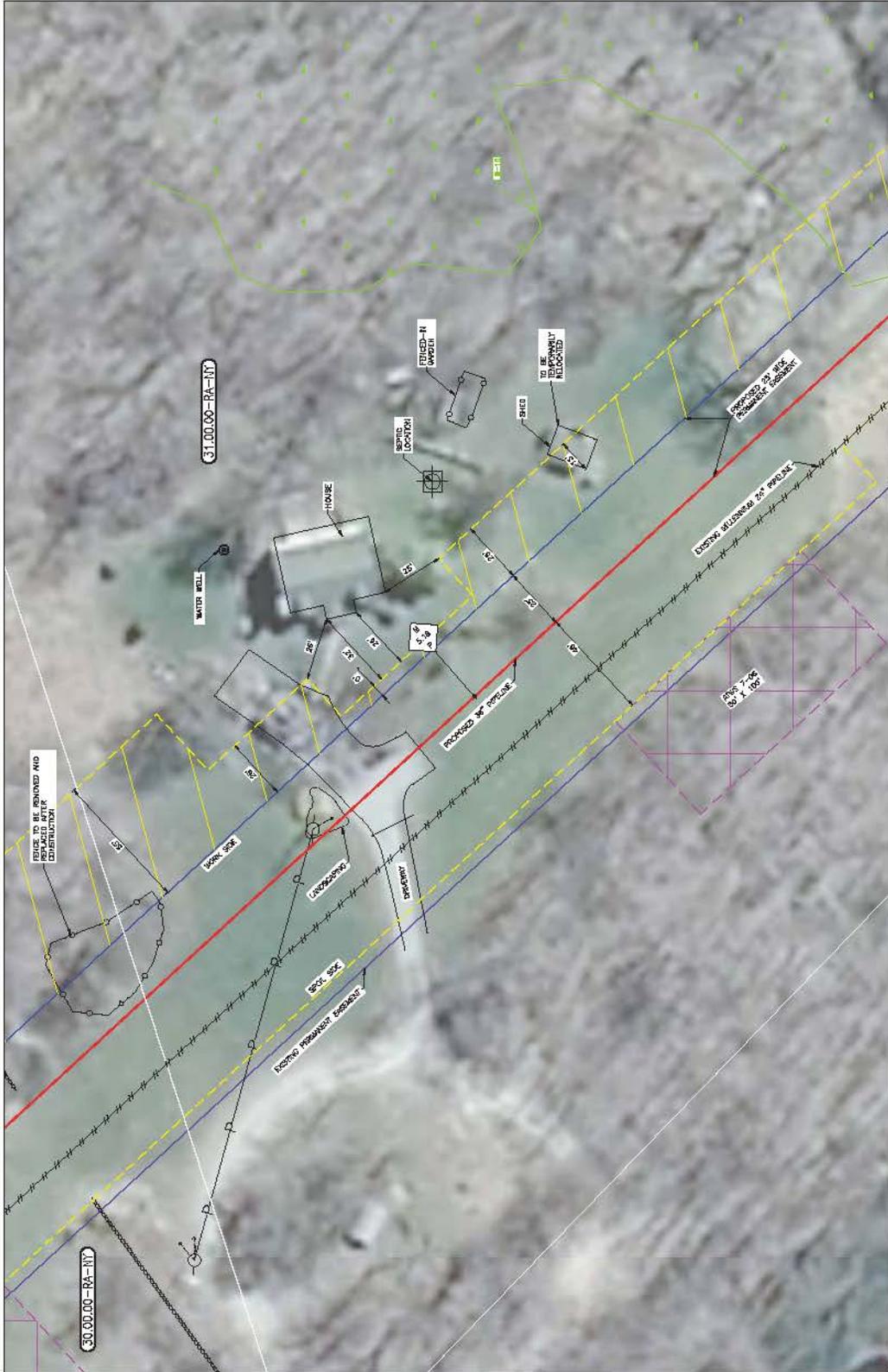
**APPENDIX D**  
**RESIDENCES WITHIN 50 FEET OF THE PROJECT**







TRACT 31.00.00-RA-NY  
ORANGE COUNTY, NEW YORK



**DESCRIPTION**  
THIS DRAWING AND ALL INFORMATION HEREON SHALL BE THE PROPERTY OF THE ENGINEER AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES.

**NOTES**

1. TOPOGRAPHIC INFORMATION AND AERIAL IMAGERY SHOWN HEREON WAS PROVIDED BY AERIAL PHOTOGRAPHY AND AERIAL PHOTOGRAPHY OF NOVEMBER 2016. DATA SHOWN WAS TAKEN FROM THE AERIAL PHOTOGRAPHY AND AERIAL PHOTOGRAPHY OF NOVEMBER 2016. DATA SHOWN WAS TAKEN FROM THE AERIAL PHOTOGRAPHY AND AERIAL PHOTOGRAPHY OF NOVEMBER 2016.
2. ALL CONSTRUCTION SHALL BE CONDUCTED WITHIN THE BOUNDARIES OF THE TRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES.

**CONSTRUCTION REQUIREMENTS**

1. CONTRACTOR SHALL MAINTAIN A SAFETY FENCE BETWEEN THE CONSTRUCTION ZONE AND THE ADJACENT RESIDUES EXTENDING 100 FEET ON EITHER SIDE OF THE CONSTRUCTION ZONE AND THE ADJACENT RESIDUES. A MINIMUM OF 25 FEET WILL BE MAINTAINED BETWEEN THE CONSTRUCTION ZONE AND THE ADJACENT RESIDUES. THE FENCE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES.
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12. ALL CONSTRUCTION SHALL BE CONDUCTED WITHIN THE BOUNDARIES OF THE TRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND AGENCIES.

ISSUED FOR FERC  
DATE: 03/27/2018

**empipeline**  
EASTERN SYSTEM UPGRADE  
ORANGE COUNTY, NY  
PROJECT NO. 03131-RD-5  
SHEET NO. 1 OF 1 A

NO.	DATE	DESCRIPTION	BY	CHECKED
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**APPENDIX E**  
**WATERBODIES CROSSED BY THE PROJECT**

**Appendix E  
Waterbodies Crossed by the Project**

<b>Waterbody ID</b>	<b>Waterbody Name</b>	<b>Approximate MP</b>	<b>Flow Type</b>	<b>Crossing Length (feet)</b>	<b>Size Classification<sup>a</sup></b>	<b>Water Quality Standard<sup>b</sup></b>	<b>Fishery Classification<sup>c</sup></b>	<b>Impaired<sup>d</sup></b>	<b>Crossing Method<sup>e</sup></b>
<b>Huguenot Loop</b>									
S-16	Neversink River	0.7	Perennial	365	Major	B	Coldwater	pH	HDD
S-19	Unnamed Tributary to Neversink River	0.8	Intermittent	<3	Minor	---	Coldwater	N/A	HDD
S-15	Unmapped Tributary to Neversink River	1.4	Intermittent	<3	Minor	---	Coldwater	N/A	Dry waterbody, dam-and-pump, or flume
S-14	Shin Hollow Brook	1.7	Perennial	<3	Minor	C(T)	Coldwater	N/A	Conventional bore
S-13	Unnamed Tributary to Shin Hollow Brook	1.7	Intermittent	<3	Minor	---	Coldwater	Phosphorous and unknown toxicity	Conventional bore
S-12	Shin Hollow Brook	2.5	Perennial	<3	Minor	C(T)	Potential wild brown and brook trout	Phosphorous and unknown toxicity	Flume or dam-and-pump
S-10	Unnamed Tributary to Shawangunk Kill	3.1	Perennial	<3	Minor	A	Coldwater	N/A	HDD
S-09	Unnamed Tributary to Shawangunk Kill	3.2	Perennial	<3	Minor	A	Coldwater	N/A	HDD
S-07	Unnamed Tributary to Rutgers Creek	4.6	Perennial	30	Intermediate	C	Coldwater	N/A	HDD
S-05	Unnamed Tributary to Rutgers Creek	6.3	Intermittent	<3	Minor	C	Coldwater	N/A	Dry waterbody, dam-and-pump, or flume
S-04	Unnamed Tributary to Rutgers Creek	6.9	Intermittent	<3	Minor	---	Coldwater	N/A	Dry waterbody, dam-and-pump, or flume

**Appendix E (continued)**  
**Waterbodies Crossed by the Project**

<b>Waterbody ID</b>	<b>Waterbody Name</b>	<b>Approximate MP</b>	<b>Flow Type</b>	<b>Crossing Length (feet)</b>	<b>Size Classification<sup>a</sup></b>	<b>Water Quality Standard<sup>b</sup></b>	<b>Fishery Classification<sup>c</sup></b>	<b>Impaired<sup>d</sup></b>	<b>Crossing Method<sup>e</sup></b>
S-04	Unnamed Tributary to Rutgers Creek	6.9	Intermittent	<3	Minor	---	Coldwater	N/A	Dry waterbody, dam-and-pump, or flume
S-03	Rutgers Creek	7.3	Perennial	45	Intermediate	C(T)	Coldwater	N/A	Flume or dam-and-pump
S-01	Unnamed Tributary to Rutgers Creek	7.7	Perennial	17	Intermediate	C	Coldwater	N/A	Flume or dam-and-pump
<b>Contractor/Pipe Yards and Staging Areas</b>									
S-02	Unmapped Tributary to Rutgers Creek	Staging Area 4	Perennial	<3	Minor	C	Coldwater	N/A	Equipment crossing and erosion controls
<b>Access Roads</b>									
S-17	Unnamed Tributary to Neversink River	TAR-0003	Ephemeral	Culvert	Minor	---	Coldwater	N/A	Use existing culvert <sup>f</sup>
S-17	Unnamed Tributary to Neversink River	TAR-0009	Ephemeral	Culvert	Minor	---	Coldwater	N/A	Use existing culvert <sup>f</sup>
S-08	Unnamed Tributary to Rutgers Creek	TAR-0005	Perennial	Culvert	Minor	C	Coldwater	N/A	Use existing culvert
WB-04	Unnamed Tributary to Rutgers Creek	TAR-0006	Lake/Pond	0	N/A	C	None	N/A	Install erosion controls/water withdrawal location
S-01	Unnamed Tributary to Rutgers Creek	TAR-0008	Perennial	Culvert	Minor	C	Coldwater	N/A	Use existing culvert
WB-01	Unnamed Tributary to Rutgers Creek	TAR-0008	Lake/Pond	Culvert	Minor	C	Coldwater	N/A	Use existing culvert

**Appendix E (continued)**  
**Waterbodies Crossed by the Project**

<b>Waterbody ID</b>	<b>Waterbody Name</b>	<b>Approximate MP</b>	<b>Flow Type</b>	<b>Crossing Length (feet)</b>	<b>Size Classification<sup>a</sup></b>	<b>Water Quality Standard<sup>b</sup></b>	<b>Fishery Classification<sup>c</sup></b>	<b>Impaired<sup>d</sup></b>	<b>Crossing Method<sup>e</sup></b>
HL-S-01	Unmapped Tributary to Halfway Brook	Highland Compressor Station PAR	Intermittent	<3	Minor	---	Coldwater	N/A	Construct open-bottom box culvert
HC-S-01	Unmapped Tributary to Pea Brook	Hancock Compressor Station PAR	Perennial	12	Intermediate	C(T)	Coldwater	N/A	Use existing permanent crossing
S-23	Unmapped Tributary to Rutgers Creek	PAR-0003	Intermittent	<3	Minor	C	Coldwater	N/A	Use existing culvert
S-24	Unmapped Tributary to Rutgers Creek	PAR-0003	Intermittent	<3	Minor	---	Coldwater	N/A	Use existing culvert

Crossing length of zero (0) feet indicates that the waterbody crosses the construction right-of-way space but does not cross the pipeline itself.

<sup>a</sup> Minor (<10-feet-wide), Intermediate (>10 - <100-feet-wide); Major (>100-feet-wide).

<sup>b</sup> Source: Gierloff 2016b and Water Quality Classifications; NYSDEC 2010a.

<sup>c</sup> Source: Gierloff 2016a and 2016b.

<sup>d</sup> State water quality classification has been defined in the Section 303(d) list.

<sup>e</sup> Where trrenched crossings are proposed, a dry crossing method would be implemented (i.e., dam-and-pump or flume) where there is discernable flow at the time of crossing.

<sup>f</sup> The existing culvert would be protected with steel plating or equivalent.

**APPENDIX F**  
**WETLANDS CROSSED BY THE PROJECT**

**Appendix F  
Wetlands Crossed by the Project**

Facility/ Wetland ID	MP	Wetland Class <sup>a</sup>	Crossing Length (feet) <sup>b</sup>	Wetland Impact (acres) <sup>c</sup>						Permanent Forested Wetland Conversion (acres) <sup>d</sup>	State Wetland Classification <sup>e</sup>	Crossing Method <sup>f</sup>
				Construction			Operation					
				PFO	PSS	PEM	PFO	PSS	PEM			
<b>Huguenot Loop</b>												
W-27	0.8	PFO	41	---	---	---	---	---	---	---	---	HDD
W-24	1.4	PFO/PEM	0	0.02/--	---	0.00/0.03	---	---	0.00/0.03	---	---	Open-cut
W-22	2.5	PFO/PEM	28	0.05/--	---	0.02/0.01	0.01/--	---	0.02/0.01	---	---	Open-cut
W-28C	2.9	PSS	0	---	---	---	---	---	---	---	---	Open-cut ATWS (perimeter erosion controls)
W-21	3.1	PSS	98	---	---	---	---	---	---	---	---	HDD
W-21	3.2	PEM/PFO	41	---	---	---	---	---	---	---	---	HDD
W-21	3.3	PEM/PFO	257	---	---	---	---	---	---	---	---	HDD
W-20	3.5	PFO/PEM/ PSS	230	---	---	---	---	---	---	---	UN-1; Class 2	HDD
W-18	3.8	PEM/PFO	212	---	---	0.22/0.12	---	---	0.11/0.12	---	---	Open-cut
W-17	4.4	PEM/PFO	798	---	---	---	---	---	---	---	OT-33; Class 2	HDD
W-16	4.9	PEM	163	---	---	0.29/0.17	---	---	0.10/0.09	---	---	Open-cut
W-15	5.2	PEM/PFO	35	0.16/0.00	---	0.00/0.03	0.07/--	---	0.00/0.03	0.03	NYSDC Eligible	Open-cut
W-12	5.8	PFO/PEM	0	0.06/0.00	---	--/0.03	0.06/--	---	---	0.03	UN-7; Class 3	Open-cut
W-11	6.0	PEM/PFO	39	0.09/--	---	0.01/0.02	0.04/--	---	0.01/0.02	0.02	---	Open-cut
W-10	6.3	PEM/PFO	20	0.04/--	---	0.00/0.01	0.02/--	---	0.00/0.01	0.00	---	Open-cut
W-09	6.8	PEM/PFO	173	0.21/--	---	0.01/0.08	0.10/--	---	0.01/0.08	0.05	---	Open-cut
W-09	6.9	PEM/PFO	135	0.12/--	---	0.02/0.08	0.05/--	---	0.02/0.08	0.03	---	Open-cut

**Appendix F (continued)  
Wetlands Crossed by the Project**

Facility/ Wetland ID	MP	Wetland Class <sup>a</sup>	Crossing Length (feet) <sup>b</sup>	Wetland Impact (acres) <sup>c</sup>						Permanent Forested Wetland Conversion (acres) <sup>d</sup>	State Wetland Classification <sup>e</sup>	Crossing Method <sup>f</sup>
				Construction			Operation					
				PFO	PSS	PEM	PFO	PSS	PEM			
W-08	6.9	PEM/PFO	13	0.01/--	---	0.00/0.01	---	0.00/0.01	---	---	Open-cut	
W-08	6.9	PEM	27	---	---	0.01/0.01	---	0.01/0.01	---	---	Open-cut	
W-07	7.1	PEM	134	---	---	0.08/0.09	---	0.04/0.09	---	---	Open-cut	
W-06	7.2	PEM	211	---	---	0.36/0.21	---	0.13/0.12	---	---	Open-cut	
W-04	7.6	PEM	9	---	---	--/0.02	---	--/0.01	---	---	Open-cut	
W-03	7.6	PEM	240	---	---	0.28/0.12	---	0.14/0.12	---	---	Open-cut	
<b>Pipeline Total</b>			<b>2,904</b>	<b>0.75/--</b>	<b>---</b>	<b>1.31/1.05</b>	<b>0.35/--</b>	<b>0.59/0.83</b>	<b>0.16</b>			
<b>Access Roads</b>												
W-07	TAR-0007	PEM	0	---	---	---	---	---	---	---	Fence and avoid	
W-30	PAR-0003	PEM	0	---	---	---	---	---	---	---	Fence and avoid	
W-31	PAR-0003	PEM	0	---	---	---	---	---	---	---	Fence and avoid	
<b>Highland</b>												
HL-W-01	Compressor Station PAR	PFO	10	0.02/--	---	---	0.02/--	---	0.02	---	Construct new permanent bridge	
<b>Project Total</b>			<b>2,914</b>	<b>0.77/--</b>	<b>---</b>	<b>1.31/1.05</b>	<b>0.37/--</b>	<b>0.59/0.83</b>	<b>0.18</b>		<b>---</b>	

**Appendix F (continued)  
Wetlands Crossed by the Project**

Facility/ Wetland ID	MP	Wetland Class <sup>a</sup>	Crossing Length (feet) <sup>b</sup>	Wetland Impact (acres) <sup>c</sup>						Permanent Forested Wetland Conversion (acres) <sup>d</sup>	State Wetland Classification <sup>e</sup>	Crossing Method <sup>f</sup>
				Construction New/Existing	Operation New/Existing	PFO	PSS	PEM	PFO			
<sup>a</sup> Wetland classification according to Cowardin <i>et al.</i> , 1979. <sup>b</sup> A crossing length of zero indicates the feature is not crossed by the centerline of the pipeline but is located within the construction work area. For access roads, a crossing length of zero indicates that the feature is located adjacent to the access road. <sup>c</sup> Construction acreage includes all workspace during construction activities; Operation acreage = new 25-foot-wide permanent easement for the Huguenot Loop and existing 25-foot-wide permanent easement for existing Millennium Pipeline. No impact acres included for wetlands located within HDD crossings. <sup>d</sup> PFO conversion = PFO wetland area within 15 feet of the centerline of the Huguenot Loop and within the Highland Compressor Station PAR. <sup>e</sup> Source: Gierloff 2016b												

**APPENDIX G**  
**NEAREST NOISE SENSITIVE AREAS TO THE ABOVEGROUND FACILITIES**

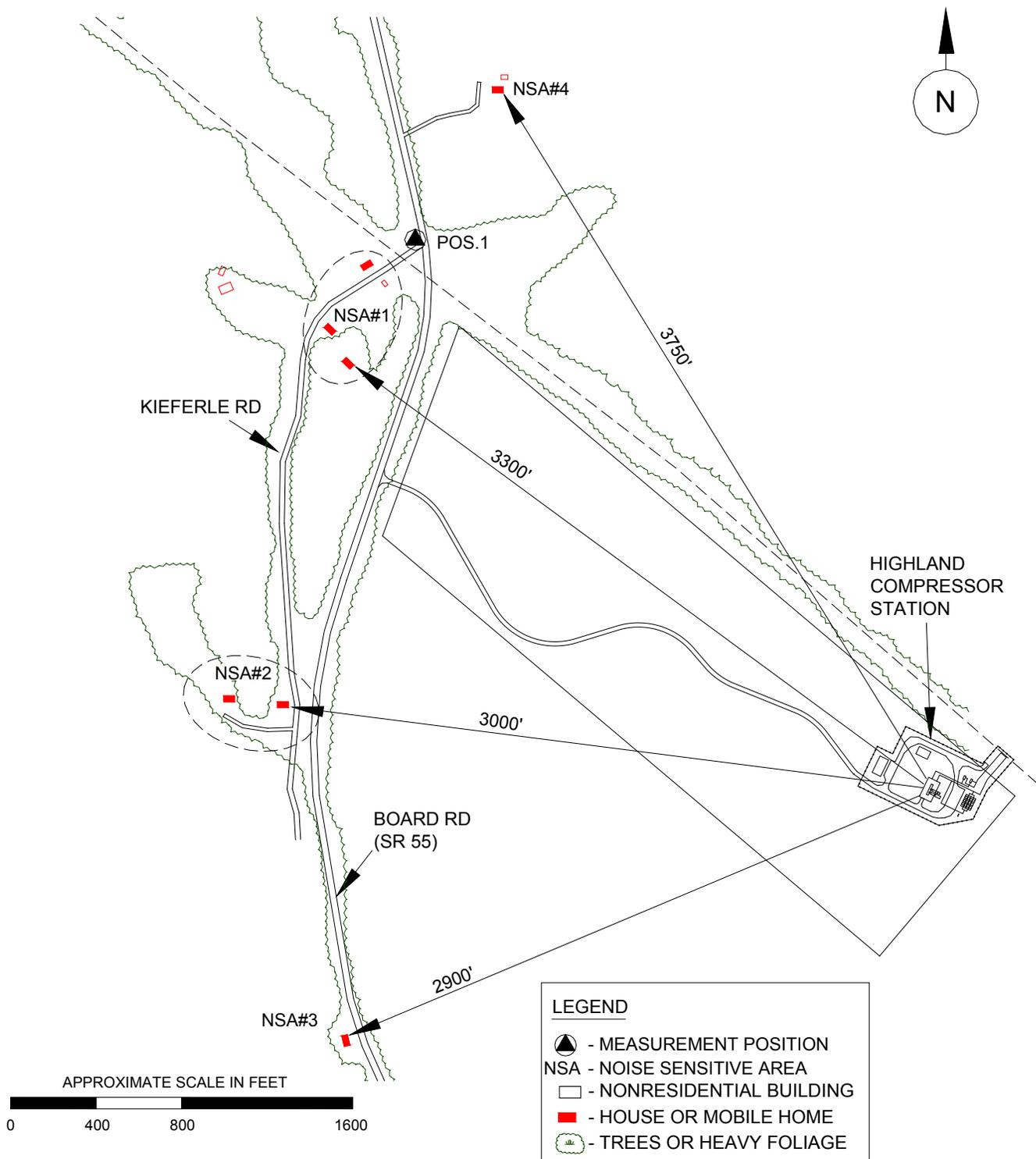


Figure G.1: Proposed Highland Compressor Station, Nearest Noise Sensitive Areas

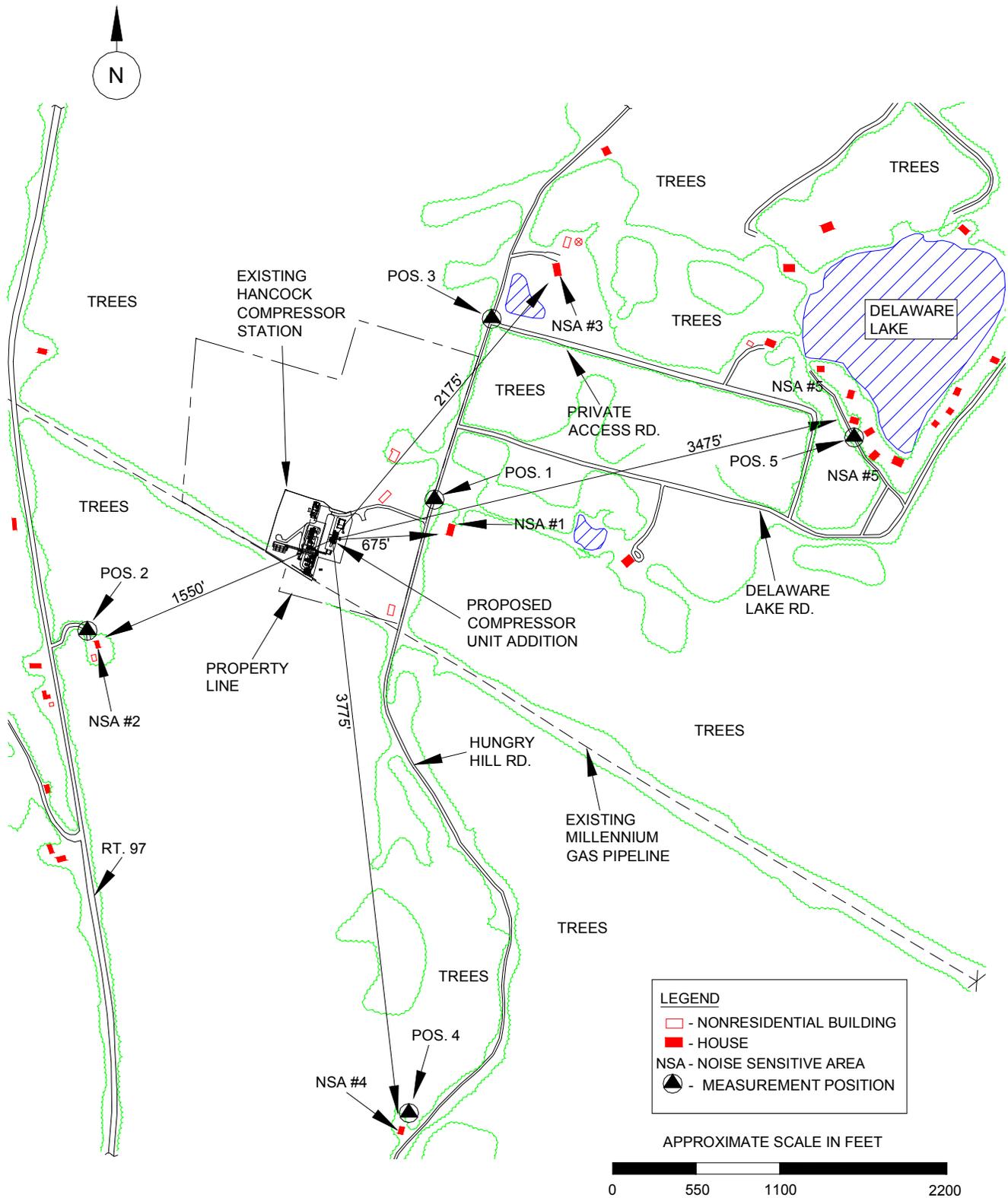


Figure G.2: Existing Hancock Compressor Station, Nearest Noise Sensitive Areas

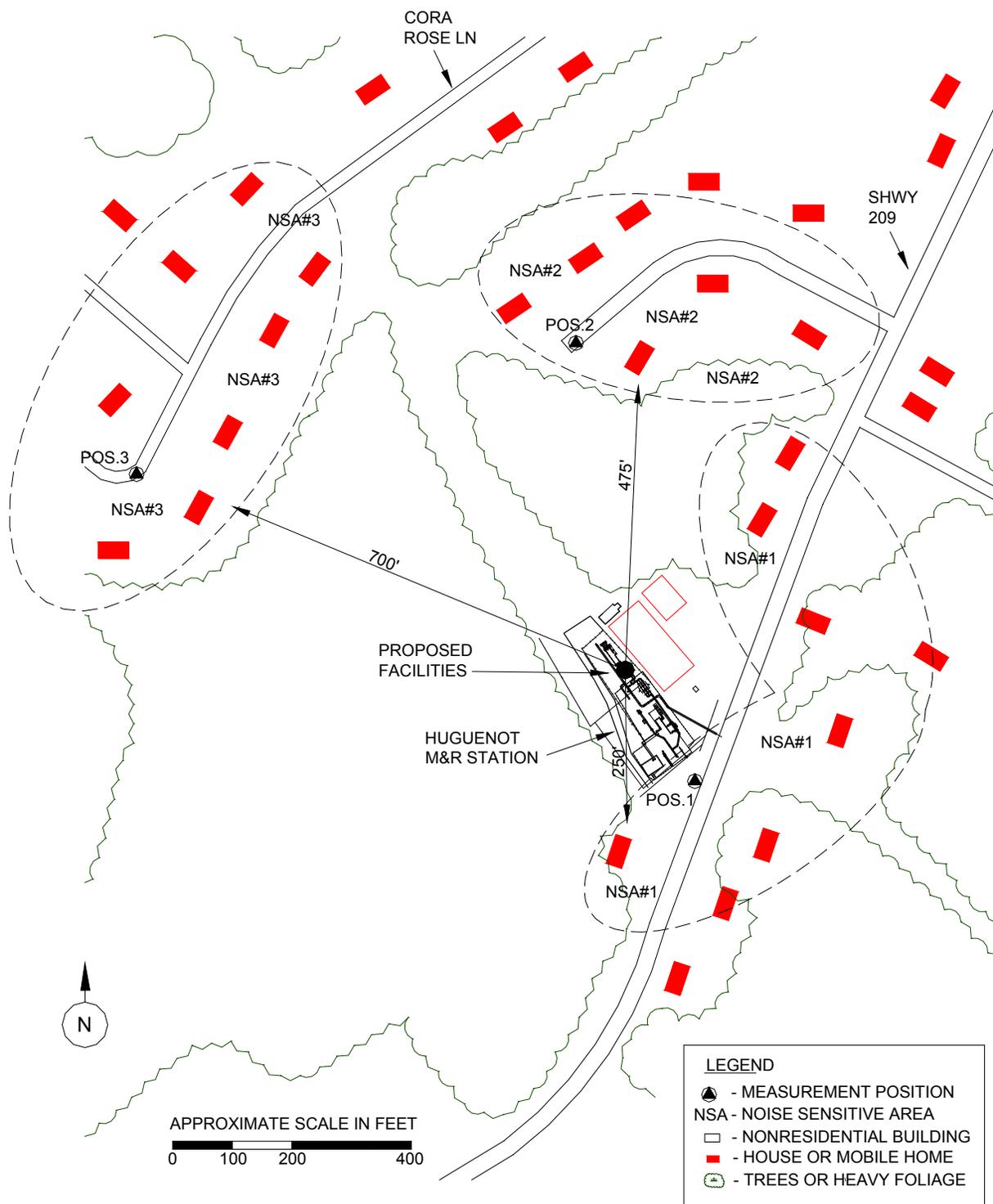


Figure G.3: Existing Huguenot Meter Station, Nearest Noise Sensitive Areas

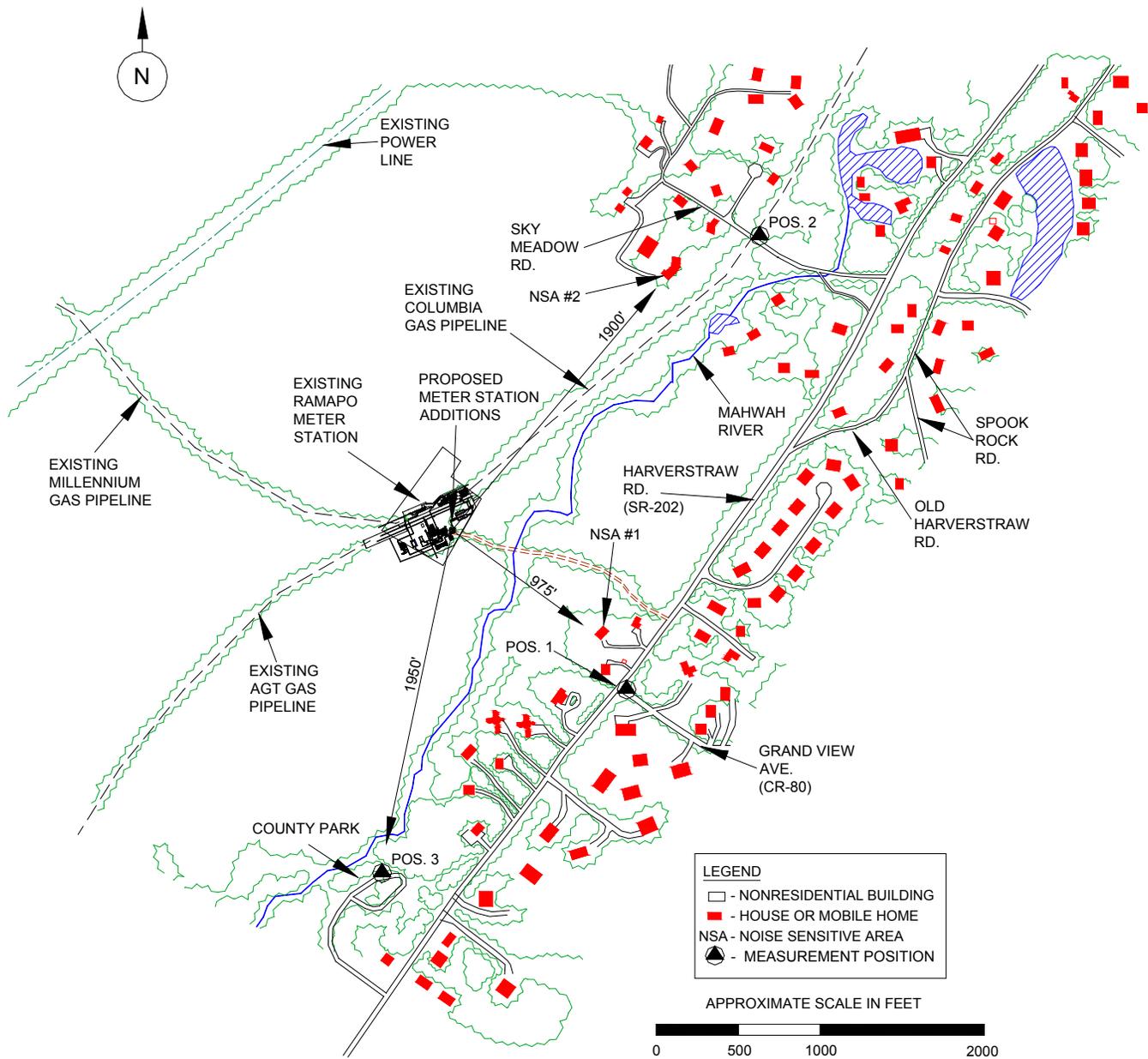


Figure G.4: Existing Ramapo Meter Station, Nearest Noise Sensitive Areas

Document Content(s)

Eastern System Upgrade EA\_eLibrary.PDF.....1-247

# Exhibit F

No. 17-3895

ORAL ARGUMENT NOT YET SCHEDULED

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT**

DELAWARE RIVERKEEPER NETWORK; MAYA VAN ROSSUM, the  
Delaware Riverkeeper,

*Petitioners,*

v.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, BASIL SEGGOS, ACTING COMMISSIONER OF THE  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, JOHN FERGUSON, CHIEF PERMIT ADMINISTRATOR  
OF THE NEW YORK DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION,

*Respondents,*

MILLENNIUM PIPELINE COMPANY, L.L.C.,

*Intervenor.*

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**AFFIDAVIT OF MAYA VAN ROSSUM**

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Pursuant to 28 U.S.C. § 1746, I, Maya K. van Rossum, declare as follows:

1. I have person knowledge of the statements contained herein and could competently testify to them if called as a witness.
2. I reside at 716 South Roberts Road, Bryn Mawr, Delaware County, Pennsylvania, 19010. My residence is within the Delaware River Basin. In addition I own a residence at 6 Lebanon Road, Glen Spey, NY. This part time home is located within the Delaware River Basin, and is partly located in the Town of Highland, Sullivan County, NY.
3. I earned my J.D. from Pace University School of Law, and then earned an LL.M. in Corporate Finance from Widener University School of Law. While at Pace University, I secured a certificate for pursuing a special program focused on environmental law and participated in the Environmental Law Clinic that pursued legal work addressing River issues. In 1992 I worked as the staff attorney in the Environmental Law Clinic at Widener University School of Law where I engaged in advocacy and litigation on behalf of the Delaware Riverkeeper Network while providing support to Law Clinic students similarly engaged. In 1994, I came to work for the Delaware Riverkeeper Network (“DRN”) as the organization’s Executive Director. In 1996, I was appointed Delaware Riverkeeper and leader of the Delaware Riverkeeper Network. I am also a member of the Delaware Riverkeeper Network and make donations to the organization annually.

4. DRN was established in 1988. It is a nonprofit 501(c)(3) membership organization. DRN advocates for the protection of the Delaware River, its tributary streams, and the habitats and communities of the Delaware River watershed. The mission of DRN is to champion the rights of communities to a Delaware River and tributary streams that are free flowing, clean, healthy and abundant with a diversity of life.

5. The DRN office is located at 925 Canal Street, Suite 3701, Bristol, PA 19007. Currently there are 20 staff members and numerous volunteers. The volunteer network is fluid, constantly changing, and project-specific. The exact number changes on a year-to-year basis. Thousands of individuals have done work for us in the past, undertaking water quality monitoring, stream clean ups, habitat restoration projects, and/or getting actively engaged in defending the Delaware River, its watershed, habitats and ecosystems through, for example, letter writing, participation in the public process, organizing activities and events, sharing information, and educating others to become involved.

6. DRN's professional staff and volunteers work throughout the four states of the Delaware River Watershed, including Pennsylvania, New Jersey, Delaware, and New York. DRN is also involved at the national level and in other states in the U.S. to the extent involvement advances our mission and goals as an organization. DRN and its volunteers maintain a breadth of knowledge about the environment, as

well as expertise specific to rivers and watersheds. DRN provides effective environmental advocacy, volunteer monitoring programs, stream restoration projects, technical analyses, and public education. In addition, DRN takes steps necessary to ensure the enforcement of environmental laws, including pursuing legal actions as needed and appropriate and running an Environmental Litigation Clinic with Temple University's Beasley School of Law.

7. Our membership provides irreplaceable participation in, and support for, DRN advocacy, restoration, scientific monitoring and data collection, education and litigation initiatives. Membership is demonstrated in a number of different ways, including but not limited to: making donations, participating in events, signing letters targeted to decision-makers, participating in DRN public information sessions, helping distribute DRN information including alerts and fact sheets, responding to DRN calls for action on projects and issues, volunteering as a water quality monitor, assisting with DRN restoration projects or actively communicating with DRN about our work and issues of concern in the Watershed, signing up and/or donating financial support. DRN basic membership is free of charge.

8. DRN has more than 19,000 members, the vast majority of whom live, work and/or recreate within the Delaware River Basin. We represent the recreational, educational, and aesthetic interests of our members who enjoy many outdoor

activities in the Delaware River Basin, including camping, boating, swimming, fishing, birdwatching, hunting and hiking. Additionally, we represent the economic interests of many of our members who own businesses that rely on a clean river ecosystem, such as ecotourism activities, fishing, or boating. Furthermore, DRN also represents the health interests of those who use the Delaware River watershed's resources for drinking, cooking, farming, swimming, or gardening. And we support the protection and restoration of the Delaware River, its tributaries and watershed, and the creation and honoring of constitutional environmental rights throughout our watershed states and the nation for the benefit of present and future generations.

9. DRN has members who use and enjoy the areas to be crossed or impacted by Millennium's Eastern System Upgrade Project ("Project"). These members will be harmed by the impacts to forests which will be cut, wetlands, to critical habitats for a variety of species. The impacts resulting from these activities include, but are not limited to: lost forest that will be cut down for the project, lost of critical habitat for a variety of wildlife, increased stormwater runoff, increased erosion and sedimentation, decreased pollution prevention, increased air pollution, increased noise pollution, and decreased landscape aesthetics. Members will be harmed by the detrimental effects on aesthetic and recreational uses of wetlands, forests, and parks, including, but not limited to boating, birding, hunting, fishing, camping,

nature walks and hiking. DRN members will be harmed by the pollution and ecological damage that will be inflicted on our watershed's stream, creek and river resources resulting from the construction, operation and maintenance activities in associated floodplain, riparian area, forest, wetland and groundwater resources. Injuries will take the form of diminished aesthetic beauty of these natural systems; diminished recreational enjoyment due to the temporary and permanent ecological damage that will be inflicted; the permanent loss of ecological resources they value personally, professional and aesthetically; damaged family values and enjoyment of healthy natural spaces; increased noise pollution and air pollution that will affect their health and quality of life, and the enduring fear of accident, incident, injury and/or explosion that will accompany every visit to an ecological system that becomes home to the proposed elements of the Project. DRN members will be damaged by injuries to their health and their sense of well-being and safety that result from the presence of the proposed Project. DRN members will be harmed by the reduced incentives for communities to take steps to protect natural areas from construction resulting from the recognition that pipeline eminent domain is a likely outcome should the Project seek to expand. DRN members will suffer from declining property values resulting from pipeline construction, operation and maintenance as well as from economic harms to their communities resulting from economic harms to businesses adversely impacted by the Project construction,

operation and maintenance. DRN members will be impacted by the adverse impacts this project will have on state and local investments – through policies, programs, regulations, and both direct and indirect financial support – in clean and renewable energy alternatives and technologies. DRN members will be damaged by the adverse impacts that will result from increased climate instability resulting from methane and other greenhouse gas emissions resulting from Project construction, operation and maintenance.

10. Many DRN members are concerned with the proliferating numbers of pipelines that have crossed, or are planned to cross portions of the Delaware River Watershed and the resulting impact the construction, operation and/or maintenance activities have on the streams, rivers, wetlands, forests and ecological systems of the four states of the Delaware River watershed.

11. DRN members have communicated their concerns to me and my staff regarding the harms to their aesthetic and recreational interests, to their property values, to the quality of their lives, to their businesses and/or the economies that will have suffered from the construction, operation and maintenance of the Project, impacts they have seen inflicted as the result of other pipeline projects construction in the region. DRN represents our members' interests that will be negatively affected by the Project in bringing this action.

12. As the Delaware Riverkeeper and as a member of DRN, I personally have enjoyed areas that will be impacted by the Project. I have personally visited the streams, wetlands, and adjacent forested areas in the watershed, by myself, with my family, with friends, and with colleagues, for recreational, personal and professional reasons and have plans to return to these areas for recreational purposes, including among other things, kayaking, hiking, nature walks, wildlife observation and enjoyment as well as for professional purposes. I enjoy my visits to these areas whether in my professional, personal capacity or as a parent. I often include my family in my enjoyment of the areas of the watershed, and find them beautiful and unique natural areas important to share with my children for their personal and educational growth. Specifically, I have a great appreciation for the public lands and scenery contained within the watershed, and plan to return to these areas that are to be impacted by the Project, including but not limited to: the Neversink River, Mongaup Valley Wildlife Management Area, the Town of Highland and the forests and streams affected by the project, the Upper Delaware River and associated communities.

13. My family's New York home is located in proximity to the proposed project, including land located in the Town of Highland and immediately adjacent to the Mongaup Valley Wildlife Management Area – both areas that will be impacted by the air pollution, noise pollution, forest damage, wetland harm, stream impacts and

habitat impacts that will result from the construction, operation and maintenance of the Project.

14. In my capacity as the Delaware Riverkeeper, a mother, and a person who enjoys the outdoors, I will be personally and professionally harmed by the damage that will be inflicted by the construction activities of the Project, and will be adversely affected by the future operational impacts of the Project, including the permanent conversion of wetlands, the permanent loss of forest, damaged instream and riparian habitats, increased air pollution, noise pollution and water pollution, that will result from the construction, operation and maintenance of the Project.

15. I fully expect my personal, professional, recreational, and family trips to the many natural systems included in the Project area will continue in the near and far future. My personal, recreational, family and professional activities in the past and future have, and will continue, to be composed of hiking, camping, boating, and otherwise enjoying the River waters, the forests, the wildlife and the natural scenic beauty of these areas.

16. My use and enjoyment of the natural beauty of these areas and my joy in sharing it with my children and other family will be negatively affected by pipeline installation activities, including the permanent clearing of mature forest trees, resulting from construction of the Project that will cause wetlands conversions, long-term deforestation, increased water and sediment discharges from wetlands,

degraded wildlife habitat, reductions in nutrient storage and soil stabilization, and other harms to the watershed. These activities will negatively affect the way I interact with these natural areas on an aesthetic, recreational, professional, and family level.

17. The permanent tree-clearing and conversion of wetlands, the cutting down of otherwise healthy forest areas resulting in loss, and degradation in the footprint and well beyond, and damage in streams and their riparian areas, that are proposed to occur as part of the construction of the Project and has already occurred on other projects in our watershed, such as Tennessee's Northeast Upgrade Project, and harmed my aesthetic and recreational interests from seeing the deforested wetland areas, the cut and degraded forests, the damaged streams and loss of natural riparian buffer, that once stood there will devastate my personal enjoyment of the views of the many natural areas that will be hit by this Project.

18. I have witnessed firsthand the harms to wetlands, waterways and habitats that have resulted from erosion and sedimentation as a direct result of mature tree clearing and soil compaction leading to greater stormwater runoff that is associated with construction, including pipeline construction activities, and expect to be harmed by those same activities for the proposed Project.

19. I have witnessed the harms that result from HDD construction activities, both during the normal course of construction and as the result of accidents and incidents that result in pollution discharges and damage from HDD activities.

20. I have witnessed and experienced the during and after construction impacts to healthy forests and stream ecosystems using the very same methods that will be used by this Project, and been emotionally and aesthetically damaged while visiting such impacted areas and know the same damaging experience will accompany my future visits both by myself and with friends, family and colleagues, that the Project will inflict. I have spoken with DRN members who have witnessed this kind of damage and have expressed the level of harm they anticipate if the Project were constructed as proposed.

21. The tree clearing, grading, and construction for the Project and the continued maintenance of the right-of-way, including within forests and wetlands, will harm my aesthetic and recreational interests as well as those of DRN members who use and enjoy the areas affected by the Project. I and DRN members are harmed by the loss of the ecological services provided by these mature forested areas, including in waterway riparian areas, a loss that will lead to erosion and sedimentation pollution of pristine streams and wetlands as well as to degradation of fish and wildlife habitat.

22. DRN did not become aware of the SPDES NOI until after it had been issued by NYSDEC. Because DRN did not receive notice, and the NOI was not publically available and an opportunity for a hearing was not provided, DRN was prevented from meaningfully engaging in the permitting process for a significant part of the Clean Water Act's program.

23. The Delaware Riverkeeper Network is registered as a 501(c)(3) nonprofit organization. DRN is funded by individual charitable donations and grants from grant-making organizations and state or federal agencies that are earmarked for specific charitable purposes. DRN's annual budget is approximately \$1.8 million. This annual budget is entirely committed to DRN's ongoing programs, including payment of salaries and benefits of existing staff members, maintenance of our office, and costs of commissioning expert reports and conducting water quality testing via our volunteer watershed monitoring network.

24. DRN does not have the financial ability to post more than a nominal bond or to contribute more than a nominal bond in this litigation without laying off staff members, and/or eliminating or significantly curtailing existing programs. The imposition of a bond in this matter would have a concrete and chilling effect on DRN's ability not only to participate as a plaintiff in public interest environmental litigation but also to fulfill its mission as a watershed based organization committed to the protection of the Delaware River Basin.

I declare under penalty of perjury that the foregoing is true and correct.

Executed December 19, 2017.

A handwritten signature in blue ink that reads "Maya K. van Rossum" followed by a horizontal line.

Maya K. van Rossum,  
the Delaware Riverkeeper

# Exhibit G

No. 17-3895

**ORAL ARGUMENT NOT YET SCHEDULED**

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT**

**DELAWARE RIVERKEEPER NETWORK; MAYA VAN ROSSUM, the  
Delaware Riverkeeper,**

*Petitioners,*

**v.**

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, BASIL SEGGOS, ACTING COMMISSIONER OF THE  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, JOHN FERGUSON, CHIEF PERMIT  
ADMINISTRATOR OF THE NEW YORK DEPARTMENT OF  
ENVIRONMENTAL CONSERVATION,**

*Respondents,*

**MILLENNIUM PIPELINE COMPANY, L.L.C.,**

*Intervenor.*

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**AFFIDAVIT OF STEPHEN METTS**

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Pursuant to 28 U.S.C. § 1746, I, Stephen Metts, declare as follows:

1. I have personal knowledge of the statements contained herein and could competently testify to them if called as a witness.
2. I reside at 10 West Beech Street, Smallwood, NY 12778.
3. I am a member of the Delaware Riverkeeper Network (DRN) and have been a member since December 31, 2015.
4. I write this declaration to express concerns and specific knowledge regarding the Millennium Pipeline Company Eastern System Upgrade Project (ESU) which will result in both direct and cumulative land use and air quality impacts in close proximity to myself and my family.
5. While the ESU environmental assessment upon which the Federal Energy Regulatory Commission (FERC) based its project certificate and now Notice to Proceed (NTP), determined the project impact to be of no significant impact (Finding of No Significant Impact - FONSI), I am concerned and have specific knowledge that direct, immediate project impacts will likely infringe upon myself and my family and surrounding natural environment.
6. It is common knowledge that Millennium Pipeline has a long track record of violations and infringements pertaining to their original construction of the Millennium Pipeline ROW, 2008. DRN has documented these violations in detail

in their recent Request for Rehearing with FERC<sup>1</sup>. It is my belief and expectation that a new series of violations and infringements will result from the ESU, especially given its compressed construction schedule, which the company has documented itself to FERC in its recent pleas for a project certificate and NTP.

7. Further, extensive public concerns - many of which I share - were raised in both scoping and public comment periods, only to be rebuffed by FERC with absolutely no mitigation plans nor remedies offered. The public raised specific, quantifiable concerns regarding the compressor stations for this project, as well as the Neversink River crossing (Huguenot Loop), only to be told that in aggregate there is no significant impact worthy of further consideration. I fully disagree with FERC's findings, and believe that direct, unmitigated impacts will result with the construction of the ESU project.

8. Further, I believe these impacts will indeed cross the threshold of the FERC FONSI finding, resulting in long-term, unmitigated, cumulative harm locally and regionally - not only through past projects, but current gas infrastructure projects, most notably the Millennium Valley Lateral Project and connected CPV power

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1

<https://www.scribd.com/document/366658370/REQUEST-FOR-REHEARING-OF-DELAWARE-RIVERKEEPER-NETWORK>

plant to which the ESU project is physically connected and necessary for those projects to proceed to completion and operation.

9. A primary, critical impact of the ESU project is high-canopy forest tree removal, most extreme at both compressor locations and the Huguenot Loop, resulting in more forest fracture within the Delaware River Basin, in close proximity to myself and my family. This will have a direct, negative impact on not only the aesthetic value of our immediate environs but regional ecological value and health.

10. While it was brought to FERC's attention through a detailed study and recommendation letter from Audubon New York<sup>2</sup>, absolutely no mitigation or even acknowledgement of potential important bird area and species impacts were forthcoming from FERC on this matter. Essentially FERC fully ignored a preeminent source of regional ornithology in favor of Millennium's incomplete and demonstratively deficient EA scoping consultant report. I am concerned that significant bird species and habitat impacts will indeed result from the disturbance of the Important Bird Area (IBA) in which the Highland Compressor station will be situated. I also am concerned that impacts to both endangered bird species and bat habitat at the Huguenot Loop has been poorly addressed by the FERC EA

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<sup>2</sup> <https://www.scribd.com/document/328756053/Audubon-Ny-Highland-Compressor>

document and supplemental filings by the applicant Millennium - in effect underplaying the negative impacts that will ensue with the HDD deployment.

11. A critical component of the ESU project is indeed the Huguenot Loop crossing, where a major HDD method will be applied to a regionally significant natural area (and natural preserve at the Nature Conservancy easement). Having studied the plans in close detail with extensive personal, first-hand knowledge of the area, I believe that impacts to numerous tributary stream crossings at and near the Huguenot Loop portend serious unmitigated impacts to the Neversink River, a tributary of the Delaware River. I utilize this nature corridor for recreational purposes on a regular basis and am concerned that the scale and invasiveness of the looping methods proposed by Millennium will result in negative impacts to both water quality and endangered species habitat as documented by DRN in its rehearing request<sup>3</sup>

I declare under penalty of perjury that the foregoing is true and correct.

Executed February, 8 2017.

/s/ Stephen Metts

Stephen Metts

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3

<https://www.scribd.com/document/366658370/REQUEST-FOR-REHEARING-OF-DELAWARE-RIVERKEEPER-NETWORK>

AD408

# Exhibit H

No. 17-3895

ORAL ARGUMENT NOT YET SCHEDULED

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT**

DELAWARE RIVERKEEPER NETWORK; MAYA VAN ROSSUM, the  
Delaware Riverkeeper,

*Petitioners,*

v.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, BASIL SEGGOS, ACTING COMMISSIONER OF THE  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, JOHN FERGUSON, CHIEF PERMIT ADMINISTRATOR  
OF THE NEW YORK DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION,

*Respondents,*

MILLENNIUM PIPELINE COMPANY, L.L.C.,

*Intervenor.*

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**AFFIDAVIT OF DAVID WOOD**

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Pursuant to 28 U.S.C. § 1746, I, David A. Wood, declare as follows:

1. I have person knowledge of the statements contained herein and could competently testify to them if called as a witness.
2. I own a residence at 6 Lebanon Road, Glen Spey, NY that spans from Lumberland, Sullivan County into the Town of Highland, Sullivan County. While I currently visit the residence regularly, it is my intention to live at the residence full time in within the next 10 years. My fulltime residence is currently at 716 south Roberts road, Bryn Mawr, PA 19010. I share both residences with my son Wim and my step daughter Anneke.
3. I am a member of the Delaware Riverkeeper Network and have been a member for at least 10 years.
4. I write this declaration to express concerns that I have about the Millennium Company's Eastern System Upgrade Pipeline Project, which is proposed to cross through Sullivan, Orange, Delaware, and Rockland Counties, New York.
5. My Sullivan County residence would be located within miles of the proposed Highland Compressor station.
6. The existing Millennium pipeline is located within about a half mile from my home. It is my belief, from the information I have seen on the record, that the Millennium company is planning to expanding this existing pipeline to include a

second pipeline laying parallel, including in the section that is in proximity to my New York home.

7. Construction of the proposed compressor station will release pollution into the air that will be of concern to my family, particularly on those days when the wind blows that pollution in the direction of my home. I worry for my health and the health of my family.

8. The Mongaup Valley Wildlife Management Area will be directly affected by the Highland compressor station as well as any expansion of the existing pipeline. The Mongaup Valley Wildlife Management Area is the protected land that surrounds and neighbors my property. The forest, wildlife, plants, habitats, water and air that are part of, and emanate from, Mongaup Valley Wildlife Management Area are the same natural resources I and my family enjoy and are the reason why we purchased our property and first moved to the area. The damage to these natural resources that will be inflicted by the Millennium ESU and any future expansion of the Millennium pipeline will have a direct and adverse impact on my enjoyment of my home, the quality of my life, and the value of my home and property.

9. The Millennium ESU will have both direct and indirect impacts on my health and that of my family by subjecting us to air pollution and increasing our

fear of an accident, incident, explosion or health complications resulting from the construction, operation and maintenance of the project.

10. I purchased the property in order to enjoy, and in fact do enjoy, birding, wildlife viewing, hiking, boating, and enjoyment of nature in and around the entire area including my own property and all of the surrounding areas including the Mongaup River, the Neversink River, the Mongaup Valley Wildlife Management Area, the Upper Delaware River, Half Way Brook, and the bald eagles, timber rattle snakes, birds, bears and other wildlife that are supported by these natural resources and habitats. This project stands to destroy my enjoyment of these things.

11. I regularly kayak all of the waterways of the area that will be harmed by construction of the project and my enjoyment of these natural resources will be harmed by the resulting degradation. While I have not yet kayaked the Neversink River yet, I had a specific plan to kayak the Neversink in 2018 with my family. My joy of undertaking that experience is already being diminished by the anticipated construction of the project.

12. I am worried that the local economy will be harmed by the construction of the project and the future expected expansion of the Millennium pipeline. I purchased in this community because of the ecotourism industry and the many qualities it brings to and supports in the community. These qualities are going to

be undermined, diminished, damaged and to some degree lost from the region,  
which will have an adverse impact on the economic value of my property, my  
home and will undermine my ability to enjoy the region.

I declare under penalty of perjury that the foregoing is true and correct.

Executed December 19, 2017.

/s/ David A. Wood

David A. Wood

# Exhibit I

No. 17-3895

ORAL ARGUMENT NOT YET SCHEDULED

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT**

DELAWARE RIVERKEEPER NETWORK; MAYA VAN ROSSUM, the  
Delaware Riverkeeper,

*Petitioners,*

v.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, BASIL SEGGOS, ACTING COMMISSIONER OF THE  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, JOHN FERGUSON, CHIEF PERMIT ADMINISTRATOR  
OF THE NEW YORK DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION,

*Respondents,*

MILLENNIUM PIPELINE COMPANY, L.L.C.,

*Intervenor.*

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**AFFIDAVIT OF WENDY E. ROBINSON**

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Pursuant to 28 U.S.C. § 1746, I, Wendy E. Robinson, declare as follows:

1. I have personal knowledge of the statements contained herein and could competently testify to them if called as a witness.
2. I reside at 84 Homestead Trail, White Lake, New York.
3. I am a member of the Delaware Riverkeeper Network and have been a member since July 9, 2013.
4. I write this declaration to express concerns that I have about the Millennium Company's Eastern System Upgrade Pipeline Project, which is proposed to cross through Sullivan, Orange, Delaware, Rockland Counties, New York.
5. I live approximately 3.1 miles from the pipeline and the proposed site of the Highland compressor.
6. I have an asthmatic son whose exposure to the air-borne toxins emitted by the proposed Highland compressor will cause him irreparable harm.
7. My home is in the direct path of the prevailing winds that will move across Toronto Reservoir from the proposed Highland compressor site. My family and I will be prisoners in our own home if the compressor is built. We will not feel safe with the windows open. We will not be able to enjoy the natural beauty, clean air, and peace — the very reasons we plowed all our savings into the home that was our life-long dream. The Highland compressor, if built, will rob us of all that is meaningful in this idyllic place we call home.

8. I observe eagles flying over Toronto Reservoir and my home at least weekly, and often multiple times per week. I am certain they will be driven from their nests by the nuisance created by the proposed Highland compressor, further diminishing the enjoyment of my home.

I declare under penalty of perjury that the foregoing is true and correct.

Executed December 20, 2017

A handwritten signature in black ink, reading "Wendy E. Robinson". The signature is written in a cursive style with a large initial "W" and a distinct "E".

Wendy E. Robinson

# Exhibit J

No. 17-3895

ORAL ARGUMENT NOT YET SCHEDULED

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT**

DELAWARE RIVERKEEPER NETWORK; MAYA VAN ROSSUM, the  
Delaware Riverkeeper,

*Petitioners,*

v.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, BASIL SEGGOS, ACTING COMMISSIONER OF THE  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, JOHN FERGUSON, CHIEF PERMIT ADMINISTRATOR  
OF THE NEW YORK DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION,

*Respondents,*

MILLENNIUM PIPELINE COMPANY, L.L.C.,

*Intervenor.*

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**AFFIDAVIT OF GEORGE BILLARD**

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Pursuant to 28 U.S.C. § 1746, I, George Billard, declare as follows:

1. I have person knowledge of the statements contained herein and could competently testify to them if called as a witness.
2. I reside at 995 State Route 55, Eldred, NY 12732.
3. I am a member of the Delaware Riverkeeper Network and have been a member since January 15<sup>th</sup>, 2015.
4. I write this declaration to express concerns that I have about the Millennium Company's Eastern System Upgrade Pipeline Project, which is proposed to cross through Sullivan, Orange, Delaware, Rockland Counties, New York. which will result in both direct and cumulative land use and air quality impacts in close proximity to myself and my family.
5. My home is approximately 1.7 miles from the proposed Highland Compressor.
6. I moved to this area specifically because of its unspoiled nature. Owing to the fact that there is no municipal water system, I, like everyone else in town, get my water directly from the underlying aquifer. Millennium's emissions, only a portion of which they have disclosed, will directly impact local waterways and which affect our aquifer. Millennium has plans for retention ponds on site that account for a 100-year flooding incidents. Even a cursory glance at the news these days shows extreme weather events that prove the 100-year model insufficient.

Flooding at the Highland facility would have a detrimental impact on our local waterways, our underlying aquifer, and the Delaware River, an important water supply for millions.

7. It is common knowledge that Millennium Pipeline has a long track record of violations and infringements pertaining to their original construction of the Millennium Pipeline ROW, 2008. DRN has documented these violations in detail in their recent Request for Rehearing with FERC. I also point to Millenniums first compressor constructed in Hancock, NY in 2013, which resulted in both accidents and environmental damage. There, construction accidents resulted in the Kenyon family being driven from their home, eventually being bought out by Millennium under the condition that they sign a non-disclosure agreement. In one incident, gas from 10 miles of pipeline was released into the atmosphere. In justifying the further expansion of Hancock in their current ESU application, Millennium now seeks a Title V air pollution permit for their proposed expanded facility. It is not unreasonable to expect Millennium will seek similar future expansion here in Highland, as Millennium has publicly expressed a desire to expand operations. It is my belief and expectation that a new series of violations and infringements will result from the ESU, especially given its compressed construction schedule, which the company has documented itself to FERC in its recent pleas for a project certificate and NTP.

8. Millennium will need to clear nearly 50% of the eight- acre site in Highland of high-canopy forest trees during the construction process. This will have a direct, negative impact on not only the aesthetic value of our immediate environs but regional ecological value and health.

9. In an October 14<sup>th</sup>, 2016 letter to FERC<sup>1</sup>, Audubon New York raised serious concerns on the impact to an important bird area by the proposed Highland compressor. No response was given by FERC, who instead favored Millennium's EA scoping consultant report. As an avid birdwatcher, I am deeply concerned that significant bird species and habitat impacts will result from disturbance and destruction of the Important Bird Area (IBA) in which the Highland Compressor station will be situated. I also am concerned that impacts to both endangered bird species and bat habitat at the Huguenot Loop has been poorly addressed by the FERC EA document and supplemental filings by the applicant Millennium - in effect underplaying the negative impacts that will ensue with the HDD deployment.

10. A critical component of the ESU project is indeed the Huguenot Loop crossing, where a major HDD method will be applied to a regionally significant natural area (and natural preserve at the Nature Conservancy easement). Having studied the plans in close detail with extensive personal, first-hand knowledge of

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<sup>1</sup> <https://www.scribd.com/document/328756053/Audubon-Ny-Highland-Compressor>

the area, I believe that impacts to numerous tributary stream crossings at and near the Huguenot Loop portend serious unmitigated impacts to the Neversink River, a tributary of the Delaware River. I utilize this nature corridor for recreational purposes on a regular basis and am concerned that the scale and invasiveness of the looping methods proposed by Millennium will result in negative impacts to both water quality and endangered species habitat as documented by DRN in its rehearing request.

I declare under penalty of perjury that the foregoing is true and correct.

A handwritten signature in black ink, appearing to read "George Billard", written in a cursive style.

George Billard

12/19/2017

# Exhibit K

No. 17-3895

ORAL ARGUMENT NOT YET SCHEDULED

**IN THE  
UNITED STATES COURT OF APPEALS  
FOR THE SECOND CIRCUIT**

DELAWARE RIVERKEEPER NETWORK; MAYA VAN ROSSUM, the  
Delaware Riverkeeper,

*Petitioners,*

v.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, BASIL SEGGOS, ACTING COMMISSIONER OF THE  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION, JOHN FERGUSON, CHIEF PERMIT ADMINISTRATOR  
OF THE NEW YORK DEPARTMENT OF ENVIRONMENTAL  
CONSERVATION,

*Respondents,*

MILLENNIUM PIPELINE COMPANY, L.L.C.,

*Intervenor.*

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**SILLDORFF AFFIDAVIT**

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Pursuant to 28 U.S.C. § 1746, I, Erik L. Silldorff, declare as follows:

1. I have person knowledge of the statements contained herein and could competently testify to them if called as a witness.
2. I reside at 145 Short Road, Doylestown, PA 18901.
3. I am an employee of the Delaware Riverkeeper Network and have worked for the Delaware Riverkeeper Network since January 2017.
4. I am a professional stream ecologist who has worked on environmental assessments and environmental impacts for over 25 years throughout the United States, including New York, Pennsylvania, New Jersey, and Delaware. This experience spans environmental consulting, government agency, academic research, and environmental non-profit organizations, with a primary focus on aquatic resource monitoring and status assessments, and human interventions to reduce, mitigate, or restore water quality and ecological impacts from prior human activities.
5. I hold degrees in Natural Resources from Cornell University (Bachelors of Science), and both Applied Statistics (Masters of Arts) and Ecology (Doctor of Philosophy) from the University of California, Santa Barbara.
6. I write this declaration to express concerns that I have about the Millennium Pipeline Company's Eastern System Upgrade, which is proposed to cross through Orange County, New York.

7. Among many possible environmental impacts associated with the Eastern System Upgrade project, the impacts from construction activities and the associated stormwater runoff are of particular concern. The linear nature of such infrastructure typically dictates a path which crosses numerous environmentally sensitive areas and which heightens the risks for severe erosion, sedimentation of aquatic resources, and violations of water quality standards. These heightened construction and sediment management concerns for pipelines and similar linear infrastructure require careful planning and rigorous enforcement of environmental regulations, including careful oversight of all permitted activities.

8. The New York State Department of Environmental Conservation has authorized coverage under a “general permit” for the construction activities and stormwater runoff from the Eastern System Upgrade project, the SPDES permit. Because such “general permits” provide reduced oversight and essentially no opportunity for public participation and evaluation, the high risks for water quality violations and ecological impacts are further increased and lead to a high probability of severe impacts from the construction activities.

9. Among the concerns with this “general permit” approach, one of my primary concerns is that the selection of sediment management and erosion control practices by the applicant undergoes no public review or evaluation. Whether the applicant selects site-specific best management practices (BMPs) or whether the

applicant simply uses generic approaches that fail to address site-specific challenges cannot be evaluated under the general permit format.

10. Additionally, there is no ability by the public to independently scrutinize whether the proposed construction activities and mitigation measures adequately comply with the environmental regulations. These include such stringent requirements for turbidity (“There shall be no increase in turbidity that will cause a substantial visible contrast to natural conditions.”) and sediments (“There shall be no increase in suspended, colloidal or settleable solids that will cause deposition or impair the waters for their best usages.”) that careful planning, oversight, and enforcement are needed to ensure full compliance with New York regulations. A general permit again provides no ability for independent, outside individuals or organizations to verify that the planning and construction activities will indeed comply with the regulations and thus will protect the common natural resources of New York State.

11. The general permit structure likewise precludes any public involvement in the planning phase of this construction activity, particularly the siting and location of the pipeline relative to sensitive natural resources. Of particular concern, and a problem I have observed at multiple pipeline rights-of-way, are the extremely steep slopes that are chosen for the pipeline route and for which little can be done to prevent severe erosion and water quality impacts. Public involvement and

oversight could help minimize such siting issues and thus prevent water quality violations and environmental impacts associated with the project. Instead, a general permit structure increases the likelihood that stormwater and sediment erosion will indeed impact the water resources along the pipeline route.

12. The Eastern System Upgrade project also passes through an area that New York State and other government agencies have delineated for special protection through anti-degradation provisions via the Delaware River Basin Commission. These “Special Protection Waters” regulations require that no measureable change to water quality be permitted, but the general permit for construction and stormwater runoff take no additional consideration of these heightened requirements and thus lead to a substantial likelihood that the anti-degradation provisions will be violated by the permitted activity. Public involvement and oversight could minimize or eliminate this risk through improved siting, selection of erosion and sediment control practices, and site-specific information about appropriate activities. Indeed, the New York State general permit for stormwater is not an approved component of the Administrative Agreement between New York State and the Delaware River Basin Commission.

13. Finally, the general permit structure for this major construction activity with known risks and liabilities provides the public no opportunity to ensure that the applicant has correctly identified sensitive and regulated resources along the route.

For the Eastern System Upgrade, the applicant is based in Houston, Texas, and despite local contractors can be expected to have little knowledge of unique conditions and circumstances along the route, but which local individuals and organizations could readily identify and thus more effectively protect. These include such resources as protected streams (whether they are class AA or AA-S), historic properties, and state-regulated wetlands. Certainly, some broad recognition of these resources is available for permitting decisions. But only the public and highly-motivated citizens can scrutinize a project of this magnitude carefully enough to evaluate whether all of the resources have been identified correctly and whether all of the protected resources are thus receiving their full protection. A lack of public process greatly increases the risk of important oversights and thus degraded natural and historic resources.

14. In total, then, the Eastern System Upgrade project extends over such a large area and has the potential for widespread and significant environmental impacts that a full public process with careful outside and independent evaluation is needed to ensure compliance with New York State regulations and to minimize or eliminate significant environmental impacts. A general permit precludes such public input opportunities and thus fails to protect New York state resources.

I declare under penalty of perjury that the foregoing is true and correct.

Executed December 20, 2017.

/s/ Erik L. Sillardorff

Erik L. Sillardorff

# Exhibit L



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**NOTICE OF INTENT FORM**

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Stormwater Discharges Associated with Construction Activity under State  
Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002

0644089821

**NOTICE OF INTENT**



**New York State Department of Environmental Conservation  
 Division of Water  
 625 Broadway, 4th Floor  
 Albany, New York 12233-3505**

**NYR**        
 (For DEC use only)

**Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-15-002**  
 All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

**- IMPORTANT -**  
**RETURN THIS FORM TO THE ADDRESS ABOVE**  
OWNER/OPERATOR MUST SIGN FORM

**Owner/Operator Information**

Owner/Operator (Company Name/Private Owner Name/Municipality Name)

M i l l e n n i u m P i p e l i n e C o m p a n y L L C

Owner/Operator Contact Person Last Name (NOT CONSULTANT)

P a g e

Owner/Operator Contact Person First Name

B r u c e

Owner/Operator Mailing Address

1 0 9 N o r t h P o s t O a k L a n e S u i t e 2 1 0

City

H o u s t o n

State

T X

Zip

7 7 0 2 4 -

Phone (Owner/Operator)

3 4 6 - 5 7 1 - 3 0 1 2

Fax (Owner/Operator)

- - -

Email (Owner/Operator)

p a g e @ m i l l e n n i u m p i p e l i n e . c o m

FED TAX ID

5 4 - 1 9 0 4 2 5 3 (not required for individuals)

6401089828

**Project Site Information**

Project/Site Name

E a s t e r n   S y s t e m   U p g r a d e

Street Address (NOT P.O. BOX)

N o t   A p p l i c a b l e   -   L i n e a r   P r o j e c t

Side of Street

North    South    East    West

City/Town/Village (THAT ISSUES BUILDING PERMIT)

D e e r p a r k   G r e e n v i l l e   a n d   M i n i s i n k

State

N Y

Zip

-

County

O r a n g e

DEC Region

3

Name of Nearest Cross Street

M u l t i p l e   c r o s s i n g s

Distance to Nearest Cross Street (Feet)

0

Project In Relation to Cross Street

North    South    East    West

Tax Map Numbers

Section-Block-Parcel

Tax Map Numbers

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

[www.dec.ny.gov/imsmaps/stormwater/viewer.htm](http://www.dec.ny.gov/imsmaps/stormwater/viewer.htm)

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

**X Coordinates (Easting)**

5	3	8	3	9	7
---	---	---	---	---	---

**Y Coordinates (Northing)**

4	5	7	7	9	5	2
---	---	---	---	---	---	---

2. What is the nature of this construction project?

**New Construction**

**Redevelopment with increase in impervious area**

**Redevelopment with no increase in impervious area**

4107089829

3. Select the predominant land use for both pre and post development conditions.

**SELECT ONLY ONE CHOICE FOR EACH**

**Pre-Development  
Existing Land Use**

- FOREST
- PASTURE/OPEN LAND
- CULTIVATED LAND
- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY
- PARKING LOT
- OTHER

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**Post-Development  
Future Land Use**

- SINGLE FAMILY HOME
- SINGLE FAMILY SUBDIVISION
- TOWN HOME RESIDENTIAL
- MULTIFAMILY RESIDENTIAL
- INSTITUTIONAL/SCHOOL
- INDUSTRIAL
- COMMERCIAL
- MUNICIPAL
- ROAD/HIGHWAY
- RECREATIONAL/SPORTS FIELD
- BIKE PATH/TRAIL
- LINEAR UTILITY (water, sewer, gas, etc.)
- PARKING LOT
- CLEARING/GRADING ONLY
- DEMOLITION, NO REDEVELOPMENT
- WELL DRILLING ACTIVITY \*(Oil, Gas, etc.)
- OTHER

Number of Lots

--	--	--	--

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**\*Note:** for gas well drilling, non-high volume hydraulic fractured wells only

4. In accordance with the larger common plan of development or sale, enter the total project site area; the total area to be disturbed; existing impervious area to be disturbed (for redevelopment activities); and the future impervious area constructed within the disturbed area. (Round to the nearest tenth of an acre.)

Total Site Area	Total Area To Be Disturbed	Existing Impervious Area To Be Disturbed	Future Impervious Area Within Disturbed Area																								
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0	1	5	7	.	8																						
			0	.	7																						
0	0	0	1	.	0																						

5. Do you plan to disturb more than 5 acres of soil at any one time?  Yes  No

6. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>													
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1	3	%														
		1	%													
1	3	%														
7	3	%														

7. Is this a phased project?  Yes  No

8. Enter the planned start and end dates of the disturbance activities.

<b>Start Date</b>	<b>End Date</b>																					
<table border="1" style="width: 100%; height: 25px;"><tr><td>0</td><td>9</td><td>/</td><td>0</td><td>1</td><td>/</td><td>2</td><td>0</td><td>1</td><td>7</td></tr></table>	0	9	/	0	1	/	2	0	1	7	-	<table border="1" style="width: 100%; height: 25px;"><tr><td>0</td><td>9</td><td>/</td><td>3</td><td>0</td><td>/</td><td>2</td><td>0</td><td>1</td><td>8</td></tr></table>	0	9	/	3	0	/	2	0	1	8
0	9	/	0	1	/	2	0	1	7													
0	9	/	3	0	/	2	0	1	8													









Department of  
Environmental  
Conservation

# SWPPP Preparer Certification Form

*SPDES General Permit for Stormwater Discharges  
From Construction Activity (GP-0-15-002)*

## Project Site Information

### Project/Site Name

Eastern System Upgrade - Orange County Facilities

## Owner/Operator Information

### Owner/Operator (Company Name/Private Owner/Municipality Name)

Millennium Pipeline Company, L.L.C.

## Certification Statement – SWPPP Preparer

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-15-002. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Stephen

M

Loss

First name

MI

Last Name

Signature

8/17/16

Date



0182089828

**Post-construction Stormwater Management Practice (SMP) Requirements**

**Important: Completion of Questions 27-39 is not required if response to Question 22 is No.**

27. Identify all site planning practices that were used to prepare the final site plan/layout for the project.

- Preservation of Undisturbed Areas
- Preservation of Buffers
- Reduction of Clearing and Grading
- Locating Development in Less Sensitive Areas
- Roadway Reduction
- Sidewalk Reduction
- Driveway Reduction
- Cul-de-sac Reduction
- Building Footprint Reduction
- Parking Reduction

27a. Indicate which of the following soil restoration criteria was used to address the requirements in Section 5.1.6("Soil Restoration") of the Design Manual (2010 version).

- All disturbed areas will be restored in accordance with the Soil Restoration requirements in Table 5.3 of the Design Manual (see page 5-22).
- Compacted areas were considered as impervious cover when calculating the **WQv Required**, and the compacted areas were assigned a post-construction Hydrologic Soil Group (HSG) designation that is one level less permeable than existing conditions for the hydrology analysis.

28. Provide the total Water Quality Volume (WQv) required for this project (based on final site plan/layout).

**Total WQv Required**

.     acre-feet

29. Identify the RR techniques (Area Reduction), RR techniques (Volume Reduction) and Standard SMPs with RRv Capacity in Table 1 (See Page 9) that were used to reduce the Total WQv Required(#28).

Also, provide in Table 1 the total impervious area that contributes runoff to each technique/practice selected. For the Area Reduction Techniques, provide the total contributing area (includes pervious area) and, if applicable, the total impervious area that contributes runoff to the technique/practice.

**Note:** Redevelopment projects shall use Tables 1 and 2 to identify the SMPs used to treat and/or reduce the WQv required. If runoff reduction techniques will not be used to reduce the required WQv, skip to question 33a after identifying the SMPs.

7738089822

Table 1 - Runoff Reduction (RR) Techniques and Standard Stormwater Management Practices (SMPs)

<u>RR Techniques (Area Reduction)</u>	<u>Total Contributing Area (acres)</u>		and/or	<u>Total Contributing Impervious Area (acres)</u>	
<input type="radio"/> Conservation of Natural Areas (RR-1) ...	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Sheetflow to Riparian Buffers/Filters Strips (RR-2) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Tree Planting/Tree Pit (RR-3) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Disconnection of Rooftop Runoff (RR-4) ..	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
 <u>RR Techniques (Volume Reduction)</u>					
<input type="radio"/> Vegetated Swale (RR-5) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Rain Garden (RR-6) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Stormwater Planter (RR-7) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Rain Barrel/Cistern (RR-8) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Porous Pavement (RR-9) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Green Roof (RR-10) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
 <u>Standard SMPs with RRv Capacity</u>					
<input type="radio"/> Infiltration Trench (I-1) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Infiltration Basin (I-2) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Dry Well (I-3) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Underground Infiltration System (I-4) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Bioretention (F-5) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Dry Swale (O-1) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
 <u>Standard SMPs</u>					
<input type="radio"/> Micropool Extended Detention (P-1) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Wet Pond (P-2) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Wet Extended Detention (P-3) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Multiple Pond System (P-4) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Pocket Pond (P-5) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Surface Sand Filter (F-1) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Underground Sand Filter (F-2) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Perimeter Sand Filter (F-3) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Organic Filter (F-4) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Shallow Wetland (W-1) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Extended Detention Wetland (W-2) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Pond/Wetland System (W-3) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Pocket Wetland (W-4) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>
<input type="radio"/> Wet Swale (O-2) .....	<input type="text"/>	<input type="text"/>		<input type="text"/>	<input type="text"/>



1766089827

33. Identify the Standard SMPs in Table 1 and, if applicable, the Alternative SMPs in Table 2 that were used to treat the remaining total WQv(=Total WQv Required in 28 - Total RRv Provided in 30).

Also, provide in Table 1 and 2 the total impervious area that contributes runoff to each practice selected.

**Note:** Use Tables 1 and 2 to identify the SMPs used on Redevelopment projects.

33a. Indicate the Total WQv provided (i.e. WQv treated) by the SMPs identified in question #33 and Standard SMPs with RRv Capacity identified in question 29.

**WQv Provided**

				.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.					.
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## Owner/Operator Certification Form

**SPDES General Permit For Stormwater  
Discharges From Construction Activity  
(GP-0-15-002)**

Project/Site Name: Eastern System Upgrade - Orange County Facilities

eNOI Submission Number: 2HX-44E7-BRE2

eNOI Submitted by:  Owner/Operator  SWPPP Preparer  Other

### **Certification Statement - Owner/Operator**

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Owner/Operator First Name BRUCE M.I. Last Name PAGE

Signature

6/19/2017

Date

# Exhibit M

1 UNITED STATES COURT OF APPEALS  
2 FOR THE THIRD CIRCUIT

3 NOS. 16-2211/16-2212/16-2218/16-2400

4 DELAWARE RIVERKEEPER NETWORK;  
5 DELAWARE RIVERKEEPER; MAYA  
6 VAN ROSSUM,  
7 Petitioners No. 16-2211

8 vs.

9 SECRETARY PENNSYLVANIA DEPARTMENT  
10 OF ENVIRONMENTAL PROTECTION;  
11 PENNSYLVANIA DEPARTMENT OF  
12 ENVIRONMENTAL PROTECTION,  
13 Respondents

14 Transcontinental Gas Pipe Line Company, LLC,  
15 Intervenor

16 LANCASTER AGAINST PIPELINES,  
17 Petitioner No. 16-2212

18 vs.

19 SECRETARY PENNSYLVANIA DEPARTMENT  
20 OF ENVIRONMENTAL PROTECTION;  
21 PENNSYLVANIA DEPARTMENT OF  
22 ENVIRONMENTAL PROTECTION,  
23 Respondents

24 Transcontinental Gas Pipe Line Company, LLC,  
Intervenor

GERALDINE NESBITT,  
Petitioner No. 16-2218

vs.

SECRETARY PENNSYLVANIA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION, et al.,  
Respondents

Transcontinental Gas Pipe Line Company, LLC,  
Intervenor

CAPTION CONTINUED:

1     CAPTION CONTINUES:

2     SIERRA CLUB,  
3         Petitioner No. 16-2400

4         vs.

5     SECRETARY PENNSYLVANIA DEPARTMENT  
6     OF ENVIRONMENTAL PROTECTION, et al.,  
7         Respondents

8     Transcontinental Gas Pipe Line Company, LLC,  
9         Intervenor

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                  Transcript from the audio recording of  
the oral argument held on Tuesday, November 7,  
2017, at the United States Courthouse, located at  
601 Market Street, Philadelphia, Pennsylvania.

This transcript was produced by John M. Colasante,  
a Registered Professional Reporter, Notary Public,  
and Approved Reporter of the United States District  
Court.

BEFORE:

THE HONORABLE KENT A. JORDAN  
THE HONORABLE THOMAS M. HARDIMAN  
THE HONORABLE ANTHONY J. SCIRICA

24

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1 THE COURT: We're going to take a  
2 break from the Wayne Land and Mineral Group case  
3 and begin argument in Delaware Riverkeeper and  
4 other petitioners versus the Secretary of  
5 Pennsylvania Department of Environmental  
6 Protection.

7 We'll go ahead and call that case and  
8 ask counsel to approach.

9 Mr. Stemplewicz?

10 MR. FREED: Good morning, Your Honor.  
11 My name is Mark Freed. May it please the court --  
12 my name is Mark Freed, and I represent appellants,  
13 petitioners, Geraldine Nesbitt and Lancaster  
14 Against Pipeline.

15 THE COURT: Okay.

16 MR. FREED: Also at counsel table is  
17 Mr. Stemplewicz for Delaware Riverkeeper Network  
18 and Ms. Csank for Sierra Club.

19 THE COURT: All right. Thank you.

20 MR. FREED: I would like to reserve  
21 two minutes for rebuttal. I will be taking nine  
22 minutes on my primary argument.

23 THE COURT: Understood. Thanks.

24 You may proceed.

1 MR. FREED: I want to primarily  
2 discuss two issues. One is the jurisdiction of the  
3 court to consider a non-final agency order. And  
4 second is the harms that arise from the manner in  
5 which DEP sequenced the water quality certification  
6 with the environmental permits and the deprivation  
7 of fundamental property rights that that results  
8 in.

9 THE COURT: Okay. Let's get right  
10 into the jurisdictional piece, Mr. Freed. I've got  
11 a question for you.

12 MR. FREED: Okay.

13 THE COURT: Do you agree or disagree  
14 that what we're asking, the question of finality,  
15 is a question of federal law?

16 MR. FREED: The question of  
17 finality... Yeah, I would agree with that. I  
18 would agree it's a question of federal.

19 THE COURT: Okay. And we could, if we  
20 thought it prudent, we could look to state law for  
21 some guidance.

22 MR. FREED: Correct.

23 THE COURT: But, ultimately, the  
24 question we're deciding is whether under the

1 Natural Gas Act the agency decision is sufficiently  
2 final for review, correct?

3 MR. FREED: See, that's where I would  
4 disagree, Your Honor. I think the question is,  
5 under federal jurisprudence, as annunciated by the  
6 Supreme Court in Bell versus New Jersey, whether or  
7 not it's final.

8 And what the court said is there's a  
9 strong presumption of finality unless the Natural  
10 Gas Act or some other act says there's not. So I  
11 think the argument's --

12 THE COURT: I think we're --

13 MR. FREED: -- been flipped on  
14 its head.

15 THE COURT: I think we're actually  
16 talking about two different things.

17 You're answering the question is there  
18 a finality requirement in the federal law. And,  
19 you're right, under Bell, the Supreme Court has  
20 said there's a strong presumption that there is a  
21 finality requirement.

22 But the question of whether the thing  
23 that happened in this case in fact meets that  
24 finality requirement, that's a point which is a

1 question of federal law, to be answered under the  
2 Natural Gas Act; is it not?

3 MR. FREED: And, I think what the  
4 court is doing is, it's flipping the presumption.  
5 The presumption -- there's a default that finality  
6 is required, unless, unless there's something  
7 specific in the Natural Gas Act that says it's not.

8 THE COURT: I apologize. I'm not  
9 trying to be difficult. But we're --

10 MR. FREED: Okay.

11 THE COURT: -- talking past each  
12 other.

13 MR. FREED: Okay.

14 THE COURT: It appears to me that  
15 there are two different questions. One question  
16 is, is finality required by the Natural Gas Act.  
17 That's the question that might be answered by Bell,  
18 and which you're asserting is answered by Bell,  
19 and, that, yes, there has to be a final agency  
20 action for there to be a valid petition for review  
21 over which we'd have jurisdiction.

22 MR. FREED: Correct.

23 THE COURT: That's not what I'm trying  
24 to ask you about.

1 MR. FREED: Okay.

2 THE COURT: I'm trying to ask you  
3 about the facts of this case --

4 MR. FREED: Okay.

5 THE COURT: -- that is, whether or not  
6 one looks at the facts of this case and it says  
7 what happened here is final.

8 MR. FREED: Okay.

9 THE COURT: And, I question, when you  
10 approach that question --

11 MR. FREED: Okay.

12 THE COURT: -- you approach it not  
13 saying whatever state law says is final is final,  
14 but, as a matter of federal law, is what happened  
15 here something that constitutes finality. That's  
16 what I'm trying to ask you.

17 And would you agree that that's the  
18 approach, that latter approach, that it's a  
19 question of federal law whether or not what  
20 happened here meets the threshold of finality?

21 MR. FREED: Yeah, I would agree with  
22 that, Your Honor, but I think you have to look  
23 at -- it has to be informed by the state law.

24 THE COURT: Okay.

1 MR. FREED: And it has to be informed  
2 by a specific reference to the fact that DEP's  
3 actions under the Environmental Hearing Board Act  
4 are not final until the EHB has had an opportunity.  
5 So --

6 THE COURT: But DEP had nothing else  
7 to do, though.

8 MR. FREED: I'm sorry?

9 THE COURT: DEP had nothing left to do  
10 here.

11 MR. FREED: Yeah. But the idea that  
12 because the Environmental Hearing Board doesn't get  
13 paid by DEP, as opposed to Massachusetts, where  
14 their administrative law judges get paid by DEP,  
15 shouldn't be a difference.

16 The fact that Pennsylvania decided  
17 instead of putting our ALJs in the DEP we're going  
18 to create a separate agency that does essentially  
19 what they would do if they were in DEP, like they  
20 were originally in DER, that's a difference without  
21 a distinction.

22 The bottom line is is that the --

23 THE COURT: Why is it?

24 THE COURT: It seems like --

1 THE COURT: Why is it?

2 THE COURT: -- a very large  
3 distinction.

4 THE COURT: Yeah. That's an important  
5 thing.

6 THE COURT: Where Pennsylvania  
7 separated them and -- I think you're right to say  
8 that the question of finality is informed by state  
9 law, because how the state conducts its business in  
10 this area will give us clues as to whether it's  
11 acted in a final way or not.

12 MR. FREED: And here's what --

13 THE COURT: And, here, DEP has nothing  
14 left to do, and under the state scheme it does not  
15 act as an automatic supersedeas. So...

16 MR. FREED: Here's why -- but the fact  
17 that it doesn't act as an automatic supersedeas is  
18 significant.

19 Here's why, in the system that the  
20 state has set up, you can't just ignore the fact  
21 that EHB, as essentially finishing the process for  
22 DEP, has the role. The way -- this isn't like --  
23 we don't have the Administrative Procedures Act.  
24 We don't have a situation where generally DEP is

1 instructed on how to prepare a record.

2           The record, because we have these two  
3 separate but related, interrelated agencies, the  
4 record is, of the DEP action, is created at the  
5 EHB. And that's how the courts, the state courts  
6 have said due process is protected. Without that  
7 piece, due process is not protected.

8           THE COURT: Then how is it that an  
9 agency, a PADEP decision is final if somebody  
10 chooses not to appeal?

11           MR. FREED: It's not final. Now, does  
12 it have effect?

13           THE COURT: If they choose not to  
14 appeal, and the 30 days expires, is it not final as  
15 to that person?

16           MR. FREED: If they choose not to  
17 appeal and they don't go through some other  
18 methods. 30 days is only one method. And we've  
19 briefed the fact that there can be nunc pro tunc.  
20 We've briefed the fact that this court has the  
21 ability under state law to transfer it to the EHB.  
22 But if all those are waived --

23           THE COURT: Yeah. It --

24           MR. FREED: -- then it becomes final.

1 THE COURT: And it becomes --

2 MR. FREED: But until that happens,  
3 it's not final.

4 THE COURT: And --

5 THE COURT: When a district court  
6 enters an order, is that a final order?

7 MR. FREED: A district court of the  
8 United States?

9 THE COURT: Yes.

10 MR. FREED: It's a final order because  
11 it's -- it hasn't been -- it's a different system.  
12 The state system is such that when you issue an  
13 order -- and I'm not saying that -- in fact, you  
14 mention the supersedeas thing. I think it's clear  
15 that the order has some import. It takes effect  
16 barring a supersedeas. But it doesn't mean that  
17 it -- it's a separate question about whether  
18 it's --

19 THE COURT: But it's --

20 MR. FREED: -- final for this court's  
21 review.

22 THE COURT: But isn't the logical way  
23 to look at it is to say that it's final but subject  
24 to appellate review in the same way that a district

1 court order is a final order, but it's subject to  
2 appellate review in this court?

3 MR. FREED: No, because a district --

4 THE COURT: But what's the difference  
5 between the state scheme and, you know --

6 MR. FREED: You have a record and  
7 you've protected due process rights by going  
8 through a district court process.

9 THE COURT: All right. So then it's  
10 really not about final agency action as much as it  
11 is about constitutional due process.

12 MR. FREED: Well, that's a major piece  
13 of it. It's a constitutional due process issue,  
14 but that's all built --

15 THE COURT: So your argu --

16 MR. FREED: -- into the state action.

17 I'm sorry, Your Honor.

18 THE COURT: So your argument then, as  
19 I understand it, is that if we were to find the  
20 DEP's decision final, it would deprive you of due  
21 process because you're not able to make the kind of  
22 record that you would like to make.

23 MR. FREED: I think that's absolutely  
24 right. It would also deprive this court of the

1 ability to have a full record to review, as it  
2 would have if it had gone through a district court  
3 process.

4 THE COURT: Does it necessarily, then,  
5 follow that what you're saying is that the  
6 Pennsylvania system is constitutionally infirm?  
7 Because if the decision of the Pennsylvania  
8 Department of Environmental Protection is final and  
9 takes effect absent a supersedeas, what you're  
10 saying is they've got a scheme whereby people are  
11 deprived of due process because orders can take  
12 effect and things start happening.

13 MR. FREED: No. That very issue has  
14 been addressed by the state courts, and they said  
15 as long as the EHB has the opportunity and as long  
16 as appellant has the opportunity for a full and  
17 fair review by the EHB, even if it's after the  
18 fact, due process is not deprived.

19 The problem here is the way, the way  
20 appellees are trying to set up the scheme, they're  
21 essentially --

22 THE COURT: Do they --

23 MR. FREED: -- trying to say, We're  
24 going to take that piece out.

1 THE COURT: Do they -- do the state  
2 courts say that in the absence of EHB review there  
3 would be a violation of due process?

4 MR. FREED: I don't know the -- the  
5 question that has been presented is, is the EHB  
6 reviewing after the fact a violation of due  
7 process. And they said no.

8 I think, I think the courts would say  
9 that there's a deprivation of due process, because  
10 at that point you essentially have no  
11 administrative review, like you have in  
12 Massachusetts.

13 In Massachusetts, and I know there's a  
14 chart and we've addressed the chart in our briefs  
15 and we have our own chart, but in Massachusetts,  
16 they still have an environmental law judge that  
17 reviews the action of the agency, the same that we  
18 have in Pennsylvania. There's -- it's really the  
19 -- and even the EHB said, who knows the process  
20 best of all -- this is an almost identical process.  
21 This is the same process.

22 You need that ability -- without an  
23 APA, without a federal system that specifically  
24 sets up how a record is going to be made, it's -- I

1 mean, how does this court know what the record  
2 should be? It doesn't.

3 THE COURT: Don't we have to --

4 MR. FREED: And there's been no --

5 THE COURT: Don't we --

6 MR. FREED: -- opportunity for  
7 evidence.

8 THE COURT: Don't we, don't we need  
9 to, as we approach this, ask ourselves the  
10 question, what does the Natural Gas Act expect in  
11 terms of state processes moving these things  
12 forward?

13 And if we ask ourselves that question,  
14 we can be informed by state law, but we're not  
15 controlled by state law. Would we, would we be in  
16 a posture where we would say, okay, if that's the  
17 review that's required, then maybe that's not so  
18 good for the environmental interest groups and for  
19 the state, because that means they can't possibly  
20 meet the one-year deadline set in the Natural Gas  
21 Act for review, and this defaults back to the  
22 federal government and the state has no part or  
23 parcel in it?

24 MR. FREED: And, Judge Jordan, I

1 really appreciate you raised that because that's a  
2 really fundamental question, which is, the one-year  
3 issue for DEP to make a decision versus the  
4 finality, are two -- it's conflating two separate  
5 issues.

6           The one-year issue is DEP has one year  
7 to act. The same that DEP has certain  
8 requirements. We have, in Pennsylvania, we have a  
9 money-back guarantee program. They have to act.  
10 If you permit a landfill, the landfill can build.  
11 It still goes through the Environmental Hearing  
12 Board process.

13           THE COURT: Yeah. What you're  
14 suggesting is that the one-year -- that when  
15 Congress put that one-year deadline in place, they  
16 anticipated and were okay with the idea that the  
17 action, the final action in your state would occur  
18 much past a year, right? You're saying PADEP  
19 passed -- and I apologize if I'm using a lingo that  
20 nobody else does.

21           MR. FREED: No. That's actually --

22           THE COURT: But that's --

23           MR. FREED: -- what many people use.

24           THE COURT: Okay. That PADEP has to

1 act in a year, but your position also is that  
2 that's irrelevant; in other words, that the thing  
3 that Congress wants to have happen is a functional  
4 irrelevancy, because it has no meaningful due  
5 process effect in the system.

6 MR. FREED: No. It's --

7 THE COURT: That's a difficult --

8 MR. FREED: No. No. It does have a  
9 due pro -- it's -- okay. Let's -- and I use the  
10 analogy, Your Honor, of permitting a landfill.

11 A landfill gets permitted. The owner  
12 of the landfill, immediately upon issuance of the  
13 DEP order, can build his landfill while he's going  
14 through the Environmental Hearing Board process,  
15 absent a supersedeas.

16 It's the same thing here. There was a  
17 final action taken by the DEP that FERC can rely  
18 on. Now, FERC -- you know, it's a separate  
19 question about how -- and FERC has different  
20 policies in different situations about how they're  
21 going to deal with issues or orders while it's  
22 going through administrative processes.

23 But, you know, how FERC deals with it,  
24 and this was the issue that came up in the 2016

1 correspondence between FERC and DEP, but the fact  
2 that there is now -- DEP has taken an action. FERC  
3 now knows that, at a first pass, DEP has said, This  
4 is okay, but --

5 THE COURT: Well, that's interesting,  
6 because -- and maybe I should be asking this of  
7 your colleague who's here on behalf of Delaware  
8 Riverkeepers, but I thought one of the issues in  
9 the earlier rounds of battles over other pipelines,  
10 like in Delaware Riverkeeper Number I, the 2016 --

11 MR. FREED: Right, Your Honor.

12 THE COURT: -- case, there was some  
13 pretty strong feeling behind the notion that FERC  
14 couldn't do it, people -- it was a bad thing,  
15 people were going to start doing things on the  
16 basis of a PADEP decision, and that was wrong.

17 And the argument in response and the  
18 decision made by the court was, well, don't worry,  
19 because nothing is going to happen until the later  
20 permits are issued.

21 You seem to be saying it's okay,  
22 because FERC can start doing things. So --

23 MR. FREED: Yes.

24 THE COURT: -- I understand you're

1 representing different parties, but I sort of --

2 MR. FREED: No. It's exactly the --

3 THE COURT: -- had the idea that you  
4 were on the same page on this stuff.

5 MR. FREED: We are.

6 THE COURT: So am I proceeding in  
7 false conflict? Which is it? Is it, Holy smokes,  
8 you got to stop all this right now, because FERC  
9 might allow the parties to, Transco, to do  
10 something? Or is it, Hey, it's all good, even  
11 though this might take years, because FERC can  
12 start doing something and Transco can start doing  
13 something?

14 MR. FREED: But that's exactly the  
15 situation that's been set up. And what I'll say --  
16 and that actually leads into the other issue, which  
17 is, what is the harm.

18 The problem is, in the Leidy cases and  
19 the other cases, the only thing the court really  
20 considered was what is the harm from construction.

21 There's no construction until  
22 everything is issued, until the environmental  
23 permits, the 401, the certificate of public  
24 convenience. So what difference does it matter

1 what order it's in?

2 And if you only look at those harms, I  
3 would say, yeah, I agree that it's a no harm, no  
4 foul situation.

5 The point of our briefs, the point of  
6 what we're arguing here is there's other harms.  
7 And those harms are the deprivation of due process  
8 rights that occur because a taking is happening.

9 But to answer your question more  
10 directly, the way it's set up now is essentially  
11 that FERC is now taking -- is allowing DEP to issue  
12 a water quality certification before there's even  
13 any environmental permits. I mean --

14 THE COURT: That's --

15 MR. FREED: -- isn't that even a more  
16 absurd result.

17 THE COURT: That's --

18 MR. FREED: -- FERC is taking action  
19 on an empty document.

20 THE COURT: Isn't that Delaware  
21 Riverkeeper Number I? Isn't that right? The same  
22 thing? I mean, the argument of out of sequence  
23 decision-making was exactly the argument made by  
24 your -- I don't know whether Mr. Stemplewicz was

1 the one who made the argument --

2 MR. FREED: Right.

3 THE COURT: -- that was pressed on  
4 that panel. And they said that's not a problem --

5 MR. FREED: It's not a --

6 THE COURT: -- it's okay.

7 MR. FREED: It's not a problem when  
8 you're only looking at construction. It's clearly  
9 a problem if you're looking at the other harms that  
10 arise, particularly since DEP is now saying, We  
11 have a viable project that can move forward.

12 THE COURT: Why is that, why is that  
13 any different than the harm in Delaware Riverkeeper  
14 Number I? If, in fact, it's the case, and I  
15 understand we might have some discussion about  
16 that, but if, in fact, it is the case that nothing  
17 can happen until all the permits are issued, why  
18 aren't we in exactly the same posture in this case  
19 as were the petitioners and the parties in Delaware  
20 Riverkeeper Number I?

21 MR. FREED: That's exactly right,  
22 because something is happening. People are losing  
23 their property. Property is being taken based on  
24 an empty document and a certificate of public

1 convenience that says --

2 THE COURT: But that's a FERC --

3 THE COURT: How do you --

4 THE COURT: That's a collateral attack  
5 on FERC.

6 MR. FREED: No. FERC, FERC looks  
7 to -- If 401 means anything, it means that the  
8 federal agency has to look to the state agency to  
9 determine whether or not the project is viable --

10 THE COURT: If that's true --

11 MR. FREED: -- and is going to be  
12 protective of environmental concepts.

13 And the FERC is essentially acting,  
14 and this is the whole correspondence --

15 THE COURT: Mr. Freed, hold on just a  
16 minute.

17 MR. FREED: -- in the 2016 letter.

18 THE COURT: If your real issue is  
19 eminent domain, then don't you have a standing  
20 argument you need to address first? How are -- how  
21 is your client in a position to assert the rights  
22 of people whose property is being taken?

23 MR. FREED: Lancaster Against  
24 Pipeline, as well as DRN, and Sierra Club, all have

1 members who are losing property by eminent domain.

2 THE COURT: Yeah, but that doesn't  
3 answer the question, which you know exists because  
4 it's been briefed, about the zone of interest  
5 involved in the case, right? And how do you fit  
6 within that zone of interest as an environmental  
7 advocacy group?

8 MR. FREED: Eminent domain, and I  
9 think that the only decision to really address this  
10 is the Gunpowder decision, out of the DC circuit.  
11 It was a two-to-one decision. And I think Judge  
12 Jordan in the dissent very clearly I think laid out  
13 frankly the rationale that this court should accept  
14 that eminent domain is an environmental issue. It  
15 is a right protected by the Clean Water Act.

16 THE COURT: A dissent, though, right?

17 MR. FREED: It was a dissent,  
18 two-to-one decision, by the DC circuit. And the  
19 only -- I think as Judge Hardiman said earlier when  
20 you were listing all the various circuits that had  
21 held one way, we don't have that in this situation.

22 THE COURT: Okay.

23 THE COURT: One quick question.

24 There is a right to appeal to the

1 commonwealth court after a decision by the  
2 Environmental Hearing Board; is there not?

3 MR. FREED: I think that's -- that's,  
4 I think, where the -- I think that's the question  
5 of what the Natural Gas Act does and doesn't  
6 require, does it cut off the appeal from final  
7 agency action or not.

8 THE COURT: Well --

9 MR. FREED: I don't think it cuts off  
10 the administrative review. I think there's at  
11 least an argument, and, again, it's not really  
12 before the court, and we haven't delved into it,  
13 about whether or not it would cut off an appeal or  
14 whether it goes directly to this court.

15 THE COURT: Well, I think it's  
16 important, because the 2005 amendments to the  
17 Natural Gas Act say that the purpose of the  
18 amendments were to expedite this matter.

19 MR. FREED: Correct.

20 THE COURT: And it seems to me that  
21 your view may prevent Congress from --

22 MR. FREED: No.

23 THE COURT: -- Congress, as well, in  
24 this situation from --

1 MR. FREED: We would concede for the  
2 purpose of this argument that it would go directly  
3 to this court and not the commonwealth court.

4 I know that at least one Environmental  
5 Hearing Board judge has raised the issue of the  
6 10th Amendment, about whether or not the 10th  
7 Amendment would preclude the cut-off of both EHB  
8 and the appellate process.

9 But at this point, I think our primary  
10 concern is making sure we're able to establish a  
11 record and through that process safeguard the due  
12 process rights of the appellants.

13 THE COURT: Okay. Thanks very much,  
14 Mr. Freed.

15 MR. FREED: Thank you.

16 THE COURT: Mr. Stemplewicz, your  
17 argument, please.

18 MR. STEMPLEWICZ: Thank you, Your  
19 Honor. Aaron Stemplewicz on behalf of the Delaware  
20 Riverkeeper Network and the Delaware Riverkeeper.

21 I think I'm going to start in a place  
22 that maybe will help contextualize why it's  
23 important that review first be had at the EHB. And  
24 I think it goes right to the actual merits of our

1 claims with regard to public notice and the NPDES  
2 permit.

3 The way in which Pennsylvania has  
4 devised its regulations for public notice, and  
5 specifically for the NPDES permit, were devised in  
6 such a way that never contemplated that a review of  
7 a NPDES permit would ever come directly from DEP  
8 straight to circuit court.

9 And we know this because there's no,  
10 in the way the regs are set up now, there's no time  
11 or place for an aggrieved party, whether it's a  
12 landowner who has a stream in their backyard that's  
13 being, you know, water is being taken out, or they  
14 live in a lakefront community and water is being  
15 taken out to be used in hydrostatic testing --

16 THE COURT: Right. If we were to  
17 accept --

18 MR. STEMPLEWICZ: -- there's no way  
19 for them to --

20 THE COURT: Right.

21 MR. STEMPLEWICZ: -- build the record.

22 THE COURT: If we were to accept  
23 that's true, would the correct decision be to say,  
24 in this instance, then, the action was arbitrary

1 and capricious, and send it back to PADEP and tell  
2 them that you've got to give notice and comment  
3 before one of these NPDES permits is done, and then  
4 60 days later we're back here again?

5 MR. STEMPLEWICZ: Potentially. And  
6 our request for relief is quite modest. And that  
7 is what we're requesting here is for you to remand,  
8 for the court to remand the 401, require notice and  
9 comment period sufficient for people to build a  
10 record, if they're aggrieved, regarding the NPDES  
11 permit. And that way, the NPDES permit can be  
12 challenged on its substance, rather than relying on  
13 a record on which no one other than DEP had an  
14 opportunity to build, which is what we had happen  
15 here.

16 That's why our only argument is a  
17 procedural argument. That's the only one we could  
18 raise here. Because we don't have any -- we  
19 weren't able to submit comments on the substance of  
20 the NPDES permit.

21 And I think the lack of clarity is  
22 also clear here with regard to the rights --

23 THE COURT: Well, hold on just a  
24 moment. Let me --

1 MR. STEMPLEWICZ: Sure.

2 THE COURT: -- ask you a quick  
3 question.

4 If we were to agree with your  
5 colleague, Mr. Freed, that, in fact, there's no  
6 jurisdiction yet because there has to be an  
7 opportunity to appeal to the EHB, doesn't that  
8 undermine your argument about this NPDES permit?  
9 Because then you would have, in the context of the  
10 EHB hearing, an opportunity to talk about this and  
11 you would get all the process you were due. Is  
12 that right?

13 MR. STEMPLEWICZ: I think we would get  
14 the -- yeah, we would get the opportunity to build  
15 the record at that point.

16 THE COURT: So then it --

17 MR. STEMPLEWICZ: The purpose of --

18 THE COURT: It would -- doesn't it  
19 actually just eliminate your argument? Because  
20 then you've got your opportunity to -- you've had  
21 notice. You've had your opportunity to be heard.  
22 You've gotten everything you're entitled to in the  
23 way of due process, albeit in the context of an EHB  
24 hearing. Is that right?

1 MR. STEMPLEWICZ: Well, the way in  
2 which I would look at it is that the whole purpose  
3 of public comment, and this is clear from the  
4 entire line of case law discussing what public  
5 comment means, is that, and we can look at the Lake  
6 Erie Alliance case that we briefed, is that the  
7 purpose of public notice is to invite public  
8 comment prior to a final decision.

9 And that's all that we're asking. And  
10 if we get that through the EHB process, then we're  
11 happy, and then, you know, we're satisfied.

12 THE COURT: Okay. Thanks very much,  
13 Mr. Stemplewicz.

14 We'll hear from counsel for the  
15 Department of Environmental Protection.

16 MR. CIGAN: Good morning, Your Honors.  
17 My name is Joe Cigan, and I represent Patrick  
18 McDonnell, Secretary to the Pennsylvania Department  
19 of Environmental Protection, and I also represent  
20 the Pennsylvania Department of Environmental  
21 Protection.

22 THE COURT: Thanks. And we have  
23 limited time. So I'm going to hit you right out of  
24 the box.

1 I want you to respond to Mr. Freed's  
2 assertion about how the system works; that is, the  
3 assertion that there is no meaningful record  
4 developed before PADEP issues its decision, that  
5 the way the state has established its program, EHB  
6 review is essential to even have an administrative  
7 record of the sort one usually associates with an  
8 agency final action.

9 MR. CIGAN: Yes, Your Honor. It's the  
10 department's position that there is a robust record  
11 that is currently before the court. The record  
12 that the department certified for this court's  
13 review is in excess of 23,000 pages.

14 THE COURT: And how do you respond to  
15 the cases cited by the petitioners that say, from  
16 the state courts, that say, Don't worry about  
17 feeling like you're not getting your due before the  
18 department, because you get due process because of  
19 the EHB running a de novo hearing and taking  
20 evidence and building a record?

21 MR. CIGAN: Well, the department  
22 relies upon its public notice and public comment  
23 process, and the application -- in this case, it  
24 was not an application for a permit. It was a

1 request for a state determination that the project  
2 complies with water quality standards.

3 THE COURT: Right. I'm not -- I  
4 apologize. Let me try to make this clear.

5 MR. CIGAN: Sure.

6 THE COURT: I understand their  
7 argument to be, the state itself, through its  
8 courts, has said that this is all one process. You  
9 don't get due process until you've gotten a full  
10 Environmental Hearing Board hearing after a PADEP  
11 action, because that's the way you're going to get  
12 an opportunity to be fully heard and develop your  
13 record.

14 That's their -- I'm probably doing  
15 less than justice to Mr. Freed's and his  
16 colleague's position, but I understand that to be  
17 what they're saying.

18 I'm trying to get you to respond to  
19 that. If that's really what the state courts have  
20 said, why would we say, Yeah, EHB review  
21 unnecessary, go ahead, cut it off at PADEP.

22 MR. CIGAN: Well, Your Honor, I'm  
23 sorry I'm not responding to your point directly,  
24 but I don't think the petitioner characterization

1 is fair as to the review process that's been set  
2 up.

3 THE COURT: Is that what the state  
4 courts say?

5 MR. CIGAN: Well, what the  
6 Environmental Hearing Board Act says is that if no  
7 one challenges the department's action, it would  
8 become final.

9 THE COURT: Sure. But have they  
10 accurately characterized the state courts'  
11 decisions about how essential EHB review is to  
12 petitioners getting due process?

13 MR. CIGAN: No, I don't think that is  
14 the fair characterization. I think it's the  
15 opportunity to challenge that gives them due  
16 process, that the record -- when the Environmental  
17 Hearing Board reviews a final action of the agency,  
18 it's reviewing that decision-making process.

19 It is, you know, materially different  
20 than Massachusetts, say, where the internal agency  
21 review process does not come to completion until  
22 there's been opportunity for administrative review.

23 THE COURT: All right. And with  
24 respect to the argument that's being made by the

1 Riverkeeper's counsel, if we were to agree with you  
2 that PADEP certification or decision-making is  
3 sufficient to constitute final agency action, how  
4 can the action of the department be viewed as  
5 something other than arbitrary and capricious when  
6 it is contingent upon the filing or issuance of a  
7 permit as to which the department itself  
8 acknowledges there is no opportunity to be heard,  
9 there is no notice and no opportunity to be heard  
10 because the NPDES permit is issued in final form  
11 without any notice?

12 MR. CIGAN: Well, Your Honor, I don't  
13 think that it's a fair characterization. The  
14 petitioners do have a due process right. In fact,  
15 they are currently challenging that NPDES permit  
16 acknowledgment before this court --

17 THE COURT: Well, stop for a second.  
18 Let's assume -- let's imagine a case where there  
19 were no other permits that were in play. Okay?

20 MR. CIGAN: Yes.

21 THE COURT: It was just -- there was a  
22 water quality certification under 401 and the sole  
23 contingency put on it by the department was  
24 issuance of a NPDES permit.

1 MR. CIGAN: Yes.

2 THE COURT: Then, by law, under  
3 Pennsylvania's handling of this, that NPDES permit  
4 could issue with no notice and in a final form and  
5 the water quality certification would cease to be  
6 contingent and nobody with an interest would have  
7 had an opportunity to be heard and to argue until  
8 they petitioned or if they petitioned to this  
9 court. Is that right?

10 MR. CIGAN: Well, it --

11 THE COURT: Well, just stick with me  
12 and handle the hypothetical, if I've, if I've made  
13 it understandable.

14 MR. CIGAN: I don't think it's correct  
15 because of the nature of the NPDES permit that  
16 we're talking about. This was a registration under  
17 an existing NPDES permit. The department created a  
18 permit for certain -- has the authority, and this  
19 has been vetted through its federal delegation of  
20 the program, to issue the general permit that  
21 encompasses certain activities. And the agency  
22 would receive a request to operate. And there was  
23 opportunity for notice of a comment on that  
24 particular permit.

1 THE COURT: There is no -- I mean, I  
2 can pull it out and read it to you. There's a --  
3 I've read it. It looks like the department, the  
4 state, has taken the position that unlike the 105,  
5 the Chapter 105 permit, or like the Chapter 102  
6 permit where there is some notice and is some  
7 opportunity to be heard before a permit is issued,  
8 the NPDES permit, there is no notice and it's  
9 issued in final form. Is that accurate or not?

10 MR. CIGAN: There is an authorization  
11 to issue work under this permit and there was no  
12 advanced public notice and comment on the request  
13 to use that permit.

14 THE COURT: Yeah, but not just --

15 MR. CIGAN: That is -- that is  
16 accurate.

17 THE COURT: -- in this instance.  
18 That's the way the department says We handle these  
19 NPDES permits, correct?

20 MR. CIGAN: No, that's not an accurate  
21 statement. We could have received an application  
22 for an individual NPDES permit that would have,  
23 under state law, would have gone through a notice  
24 and comment opportunity.

1                   Since the application was made to use  
2 a general existing permit, it was, it was processed  
3 in accordance with state law.

4                   THE COURT: I'll just, I'll just read  
5 you from the Pennsylvania Bulletin, document number  
6 15-1273. PAG-10, General Permit Notice of  
7 Intents -- and I take that to mean a reference to  
8 NPDES permits, right?

9                   MR. CIGAN: The notice of intent is  
10 the application to use that permit, yes.

11                   THE COURT: Right. But the permit is  
12 a NPDES permit, right?

13                   MR. CIGAN: Yes, Your Honor.

14                   THE COURT: Okay. For those, quote,  
15 the department will publish notice in the  
16 Pennsylvania Bulletin for approvals of coverage  
17 only.

18                   In other words, I take it -- well,  
19 when I read that, I understand it, and I don't  
20 claim to be an expert in this Pennsylvania law the  
21 way you are, Mr. Cigan, that what the department is  
22 saying there and publishing to the world is you're  
23 going to find out about this when we publish the  
24 approval.

1 MR. CIGAN: It is -- that was an  
2 accurate reading, Your Honor, and the department  
3 does not publish notice of a receipt to use that,  
4 that comment.

5 THE COURT: Okay. So take my  
6 hypothetical, then. Imagine a water quality  
7 certification, a single contingency, a NPDES  
8 permit. That water quality certification ceases to  
9 be contingent when the department issues, not after  
10 notice, not after an opportunity to be heard, but  
11 just when it announces we've approved it, the NPDES  
12 permit. Right?

13 MR. CIGAN: I'm sorry, Your Honor.  
14 I'm not sure I followed your question.

15 THE COURT: A single contingency, a  
16 NPDES permit. If you've --

17 MR. CIGAN: Yes.

18 THE COURT: -- got that  
19 circumstance --

20 MR. CIGAN: Yes.

21 THE COURT: -- you will have a  
22 circumstance where a water quality certification  
23 will have issued and nobody will have received  
24 notice or opportunity to be heard because the one

1 contingency is the type of permit as to which the  
2 department has chosen to give no notice or  
3 opportunity to be heard. It chooses to say We will  
4 announce the approval, the final, not a notice and  
5 an opportunity to discuss before we approve.

6 MR. CIGAN: Thank you for the  
7 clarification, Your Honor. I understand where  
8 you're going.

9 I don't think that is a fair  
10 characterization because the condition in this  
11 water quality certification required the  
12 acquisition of a NPDES permit.

13 That could have been through an  
14 application for an individual permit or application  
15 for an NOI under an existing permit.

16 The issuance of either an  
17 authorization under an existing permit, a general  
18 permit, which is the PAG-10, which is what  
19 petitioners are objecting to, or an individual  
20 permit that would go through full-blown notice and  
21 process, are a separate federal action, as this  
22 court has determined in Leidy case, and subject to  
23 this court's jurisdiction, as is there is currently  
24 a challenge to the PAG-10.

1                   And in response --

2                   THE COURT: I'm not, I'm not trying to  
3 deal with jurisdiction. I'm just trying to get at  
4 one thing. And maybe we've gone as far as we can.  
5 And I appreciate my colleagues' patience with me.  
6 I'm not trying to take us down a rabbit hole. I'm  
7 trying to understand the way the system works.

8                   The one thing I'm trying to get at is  
9 not jurisdiction. It is the due process concern  
10 that's been raised, and, therefore, whether the  
11 action of the department is arbitrary and  
12 capricious in this --

13                   MR. CIGAN: Yes.

14                   THE COURT: -- instance by having a  
15 contingency which can be satisfied with no notice  
16 or comment.

17                   MR. CIGAN: And, Your Honor, may I  
18 respond to that briefly?

19                   THE COURT: Please.

20                   MR. CIGAN: Is that at the time the  
21 water quality certification was issued  
22 conditionally requiring an NPDES permit for the  
23 discharge of hydrostatic test water, if the  
24 recipient of the water quality certification files

1 an application for an NPDES permit, there will be  
2 opportunity for notice and comment.

3 If they file for an application for  
4 use under an existing permit, there will not be  
5 opportunity for notice and comment on the receipt  
6 of the request, but at the time of issuance.  
7 However, it's not clear --

8 THE COURT: Explain that.

9 MR. CIGAN: -- whether which process  
10 will be chosen at the time the water quality  
11 certification is issued.

12 THE COURT: Okay. Then what you're  
13 saying is, when the WQS, WQC is issued, there may  
14 or may not be due process, and depending upon  
15 whether you go for an individual permit or whether  
16 the application is made under a general permit.

17 MR. CIGAN: Well, the department  
18 position is that there would be due process  
19 available under both circumstances, because the  
20 processing of the general permit is in accordance  
21 with state law. However, it would be --

22 THE COURT: All right. But that  
23 already occurred, though, right? Isn't that --

24 MR. CIGAN: The --

1 THE COURT: -- isn't that the rub  
2 here, that under the general permit, as I  
3 understand it, and correct me if I'm wrong, when  
4 somebody seeks to go under the general permit, the  
5 due process has already occurred in the  
6 establishment of that general permit. So, really,  
7 what's left to be done is whether the applicant  
8 qualifies for permission under that general permit.

9 MR. CIGAN: I think that's a fair  
10 characterization of state law, Your Honor.

11 THE COURT: Okay. So you're saying  
12 there is due process when the general permit is  
13 established, and once that general permit is  
14 established, the only process that somebody is due  
15 is to challenge the legitimacy of the decision to  
16 give the new applicant the right to act as a member  
17 or participant under that general --

18 MR. CIGAN: As to whether it  
19 qualifies.

20 THE COURT: Whether you qualify under  
21 the general permit.

22 THE COURT: And how do they ever know  
23 about that?

24 MR. CIGAN: I think that's a fair

1 statement, Your Honor.

2 THE COURT: How do they ever know  
3 about that?

4 MR. CIGAN: I'm --

5 THE COURT: How do they ever know  
6 about that? How do they find out about that if the  
7 only announcement you make is, We issued this, it's  
8 done, we approved it?

9 MR. CIGAN: They are aware that  
10 there's a potential when we issue a water quality  
11 certification requiring the acquisition of an NPDES  
12 permit --

13 THE COURT: That's the notice?

14 MR. CIGAN: -- and that those general  
15 permits are available.

16 THE COURT: The notice is, you know  
17 this -- you know something might happen, something  
18 might be coming? You think that's notice?

19 MR. CIGAN: Well, the -- there is  
20 notice of the final action and there is notice of  
21 the permit and there is notice under the water  
22 quality certification that an NPDES permit would be  
23 required for such activities.

24 THE COURT: And what action can they

1 take if after the decision is made that this party  
2 can act under the general permit, then what's the  
3 remedy for a party that's convinced that that  
4 decision was in error?

5 MR. CIGAN: Well, in this case, the  
6 petitioners have pursued a challenge before this  
7 court of -- that authorization was issued by the  
8 agency this past April.

9 THE COURT: And if that was the  
10 notice, what is the comment available to them?  
11 Should people -- are you suggesting that announcing  
12 This is contingent on an NPDES is the notice that  
13 it might happen, and, therefore, a comment period  
14 has begun and people should start making comments?  
15 Is that the department's position?

16 MR. CIGAN: That is not the  
17 department's position. There is no --

18 THE COURT: Then what's the -- there's  
19 no comment period, right?

20 MR. CIGAN: There is no comment  
21 period. There is no notice in the Pennsylvania  
22 Bulletin of receipt for a request and notice of  
23 intent to use an existing general permit.

24 THE COURT: Okay. So where's the due

1 process?

2 MR. CIGAN: The due process is as set  
3 forth in the regulatory scheme, in the  
4 Commonwealth's regulations authorizing the use of  
5 these NPDES permits. There's three methods that --  
6 with certain general permits, there is an  
7 opportunity for notice and comment upon application  
8 to use.

9 And when the original permit was  
10 issued, which I believe Your Honor referenced, it  
11 was clear that this particular permit for the  
12 discharge of hydrostatic test water would not be --  
13 there would not be public notice of receipt of an  
14 application to use.

15 THE COURT: We're imposing on your  
16 time here, but let me ask you a final question.

17 If you had a choice -- assume for the  
18 sake of discussion that we thought -- if we call  
19 PADEP's action final for purposes of the Natural  
20 Gas Act, then they've got a problem, at least  
21 insofar as the NPDES certification goes, because  
22 there doesn't appear to be a notice of comment  
23 period before things are final. And that would be  
24 troubling, perhaps even arbitrary and capricious.

1 That's one possible outcome.

2 Another possible outcome is, we look  
3 and we say, Well, it's not final. There's an EHB  
4 hearing that's available. And that cures whatever  
5 problem exists with the NPDES permitting. But it  
6 does mean that we don't have jurisdiction in this  
7 particular case, and we wouldn't until an EHB  
8 hearing was held.

9 Now, neither of those is obviously  
10 ideal from the department's standpoint. You're not  
11 advocating for either of those. But if you were  
12 choosing the lesser of two evils from the  
13 department's perspective, which would it be?

14 MR. CIGAN: Well, from the  
15 department's perspective, the decision to issue the  
16 water quality certification is a final action.  
17 It's a culmination of our --

18 THE COURT: I completely understand  
19 your position, I think. I'm positing for you two  
20 outcomes, neither of which are ideal from your  
21 perspective, neither of which you want. Right?  
22 And if I haven't made them clear, those two  
23 alternatives, I'll pose them again.

24 But I'm trying to ask you, from the

1 department's perspective, which is the lesser of  
2 two evils: To be told your actions were -- your  
3 action is final, but because your action is final,  
4 the conditioning of it on the issuance of a permit  
5 as to which there is no notice and comment means  
6 that your action is arbitrary and capricious, take  
7 this case back? Or this action is not final, we  
8 don't have jurisdiction yet, because there needs to  
9 be an EHB hearing, which, among other things, will  
10 cure the problem of not having notice and comment  
11 for the NPDES permit?

12 From the department's perspective, if  
13 you can answer it, which is the lesser of two evils  
14 between those two choices?

15 MR. CIGAN: Well, Your Honor, I'm not  
16 sure if I could pick the choice on behalf of the  
17 agency, being presented with this hypothetical, but  
18 the second alternative I think would be more  
19 advantageous.

20 But I think the critical point that I  
21 make is that the water quality certification, which  
22 is the subject of today's proceedings, did not  
23 specify in its condition whether the project  
24 proponent was required to either register under a

1 general permit or get an individual permit.

2 And if the applicant applied for an  
3 individual permit for discharge of hydrostatic test  
4 water and that could have occurred, the appropriate  
5 time for the petitioners to challenge the  
6 sufficiency of the department's decision on an  
7 NPDES authorization would be separate, as is -- and  
8 we're prepared to meet that challenge that's  
9 currently pending before the court of the  
10 department's authorization, the issuance of  
11 authorization to act under the general permit.

12 THE COURT: So your position is, take  
13 up your challenge to the NPDES permit later, even  
14 though the issuance of it may mean that the water  
15 quality certification is final?

16 MR. CIGAN: I would argue that they're  
17 separate actions. And I think the court has  
18 treated them as such, as in the Leidy decision, DRN  
19 I. That was a challenge to the water quality  
20 certification.

21 And in the Orion court, it  
22 specifically addressed the issuance of state  
23 permits which were conditions of the water quality  
24 certification, which the court viewed as the agency

1 acting pursuant to federal law.

2 THE COURT: Okay. Thank you.

3 Okay. Thanks very much, Mr. Cigan.

4 MR. CIGAN: Thank you.

5 MR. STOVIAK: Good morning, Your  
6 Honors. John Stoviak for the intervenor,  
7 Transcontinental Gas Pipe Line.

8 If I may just add, if you look at page  
9 56 of our brief, it addresses, I think, the  
10 question Judge Jordan has been asking, where we  
11 wrote on page 56 that even if the court were to  
12 address petitioners' argument about this NPDES,  
13 federal law governing NPDES permits provides that  
14 the opportunity for judicial review of an NPDES  
15 permit is sufficient to provide for, encourage, and  
16 assist public participation in the permitting  
17 process.

18 THE COURT: So your position is, the  
19 process they're due, they get by petitioning us and  
20 saying, Stop everything?

21 MR. STOVIAK: Well, that's not what  
22 I'm saying. That's what the federal regulations  
23 say, 40 C.F.R, Section 123.30. And this is a  
24 federal issue. And those regulations say it is

1 sufficient. And I agree with that.

2 In addition, they were on notice about  
3 the general permit process and had the opportunity  
4 to comment on that after the water quality  
5 certificate was issued.

6 THE COURT: Well, let me ask you a  
7 question, then, Mr. Stoviak.

8 Doesn't that prove too much? Because,  
9 then, no notice or comment would ever -- like if  
10 your due process rights are fully satisfied by  
11 being able to petition to this court, I guess in  
12 theory you're saying they could issue a water  
13 quality certification with no record. They could  
14 just say, Yeah, you're good to go. And then your  
15 argument would be, your opportunity to fight that,  
16 environmental groups, is to petition the court of  
17 appeals and take your argument to them.

18 MR. STOVIK: No, I'm not saying that  
19 you should issue a water quality certificate  
20 without any record. In fact, here, you have a  
21 record that has the application, notice of the  
22 application, comments from petitioners, a technical  
23 deficiency letter from the DEP, and our 43-page  
24 response. So you have a very full 23,000-page

1 record on the water quality certificate.

2 THE COURT: I'm not asking about this  
3 record. I'm asking you about the assertion, the  
4 legal assertion you've made that the federal  
5 regulations say that due process is fully certified  
6 by being able to petition a court of appeals.  
7 That's the argument you're making, right?

8 MR. STOVIK: For NPDES with a general  
9 permit, yes.

10 THE COURT: Is that, is that what the  
11 federal regulation says?

12 MR. STOVIK: Yes.

13 THE COURT: Uh-huh.

14 MR. STOVIK: That's what it says.

15 THE COURT: So it's only, it's only as  
16 to that?

17 MR. STOVIK: Yes. That was referring  
18 to the NPDES permit, the regulation I just cited to  
19 you.

20 THE COURT: Okay.

21 MR. STOVIK: I think in terms of the  
22 jurisdictional issue, it sounds as if the court  
23 understands, but there's really three things you  
24 need to look at. The Natural Gas Act, which

1 establishes exclusive original jurisdiction for  
2 courts of appeal, stop the sequential appeals, the  
3 delays that are associated with those appeals.

4           Secondly, if you look at Chief Judge  
5 Smith's opinion, precedential opinion, in DRN II,  
6 or Delaware Riverkeeper II, involving the Orion,  
7 where he points out that the DEP permits for water  
8 quality certificate have all the hallmarks of a  
9 final action.

10           THE COURT: Answer, please,  
11 Mr. Freed's assertion, and, of course, it's in the  
12 briefing, you've briefed it, but I'm interested to  
13 hear your response to what he's presented here  
14 today, that the program that the state has set up  
15 anticipates the need for an EHB review. It's not  
16 like an appeal. It's a de novo process. It is the  
17 creation of the record. It is the completion of  
18 the record by the taking of new evidence, taking of  
19 new testimony, and the filling out of a complete  
20 record.

21           And before you do that, you don't have  
22 what people understand to be a full record, and the  
23 state courts have observed that and agreed with  
24 that view. That's several questions in one. But

1 that's what I understand their position to be.

2 MR. STOVIK: Well, number one, the  
3 Natural Gas Act, and the EP '05 Act amendments, the  
4 Energy Policy Act of 2005 amendments, prevail and  
5 trump that, in essence, in the sense that that's  
6 a -- this is a federal question, and that's federal  
7 law, that you appeal to the courts of appeals.

8 THE COURT: So are you saying it  
9 doesn't have to be final action?

10 MR. STOVIK: It is, it is a final  
11 action.

12 THE COURT: Yeah. But their assertion  
13 is it's not.

14 MR. STOVIK: It is.

15 THE COURT: That's their point.

16 That's the point I'm trying to get you to engage  
17 on. They're saying the state courts themselves  
18 have said this isn't really a final action until  
19 there's been an EHB review, because it's de novo,  
20 and they're taking new evidence, and the record is  
21 not complete, it's not final until after the EHB  
22 review.

23 MR. STOVIK: That's not what state  
24 courts tell you. And if you apply the hallmarks of

1 a federal, a final action, the action of the  
2 Pennsylvania Department of Environmental Protection  
3 is concluded. The EHB is a separate,  
4 quasi-judicial independent agency. They hear  
5 evidence if there is an appeal.

6           Whether there's an appeal or not, as  
7 Mr. Freed conceded, and I've been there, if you  
8 have a landfill permit, you can start building your  
9 landfill once you have a permit, absent somebody  
10 going out and getting a supersedeas.

11           You're not -- you can continue to  
12 build the project. You can proceed with the  
13 pipeline once you have the water quality  
14 certificate and FERC certificate of public  
15 convenience and necessity and the notices to  
16 proceed from FERC.

17           That's a final action. You can start  
18 construction. You can start building those things.  
19 That is the hallmark of it, that you have legal  
20 rights. And the process is concluded as to the  
21 agency, the Department of Environmental Protection.

22           So that's why it's a final action, and  
23 why you don't even have to get to the debate of  
24 whether or not finality is required under the

1 Natural Gas Act, although it is an interesting  
2 point, but it's not in the words of the Natural Gas  
3 Act in 717 r(d)(i) about finality and --

4 THE COURT: But we get to the -- you  
5 claim we get to the same point even if we find  
6 finality is required.

7 MR. STOVIK: Even if you find  
8 finality is required, this is a final action. And  
9 it's fundamentally different than what happened in  
10 Massachusetts.

11 In Massachusetts, the appeal goes  
12 internally within the agency, not like here where  
13 it goes externally to the environmental hearing  
14 board. Secondly, you cannot, you cannot start  
15 proceeding under the permit in Massachusetts until  
16 that agency review finishes through that appeal  
17 process. Here, you can. Those are fundamental  
18 differences that indicate that this is a final  
19 action here.

20 The other thing that you need to just,  
21 if I may, just for a second, consider, and this was  
22 referenced a little bit, this is a federal  
23 question. This is the Natural Gas Act. And you  
24 have the Clean Water Act that allows states to

1 review and do a water quality certificate where  
2 they review federally approved state water quality  
3 standards and the federal requirements of the Clean  
4 Water Act. They have to do that in a reasonable  
5 period of time, not to exceed one year.

6 The Environmental Hearing Board, by  
7 its own admissions in its practice and procedure  
8 manual, takes a year and a half to two years to  
9 complete the hearing process.

10 THE COURT: Understood.

11 MR. STOVIK: So you would inevitably  
12 have, in that scenario, a waiver every time,  
13 because the process goes on forever.

14 THE COURT: Okay.

15 MR. STOVIK: Thank you.

16 THE COURT: Thanks very much,  
17 Mr. Stovik.

18 Your rebuttal?

19 MR. FREED: Thank you, Your Honor.

20 Just very briefly, I think what the  
21 notice argument highlights, what my arguments about  
22 due process highlight, is that by reading the  
23 finality the way DEP and Transco wants us to read  
24 the finality, it throws a monkey wrench into the

1 whole Pennsylvania process that's been set up. It  
2 undermines the entire process. It undermines due  
3 process and it has significant consequences.

4           There's been a lot of talk about the  
5 fact, well, there is a record, there is not a  
6 record, there is a... My question is, if DEP is  
7 establishing a record without an EHB process, what  
8 standards are they using? There are no standards.  
9 The only standard for establishing a record in  
10 these situations is to go through the EHB process.

11           I know the court is probably aware,  
12 this has been discussed, I think even Mr. Stoviak  
13 said, that once the water quality certification is  
14 issued, and once the certificate of public  
15 convenience is issued, there is nothing left for  
16 DEP to do.

17           That's obviously not correct, because  
18 as a condition of the water quality certification,  
19 DEP still has to issue those permits. And only  
20 after those permits are issued can -- should  
21 construction take place. And --

22           THE COURT: And you can challenge  
23 those permits at that time, those downstream  
24 permits, right?

1 MR. FREED: You can challenge the  
2 permits at that time, but, again, getting to what  
3 the harm that we're talking about is, by that  
4 point --

5 THE COURT: Harm accrues before that  
6 happens.

7 MR. FREED: Harm accrues well before  
8 that happens.

9 THE COURT: And the harm, as I  
10 understand your position, is that the eminent  
11 domain process begins and --

12 MR. FREED: It begins. It ends.

13 THE COURT: -- the pipeline begins to  
14 be constructed. Right?

15 MR. FREED: Well, there are -- you  
16 said the pipeline does -- the pipeline does not  
17 begin to be constructed.

18 THE COURT: But the taking has  
19 occurred.

20 MR. FREED: The taking takes place.  
21 Tree felling takes place. A lot of activities are  
22 taking place at that point.

23 And that's why I think it was  
24 important to have the court at least consider the

1 idea that there are other harms besides pure  
2 construction.

3 THE COURT: And if they can't satisfy  
4 the downstream permitting requirements, you've got  
5 a bunch of people who had, at least, a taking occur  
6 that never should have occurred, because the  
7 pipeline would have been --

8 MR. FREED: Right. And although --

9 THE COURT: -- not consummated, right?

10 MR. FREED: And I'll go one step  
11 further, which is, in our situation, even where the  
12 permits are issued after the fact, and have been  
13 challenged, you know, it makes the challenge a  
14 nullity, because the property is gone. There's no  
15 ability to actually seek redress by --

16 THE COURT: Right.

17 MR. FREED: -- a challenge of those  
18 permits.

19 THE COURT: Right. But that taking  
20 really is a function of the National Gas Act,  
21 right? I mean, that's -- the National Gas Act,  
22 Congress has put all that in motion by enacting  
23 that, right?

24 MR. FREED: Because they -- under the

1 Natural Gas Act, there's an assumption, and a valid  
2 assumption, which is why FERC assumed that when DEP  
3 issues a water quality certification, they're  
4 saying you have a viable project.

5 And that's why DEP had to write a  
6 letter to them in 2016 saying, Whoa, whoa, whoa.  
7 You're putting too much stock in our water quality  
8 certification. And FERC's like, No, we're not.  
9 This is exactly what 401 says a water quality  
10 certification is.

11 THE COURT: Okay. Thanks.

12 MR. FREED: Thank you, Your Honor.

13 THE COURT: Mr. Stemplewicz. You've  
14 got one minute, and I suggest you use it responding  
15 specifically to the citation to the federal  
16 regulation made by Mr. Stoviak.

17 MR. STEMPLEWICZ: Yes. And I would  
18 say that what this required here is that Section  
19 401(a)(1), in the public notice requirements of  
20 that section, are satisfied. And, here, we simply  
21 do not have that. And --

22 THE COURT: I'm trying to get you to  
23 respond to Mr. Stoviak's assertion that this NPDES  
24 permit specifically, this kind of permit, is the

1 kind of permit that, as a matter of federal  
2 regulation, the federal law says, You get your  
3 process by being able to petition to the Court of  
4 Appeals. That's how he's characterized it. So  
5 what's your response?

6 MR. STEMPLEWICZ: That you have -- an  
7 aggrieved party would have no -- if that were true,  
8 an aggrieved party simply would have no ability to  
9 challenge the substance of whether or not an  
10 applicant satisfied the criteria of a NPDES permit.  
11 They would have no opportunity to develop a record  
12 and challenge that if that were true.

13 And that's exactly -- so several  
14 references have been made to a separate appeal that  
15 we brought challenging the specific NPDES permit.  
16 And I would like to submit to this court that the  
17 only challenge that we can bring in that matter is  
18 a challenge to the procedure. Because we never had  
19 the opportunity to see the content of that  
20 application and provide --

21 THE COURT: But doesn't this court  
22 have the power to say that that procedure was  
23 defective --

24 MR. STEMPLEWICZ: Yes. And that's --

1 THE COURT: -- constitutionally or  
2 otherwise?

3 MR. STEMPLEWICZ: Yes. And --

4 THE COURT: So that sounds like a  
5 pretty --

6 MR. STEMPLEWICZ: It's the same  
7 argument we're making here. Essentially, it's --

8 THE COURT: It sounds like a pretty  
9 vigorous remedy, then, if you win that case.

10 MR. STEMPLEWICZ: Well, and it's the  
11 same exact -- we would make the same exact argument  
12 we made here, which is that there was no  
13 opportunity for public comment, notice, no ability  
14 to build a record in that case. We would be  
15 precluded from making any argument regarding the  
16 substance.

17 And that's why it's so important that  
18 the EHB have jurisdiction, so that we can have our  
19 due process, so that we can challenge --

20 THE COURT: It sounds like a really  
21 strong argument for us deciding that issue in that  
22 case, not this one.

23 MR. STEMPLEWICZ: So I would disagree,  
24 because I also think that this -- that the Third

1 Circuit has also been very clear that PADEP has not  
2 published any procedures for issuing water quality  
3 certificates. And that's (indecipherable).

4 THE COURT: Does it have to? I  
5 mean --

6 MR. STEMPLEWICZ: And --

7 THE COURT: You want, you want, you  
8 want it to publi -- you say the publication is what  
9 matters, not the conferral of due process. And I'm  
10 not sure I understand that argument.

11 MR. STEMPLEWICZ: Well, I think, I  
12 think they're both important, because 401(a)(1)  
13 requires that the state shall establish procedures  
14 for public notice. And, you know --

15 THE COURT: It doesn't say publish. I  
16 mean, you're saying "shall establish" means  
17 "publish."

18 MR. STEMPLEWICZ: Yeah. And I  
19 would --

20 THE COURT: Set up a published  
21 regulatory standard.

22 MR. STEMPLEWICZ: And I would -- I  
23 guess that begs the question how do you -- how  
24 would one establish procedures if they don't

1 publish procedures. If there's no published  
2 procedures, how can you -- how can they have been  
3 established to satisfy Section 401(a)(1)?

4 THE COURT: Okay. Thanks,  
5 Mr. Stemplewicz.

6 We thank both sides for their argument  
7 and the briefing. We appreciate the quality of it.  
8 And we will take the case under advisement.

9 (Argument concluded.)

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CERTIFICATION

I, JOHN M. COLASANTE, a Fellow of the Academy of Professional Reporters, an Approved Reporter of the United States District Court and the Court of Common Pleas, hereby certify that I have truly and accurately transcribed this recording to the best of my ability.

I further certify that I am neither attorney nor counsel for, not related to nor employed by any of the parties to this action; and further, that I am not a relative or employee of any attorney or counsel employed in this action, nor am I financially interested in this case.



---

JOHN M. COLASANTE  
Registered Professional Reporter  
and PA Notary Public

# Exhibit N

No. 17-4016

UNITED STATES COURT OF APPEALS  
FOR THE SIXTH CIRCUIT

CITY OF GREEN, OHIO,	)
	)
Petitioner,	)
	)
v.	)
	)
NEXUS GAS TRANSMISSION, LLC,	)
	)
Intervenor,	)
	)
THE OHIO ENVIRONMENTAL PROTECTION	)
AGENCY,	)
	)
Respondent.	)
	)

ORDER

Before: CLAY, McKEAGUE, and DONALD, Circuit Judges.

The City of Green, Ohio (“Green”) petitions for review of the Clean Water Act Section 401 Water Quality Standard Certification (the “401 Certification”) issued by the Ohio Environmental Protection Agency (“Ohio EPA”). The 401 Certification would allow construction to begin on a 257-mile natural gas pipeline that would run between northern Ohio and southeastern Michigan. Green now moves for an emergency stay of construction on the eight-mile stretch of the pipeline that would run through Green, pending decision on the merits of its petition. Construction on the rest of the pipeline would continue as planned. Ohio EPA and Intervenor Nexus Gas Transmission, LLC (“Nexus”) oppose the motion. For the reasons set forth below, we believe a stay is warranted.

No. 17-4016

-2-

Green, as the movant, “bears the burden of showing that the circumstances justify” the exercise of discretion to grant a stay pending review. *Nken v. Holder*, 556 U.S. 418, 433–34 (2009). Four factors guide our consideration of the motion for a stay: (1) whether Green has made a strong showing that it is likely to succeed on the merits; (2) whether Green will suffer irreparable harm in the absence of a stay; (3) whether the requested stay will substantially injure other interested parties; and (4) where the public interest lies. *Id.* at 434; *see also In re EPA*, 803 F.3d 804, 806 (6th Cir. 2015). “The first two factors of the traditional standard are the most critical.” *Nken*, 556 U.S. at 434. In deciding whether to grant stay, we must be mindful that a stay motion is made “early in the case based on incomplete factual development and legal research[.]” *In re E.P.A.*, 803 F.3d at 806. Consequently, the parties’ arguments, and our view of them, are necessarily preliminary. *See Americans United for Separation of Church & State v. City of Grand Rapids*, 922 F.2d 303, 306 (6th Cir. 1990) (“We strongly emphasize that we are not now deciding the appeal. That must wait until full briefing and the opportunity for oral argument.”). In addition, a stay serves “the purpose of preserving the status quo pending further proceedings.” *In re EPA*, 803 F.3d at 806. The status quo would be preserved in this case by staying Ohio EPA’s 401 Certification. *See id.* (explaining that the status quo was preserved by staying enforcement of a Clean Water Rule promulgated by the Environmental Protection Agency). We now consider the four stay factors in turn.

First, Green has raised strong arguments concerning the appropriateness of the 401 Certification. Although this court will review the Ohio EPA’s decision under the deferential arbitrary and capricious standard, *see Del. Riverkeeper Network v. Sec. of Pennsylvania Dep’t of Env’tl. Prot.*, 833 F.3d 360, 377 (3d Cir. 2016), Green persuasively asserts that the 401 Certification was improper because various important and required procedures were ignored.

No. 17-4016

-3-

Specifically, the relevant portion of Ohio EPA's environmental review process turned on how the pipeline would affect wetlands in Green. Ohio EPA acknowledges that the Ohio Rapid Assessment Method (ORAM) is "the preferred methodology for assessing wetlands[.]" (Ohio EPA's opp. at 9.) In this case, however, Ohio EPA appears to concede that ORAM was not followed. (*Id.* at 9–10.) Although Ohio EPA argues that it had discretion to use other methods, Ohio Rev. Code § 6111.30(A)(2) explicitly requires "a wetland characterization analysis consistent with the Ohio rapid assessment method[.]"

Ohio EPA also argues that many of its actions satisfied ORAM. However, Green has made strong arguments to the contrary. For example, Ohio EPA concedes that it evaluated many of the wetlands outside of the growing season, even though ORAM provides that "the most reliable scores are obtained during the growing season[.]" (Doc. 18-4, ORAM manual, 16.) Ohio EPA has made little attempt to explain why its evaluations were nonetheless reliable. In addition, Ohio EPA apparently conceded during the administrative proceeding that it did not evaluate alternative pipeline routes that avoid Green. (Doc. 9-A, EPA response, 68–69.) Now, however, Ohio states that it "did conduct the required alternatives analysis[.]" (Ohio EPA's opp. at 13.) But it does not support its statement with any citations to the administrative record.

The second stay factor—irreparable harm to Green—also weighs in Green's favor. "Environmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e., irreparable. If such injury is sufficiently likely, therefore, the balance of harms will usually favor the issuance of an injunction to protect the environment." *Amoco Prod. Co. v. Vill. of Gambell, Alaska*, 480 U.S. 531, 545 (1987). In this case, Ohio EPA admits that the pipeline would cause long-term environmental harms to at least in one location in Green. (Ohio EPA's opp. at 18.) Although Nexus has agreed to establish

No. 17-4016

-4-

wetlands elsewhere to compensate for these environmental injuries, such actions appear relevant to the public interest prong of the stay test, not to the prong that considers irreparable harm to Green. In addition, Ohio EPA's argument that overall environmental harms will be minimal is undermined by the fact that its wetland evaluations may have been unreliable.

The third stay factor—substantial harm to the nonmovants—weighs against a stay. A stay may cause Nexus to suffer monetary injury, because it will delay construction on part of the pipeline. However, the stay will apply only to the eight-mile section of the pipeline that travels through Green. In addition, harm to Nexus will be minimized because, in addition to granting a stay, this order directs the clerk of the court to expedite the appeal.

The fourth stay factor—whether the stay is in the public interest—does not weigh heavily in either party's favor. Environmental protection is certainly in the public interest; and Ohio EPA and Nexus argue that the prompt construction of the pipeline would also be in the public interest.

On balance, we believe a stay is warranted. Green has made a strong showing that it is likely to succeed on the merits; contrary to the dissent's suggestion, Green is not required to identify bulletproof arguments proving that it will achieve a "landslide victory." In addition, Green will suffer irreparable harm absent a stay. The remaining stay factors do not weigh heavily against a stay. Consequently, Green's strong showing on the first two stay factors, which are the "most critical," *Nken*, 556 U.S. at 434, convince us that a stay is appropriate. Green's motion to stay construction on the eight-mile stretch of the pipeline that would run through Green is therefore **GRANTED**. It is further **ORDERED** that the clerk of the court expedite briefing and submission of the appeal.

No. 17-4016

-5-

McKEAGUE, Circuit Judge, dissenting.

This case does not merit a stay. Green bears the burden of convincing us to take the extraordinary step of interfering with the Ohio EPA's administrative authority and Nexus's right to construct the pipeline. It faces an even higher burden than normal here, when we can only vacate the Ohio EPA's order if we find that it is arbitrary and capricious—one of the most forgiving standards in the law. *Ky. Waterways Alliance v. Johnson*, 540 F.3d 466, 474 (6th Cir. 2008). Green cannot meet its burden here.

First of all, I am not convinced that Green has demonstrated a likelihood of success on the merits. This is a threshold requirement that must be satisfied if the analysis is to move forward at all. *Nken v. Holder*, 556 U.S. 418, 434 (2009). Even irreparable harm does not justify a stay based on some remote chance of success. I can see why Green is unhappy with the Ohio EPA's decision here. But victory on the *merits* under an arbitrary-and-capricious standard is exceedingly rare, as it is meant to be. Based on the briefing currently before us, I do not see how Green has shown the kind of strong showing we require to clear this hurdle. The majority tacitly acknowledges this, because the record contains no evidence that the Ohio EPA's determination actually *was* flawed. The most Green can say about it is that it “may have been unreliable.” With due respect to the concerns of the majority, this is not enough.

The majority places significant emphasis on the fact that the Ohio EPA did not use the “ORAM method” indicated in Ohio Rev. Code § 6111.30. But this ignores the fact that both the Ohio Administrative Code and the ORAM manual itself give the Ohio EPA director discretion to decide whether ORAM is “appropriate,” considering “the conditions present at each particular wetland.” Ohio Admin. Code § 3745-1-54; Ohio EPA Resp., Ex. 4, *Ohio Rapid Assessment*

No. 17-4016

-6-

*Method for Wetlands v. 5.0*, at 1. Green’s reply brief makes no attempt to explain why this regulation or the manual is invalid under Ohio administrative law.

But this is not the most serious flaw in the order. It is true that the likelihood-of-success and irreparable harm factors are the “most critical” to the analysis. *Nken*, 556 U.S. at 434. But even the strongest threshold claims must be balanced against “the harm to the opposing party” and “the public interest.” *Id.* at 435. Furthermore, these two concerns merge where, as here, “the Government is the opposing party,” since the government has a strong interest in executing its own orders. *Id.* 435-36. As the Supreme Court reminded us in *Nken*, we “cannot simply assume that ‘ordinarily, the balance of hardships will weigh heavily in the applicant’s favor.’” *Id.* And unless they actually weigh heavily in the applicant’s favor, we should not grant a stay.

The order contradicts the Court’s precedent in this regard. A stay imposes massive economic costs on Nexus, which will have to halt construction and remobilize if it wins on the merits. In this sense, Green is really asking us for an injunction “*altering* the legal status quo.” *Turner Broadcasting Sys. v. FCC*, 507 U.S. 1301, 1302 (1993). Further, the delay has serious downstream economic effects, as a prolonged delay will jeopardize contracts or negotiations for the sale of gas that are already in existence. And, not to belabor the point, but the pipeline is knocking on the gates of the city; Nexus has already sunk quite a bit of money into construction.

The majority reasons that this factor “weighs against” granting a stay because the stay “only appl[ies] to the eight-mile section of the pipeline that travels through Green” and because we are expediting this appeal. I disagree. First of all, this ignores how pipelines work. Like a chain, it is only as strong as its weakest link—a pipeline with one missing section is just as useless as a pipeline that doesn’t exist at all. By shutting down one eight-mile section of the pipeline, then, the court effectively shuts down the entire operation. That harm is not minimal.

No. 17-4016

-7-

Second, although I have no quarrel with expediting the appeal, this does not minimize the harm to Nexus. If, as the majority concludes, Green has made the requisite strong showing of success on the merits, then the delay will extend far beyond the resolution of this appeal, as the Ohio EPA conducts all the additional testing that Green deems necessary. So expedited consideration is of relatively little comfort unless Nexus will probably *win* on the merits—in which case we could not grant a stay in the first place. And as the Court has consistently reminded us, the cost of delay (which is ultimately what Green seeks here) is a substantial factor in the emergency-stay analysis. *Nken*, 556 U.S. at 434-36. Regulatory agencies cannot function if we order them to “try again” every time their testing “may have been unreliable.” Again, that is why the standard on the merits searches for arbitrariness and caprice, not merely imperfection.

Economic and environmental harms are notoriously difficult to weigh against each other. But Green has the burden of persuasion *and* must satisfy an arbitrary-and-capricious standard on the merits. To grant a stay in these circumstances, we should predict something just short of a landslide victory. This game could go into overtime. Therefore, I respectfully dissent from the order granting a stay.

ENTERED BY ORDER OF THE COURT

---

Deborah S. Hunt, Clerk

**UNITED STATES COURT OF APPEALS  
FOR THE SIXTH CIRCUIT**

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Clerk

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Filed: November 22, 2017

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Re: Case No. 17-4016, *City of Green, Ohio v. OH EPA*  
Originating Case No. : 1546699

Dear Counsel,

The Court issued the enclosed Order today in this case. The briefing schedule set on

AD525

10/13/17, remains in effect.

Sincerely yours,

s/Michelle M. Davis  
Case Manager  
Direct Dial No. 513-564-7025

Enclosure