
I. STATEMENT OF RELEVANT FACTS

On July 29, 2016, Millennium Pipeline Company, L.L.C. (Millennium) filed an application under section 7(c) of the Natural Gas Act (NGA) and Part 157 of the Commission’s regulations for authorization to construct and operate the Project, 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. Millennium, a Delaware limited liability company, is a natural gas company, as defined by section 2(6) of the NGA, engaged in
the transportation of natural gas in interstate commerce and subject to the Commission’s jurisdiction. Millennium operates 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. 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 a number of pipeline facilities, including but not limited to: an approximately 7.8-mile-long, 30- and 36-inch-diameter pipeline loop in Orange County, New York (Huguenot Loop); 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; and a new 22,400 horsepower Solar Titan gas-fired turbine compressor unit at the existing Hancock Compressor Station in Delaware County, New York. In addition to the Algonquin delivery point the proposed project will also supply gas to the proposed CPV Valley Energy Center.

The Commission issued the Environmental Assessment (“EA”) for the Project on March 31, 2017, in which Commission staff recommended that the “Order contain a finding of no significant impact” (“FONSI”) for the Project. During the public comment period for the Environmental Assessment, a number of interested parties, including individuals, federal and state agencies, and organizations submitted comments on the proposed Project. On May 1, 2017 DRN submitted substantive comments on the Environmental Assessment.
On November 28, 2017, the Commission ordered that a Certificate be issued to Millennium for approval of the Project. The Order agreed with the staff recommendation, memorialized in the Environmental Assessment, that the Project would not constitute a major federal action significantly affecting the quality of the human environment, and therefore, that an EIS was not required. The Order also granted DRN’s timely motion to intervene in the proceedings. See Order at Appendix A. For the reasons set forth below, DRN now seek a rehearing and rescission of the Commission’s decision to grant the Certificate without first preparing an EIS, and otherwise appropriately fulfilling the requirements of NEPA.

II. BASIS FOR REHEARING

The Commission violated NEPA by granting the Certificate for construction of the Project without properly applying the NEPA regulations in evaluating the significance of the Project’s impacts. NEPA is a planning statute that requires the Commission, prior to undertaking a major federal action such as issuing the Certificate on the Project, to evaluate that project’s impacts on the natural environment. 42 U.S.C. § 4332. It emphasizes the importance of a comprehensive environmental analysis to ensure informed decision making and that “the agency will not act on incomplete information, only to regret its decision after it is too late to correct.” Marsh v. Or. Natural Res. Council, 490 U.S. 360, 371 (1989). The twin goals of NEPA are to 1) obligate federal agencies to consider every significant aspect of the environmental impact of a proposed action and 2) ensure that the agency will inform the public that it has truly considered environmental concerns in its decision-making process. Balt. Gas & Electric Co. v. Natural Res. Def. Council, 462 U.S. 87, 97 (1983). Under NEPA, federal agencies are required to take a “hard look” at environmental consequences prior to a major action in order to integrate environmental consequences into the decision making process. Kleppe v. Sierra Club, 427 U.S. 390, 410 n. 21
(1976). NEPA does not mandate that an agency choose a particular alternative course of action. Rather, as a procedural statute, its entire purpose is that the agency – and the public – be informed of an agency’s rationale and the environmental impacts the selected alternative will have. See Marsh, 490 U.S. at 370-71.

DRN raised substantial questions, supported by reports from technical experts, as to whether the Project will have significant impacts on the human environment, thus necessitating preparation of an EIS. See, e.g., Greenpeace Action v. Franklin, 14 F.3d 1324, 1332 (9th Cir. 1992) (“An agency must prepare an EIS if substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor.”) (internal quotation marks omitted; emphasis in original); see also Nat’l Audubon Soc’y v. Hoffman, 132 F.3d 7, 13 (2d Cir. 1997) (“When the determination that a significant impact will or will not result from the proposed action is a close call, an EIS should be prepared.”) (citations omitted). The Order’s adoption of the deficient analysis in the Environmental Assessment through its Order and Finding of No Significant Impact and its inadequate response to comments raising substantial questions on the significance of the Project’s impacts proves that the Commission failed to take the “hard look” at the Project’s impacts, in violation of NEPA. See Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989).

Contrary to the findings made by the Commission, DRN assert that the Project is not required for the public convenience and necessity. Based on its flawed and incomplete Environmental Assessment and unjustified Finding of No Significant Impact, the Commission violated the Natural Gas Act and its implementing regulations by improperly determining that the public benefits of the Project outweigh its adverse environmental impacts.

A. Concise Statement of the Alleged Errors in the Order
1. The Commission erred in unlawfully segmenting consideration of the Project’s environmental impacts from those of inter-related projects on Millennium’s integrated pipeline system.

2. The Commission erred because the Eastern System Upgrade Project Overbuilds Capacity in Conflict with the Commission’s Policy Statement.

3. The Commission erred because the Commission’s Truncated Cumulative Impacts Review Render The Environmental Assessment Unlawful.

4. The Commission erred because it failed to appropriately consider impacts to Streams, Endangered Species that are Water Dependent, Class A, B, and C Waterbodies, and wetlands.

5. The Commission erred because it failed to appropriately consider induced natural gas development.

6. The Commission erred because it failed to consider and account for the ways in which the proposed Project’s harms outweigh its benefits.

7. The Commission erred because it failed to account for the extent to which Project construction and operation will emit air pollutants and fails to present a comprehensive analysis of the direct, indirect, and cumulative effects of the Project on climate change.

8. The Commission erred because it failed to take a “hard look” at alternatives to the proposed Project.

B. Statement of Issues

The subsections below correspond to the numbered paragraphs in Part II.A., above, and set forth DRN’s position with respect to the identified issues. DRN has submitted substantial comments to the Commission, and hereby incorporate by reference all arguments, evidence, and reasoning contained in DRN’s comments and letters that DRN submitted to the Commission.
1. The Commission erred in unlawfully segmenting consideration of the Project’s environmental impacts from those of inter-related projects on Millennium’s integrated pipeline system.

NEPA requires an Environmental Impact Statement for proposed “major Federal actions significantly affecting the quality of the human environment.” 42 U.S.C. § 4332(2)(C)(i). When scoping the range of actions to include in an Environmental Impact Statement, agencies must consider whether proposed actions are connected, cumulative, or similar. 40 C.F.R. § 1508.25(a)(1)-(3). An agency may avoid preparation of an Environmental Impact Statement by preparing an Environmental Assessment supporting a finding of no significant impact, or by determining the proposed action is not a major Federal action significantly affecting the environment. 40 C.F.R. §§ 1501.4(e)(1), 1508.9.

NEPA requires federal agencies to take environmental considerations into account “to the fullest extent possible.” 42 U.S.C. § 4332; 40 C.F.R. § 1500.2; Bentsen, 94 F.3d at 684. NEPA ensures that a federal agency, “in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts” and “guarantee[s] that the relevant information [on impacts] will be made available to the larger audience.” Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989); 40 C.F.R. § 1500.1(b).

The Commission violated NEPA by segmenting review of Millennium’s pipeline system upgrade into at least two separate projects, which includes the proposed Project and the CPV Valley Lateral Project (Commission Docket No. CP16-17) which includes the CPV Valley Energy Center. These projects appear to be part of a unified whole with functional interdependence, common timing, and geographic proximity. In short, Millennium’s upgrades to its pipeline system is one project divided into segments, ostensibly justified by separate shipping contracts, that have significant adverse environmental impacts and should have been evaluated in a programmatic NEPA document. Indeed, the Valley Later Project begins at precisely the
physical location where the Project ends, and the CPV Valley Energy Center will be fed by natural gas from the proposed Project.

An agency should prepare a single programmatic NEPA review document for actions that are “connected,” “cumulative,” or “similar,” such that their environmental effects are best considered in a single document. Am. Bird Conservancy, Inc. v. FCC, 516 F.3d 1027, 1032 (D.C. Cir. 2008); 40 C.F.R. § 1508.25(a). “Actions are ‘connected’ or ‘closely related’ if they: ‘(i) Automatically trigger other actions which may require environmental impact statements; (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously; [or] (iii) Are interdependent parts of a larger action and depend on the larger action for their justification.’” Hammond v. Norton, 370 F. Supp. 2d 226, 247 (D.D.C. 2005) (quoting 40 C.F.R. § 1508.25(a)(1)). Similar actions have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. Id at 246; 40 C.F.R. § 1508.25(a)(3).

“Piecemealing” or “segmentation” is the unlawful practice whereby a project proponent avoids the NEPA requirement that an EIS be prepared for all major federal actions with significant environmental impacts by dividing an overall plan into component parts, each involving action with less significant environmental effects. Taxpayers Watchdog v. Stanley, 819 F.2d 294, 298 (D.C. Cir. 1987). Federal agencies may not evade their responsibilities under NEPA by “artificially dividing a major federal action into smaller components, each without a ‘significant’ impact.” Coal. on Sensible Transp. v. Dole, 826 F. 2d 60, 68 (D.C. Cir. 1987). See also 40 C.F.R. § 1508.27(b)(7).

The general rule is that segmentation should be “avoided in order to insure that interrelated projects, the overall effect of which is environmentally significant, not be

Millennium has improperly split the overall expansion of its natural gas pipeline system into smaller components, thus avoiding a more rigorous comprehensive environmental review of the construction activity. We remind the Commission of the recent holding in *Delaware Riverkeeper, et al. v. F.E.R.C.*, where the D.C. Circuit Court held that the Commission was required to assess the construction and operational impacts of four natural gas pipeline projects that were designed to upgrade a single pipeline in one environmental review because the projects were “connected, closely related, and interdependent[.]” *Delaware Riverkeeper*, 753 F.3d 1304, 1309 (D.C. Cir. 2014). There the Commission conducted an Environmental Assessment that was incomplete relative to the degree of the Commission’s control over the underlying projects, and the connected actions rule applied because the D.C. Circuit determined that the Commission had improperly limited the scope of the review of the actions. Specifically, the Court held that “the agency’s determination of the proper scope of its environmental review must train on the governing regulations, which here means 40 C.F.R. § 1508.25(a).” *Id.* at 1315.

In *Delaware Riverkeeper Network*, the Court stated that there was “a clear physical, functional, and temporal nexus between the projects. There are no offshoots to the Eastern Leg. The new pipeline is linear and physically interdependent; gas enters the system at one end, and passes through each of the new pipe sections and improved compressor stations on its way to extraction.” *Id.* at 1308-1309.
Millennium’s two upgrade projects represent similarly segmented projects, and meet the three factors described in *Delaware Riverkeeper Network*. With regard to physical proximity, Millennium’s two projects are along the same geographic corridor, impact the same sub-watersheds, physically abut one another, and present *overlapping construction zones*. Indeed, at the exact location where the Project ends, is the same location where the Valley Lateral Project begins. The application materials even acknowledge that there are overlapping construction zones and impacts to the same forested regions, waterways, wetlands, and watersheds that were previously disturbed. The Valley Lateral project is the segment being constructed to service the CPV Valley Energy Center powerplant.

Functionally, these projects are interconnected and indeed rely upon one another for justifying their stated capacity needs. This fact was confirmed by the Accufacts report, which concluded that:

> It should come as no surprise that the older 24-inch, lower 920 psig MAOP, approximately 7.5 mile long segment of the Neversink portion of the Millennium Pipeline is **out of character with the design of the rest of the newer Millennium transmission pipeline that is 30-inch, 1,200 psig MAOP**. The 24-inch Neversink segment has become an increasing bottleneck as gas rates have increased in recent years on the Millennium system. The serious impact of much higher gas rates and actual gas velocities, can be easily demonstrated by reviewing the steep slope (more vertical nature) of the pressure plots on Exhibit 1 and 3 for the existing Neversink segment. These steep slopes, higher pressure loss per mile, **suggest that the Neversink 24-inch pipeline is destined for a different service**, such as to serve as a much lower gas flow delivery supply gas line to the proposed CPV power plant. Once the Neversink is looped with a 30-inch 1,200 psig MAOP pipeline, the smaller diameter weaker MAOP Neversink pipeline segment is of little value to the mainline Millennium Pipeline system except to serve as a delivery supply line to customers on that segment, essentially the proposed CPV power plant.¹

While Millennium contends that the ESU Project is independent of the previous Valley Lateral Project, there is nothing in Millennium’s application that demonstrates that the projects could in fact operate independently. That is to say, Millennium has not demonstrated that the projects could in fact function if one were built and not the other.

Furthermore, the Commission has acknowledged, for the first time anywhere on the record, that the Project will feed the CPV Valley Energy Center. Indeed, without this project it is unclear whether the CPV Valley Energy Center could operate as proposed or whether modifications would need to be made. There is no evidence on the record showing that it could proceed absent modifications if the Project is not built, however, there is evidence that this Project is specifically designed to act in concert with the CPV Valley Energy Center.

Additionally, similar to the pipeline upgrade projects in Delaware Riverkeeper Network, which were all proposed in less than three years; the applications for Millennium’s two upgrade projects actually overlapped in their administrative review at the Commission. Millennium submitted its application for the Project on July 29, 2016, and, the Valley Lateral Project was not granted its Certificate until November 9, 2016. The Commission was aware of both projects, and simultaneously reviewing related documents for over nine months (this includes pre filing information; both official projects were pending before the Commission for over three months). As such, it is clear that there is a physical, functional, and temporal nexus between Millennium’s interrelated and interconnected pipeline upgrade projects.

In addition to failing to meet the requirements of 40 C.F.R. § 1508.25(a) and the factors relied upon in the Delaware Riverkeeper Network case, the Commission also fails to satisfy the three of the factors articulated in Taxpayers Watchdog v. Stanley, thus demonstrating that it impermissibly segmented its NEPA analysis. Taxpayers, 819 F.2d 294 (D.C. Cir. 1987). To
determine whether a project has been unlawfully segmented, “courts have considered such factors as whether the proposed segment (1) has logical termini; (2) has substantial independent utility; (3) does not foreclose the opportunity to consider alternatives[.]” Taxpayers, 819 F.2d at 298. Courts consider “independent utility” in concert with other factors, including economic interdependence, timing, and geographic proximity. In Delaware Riverkeeper, the court held that even if the court were to expand its analysis from Section 1508.25(a) to the factors articulated in Taxpayers Watchdog, the Commission’s defense of its action were still deficient. (there the court found that the projects did not have “…logical termini; [or] . . . substantial independent utility.”).

A project lacks “independent utility” if it could not function or would not have been constructed in the absence of another project. Wetlands Action Network v. U.S. Army Corps of Engineers, 222 F.3d 1105, 1118 (9th Cir. 2000). See also W. N.C. Alliance v. N.C. DOT, 312 F. Supp. 2d 765, 774-775 (E.D.N.C. 2003) (“Alliance”) (project widening highway section lacked independent utility because it would leave a “bottleneck” of narrow highway to north, such that traffic congestion between the termini of the project would be worsened until construction of later project widening bottleneck section).

The proposed Project functionally relies on the operation of the Valley Lateral Project and vice versa. In other words, if the Project’s facilities were to be deactivated, the Valley Lateral Project would not be able to operate as designed and fulfil its contracted-for volumes of gas. Furthermore, the CVP Valley Energy Center would not be able to function as designed. Indeed, the Accufacts report concludes that the design of the Millennium pipeline “signals further expansions are being anticipated or planned as a result of this Project.” The report supports this conclusion by stating that:
Both the large diameter 36-inch pipeline and the higher pressure 1,350 psig MAOP for the looped pipe proposal are inconsistent with the remainder of Millennium’s main gas transmission system of 30-inch pipe and 1,200 psig MAOP upstream and downstream of the proposed loop. There is no way, for example, that the 1,350 psig of the proposed loop can be utilized without incorporating additional compressor stations and/or mainline pipeline changes beyond the cases filed for this Project’s proposal.

... The combination of requested horsepower addition along with the much larger diameter 36-inch higher 1,350 psig MAOP needs additional supporting analysis as these changes suggest additional project expansions are expected well beyond the needs stated in the Project application.² (emphasis added)

These conclusions are specifically supported by a number of exhibits providing engineering modeling of Millennium’s system. Tellingly, the Commission can point to nothing in the record demonstrating its independent analysis of any engineering principles that would show that the proposed project could operate independently, or refuting any of the data provided in the exhibits provided by DRN. The Commission baldly states that it evaluated the flow models and found them to be sufficient. However, the Commission failed to disclose what the modeling software was, how it was calibrated, or even any evidence that the modeling took place. There is simply nothing in the record other than the analysis provided by Accufacts. Even more problematically, the Commission apparently believes its rules limiting the extent to which applicants may “overbuild” to accommodate future expansion excuse it from NEPA’s requirements to review functionally interdependent projects together. The Commission recognizes that the Project is overbuilt but concludes that such overbuilding is acceptable without providing a rational reason why or how it came to that conclusion.

² Observations Concerning the Millennium Eastern System Upgrade Project Proposal, Accufacts, Inc., March 26, 2017 and Addendum, April 20, 2017
The Commission has previously relied upon the assertion that because pipeline upgrade projects are designed to serve different customers, at different points in time, they have independent utility, and thus warrant individual review. Such an argument improperly rests entirely on the economic independent utility of each project. Taken to its logical conclusion, this argument suggests that if a project sponsor could find individual shippers interested in small volumes of gas that would require only half-mile stretches of looped pipeline along an existing pipeline, FERC could certificate each one of those small individual half-mile loops. Thus, under those circumstances, FERC could theoretically certificate over 400 individual projects along Millennium’s pipeline. Such a result undermines the design, purpose, and intent of NEPA.

Indeed, this specious argument was specifically addressed and rejected in *Delaware Riverkeeper*, where the Court rightly identified that the project sponsor “could have proposed two-mile segments, or one-mile segments, or one-hundred-yard segments for NEPA review, so long as it produced shipping contracts in anticipation of the increased capacity attributable to each of these new segments. To interpret the ‘substantial independent utility’ factor to allow such fractionalization of interdependent projects would subvert the whole point of the rule against segmentation.” *Delaware Riverkeeper*, 753 F.3d. at 1315.

Additionally, the proposed Project does not have logical termini. As shown by the alternatives analyses in the Environmental Assessments for the Project, when pipeline operators add new loops along a larger pipeline corridor to increase gas delivery capacity to the end point of that corridor, the location of the start and end points of individual loops is not fixed by the contracted-for quantity. Where the contracted-for quantity could be satisfied by adding new loops and compressors in a variety of configurations, pipeline owners add loops in locations based on factors including cost and difficulty of construction, environmental considerations,
short- and long-term safety, and avoiding the need to acquire additional property rights. In *Delaware Riverkeeper*, the Court noted that “[t]o the extent that the [projects are] comparable to a highway, it is more analogous to a highway that connects two major points than one section of a web of metropolitan roadways for which the logical termini criterion loses significance.” *Id.* at 1316. Therefore, because the selection of the termini for each segment did not turn on the projects’ individual contract, the existence of that separate contract cannot by itself establish the independence of the project from the expansion of capacity on the Eastern Leg as a whole.

Additionally to the extent the Project was specifically designed to end right where the Valley Lateral Project begins, would only demonstrate the necessary interconnectedness of the Project. Therefore, either the Project has a logical termini (the beginning of the Valley Lateral Project) and therefore is functionally related/reliant on the Valley Lateral Project, or the Project has no logical termini.

Millennium’s projects have also foreclosed the alternative of leaving the Millennium Pipeline incomplete. A project may be impermissibly segmented from future projects if it eliminates the “no build” alternatives for those future projects. *See Alliance*, 312 F. Supp. 2d at 775 (project that would exacerbate traffic due to existing bottleneck foreclosed no build option for future widening of bottleneck). Millennium’s projects have made the completion of looping the Millennium pipeline inevitable. Once Millennium completes the segments for the proposed Project and begins shipping additional gas under contracts for the Project, the 36-inch pipeline will not be optimally utilized because it does not seamlessly operate with Millennium’s existing system. The Commission has conceded this crucial point. These system inefficiencies make it unavoidable that future upgrades will occur, as described by the Accufacts report. This is also true because gas velocity erosional limit ranges will eventually dictate such an outcome. As new
36-inch loops are inevitably added to the system to correct the inefficiencies in the system, bottlenecks in the un-looped sections will arise.

The Commission should be well aware of gas velocity erosional limit ranges as made public from another gas transmission company where the Commission rejected a pipeline alternative in the application “where transporting the current and proposed gas volumes through only the existing pipeline would result in gas velocity significantly above TGP’s recommended maximum design velocity of approximately 40 feet per second. This increased velocity could compromise the pipeline’s integrity and safety.” Consequently, completion of the Project irretrievably committed Millennium to eventually completing the looping of its entire pipeline. As in Alliance, the Project has eliminated the option of no further future construction by creating inefficiencies and safety problems that will necessitate future upgrade projects.

2. The Commission erred because the Eastern System Upgrade Project Overbuilds Capacity in Conflict with the Commission’s Policy Statement

The Project is unsupported by market need because there is significant evidence that Millennium designed the Project to add capacity to its natural gas infrastructure beyond the amount disclosed in its application; in essence, the Project is “overbuilt” because it is designed to provide excess capacity. The Commission’s Policy Statement regarding the Certification of Natural Gas Pipeline Projects states that to “[o]verbuild” an energy project means to “build capacity for which there is not a demonstrated market need.” 90 FERC ¶ 61,128, at 61,391 (Feb. 9, 2000).

With the exception of the existing Neversink 24-inch segment, which is restricted to an MAOP of 920 psig, the Millennium Pipeline gas transmission mainline was installed and

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3 Tennessee Gas Pipeline Company (“TGP”), “Northeast Upgrade Project (Docket No. CP11-161-000), Environmental Assessment,” November 2011, p. 3-3.
designed to operate as a 30-inch pipeline with a MAOP of 1,200 psig. An expert report generated by Accufacts Inc., examined the Exhibit G flow diagrams included in the application materials for the proposed Project and concluded that “the 36-inch diameter pipeline is larger than needed, even if it were to be installed at a MAOP of 1,200 psig.” See Exhibit A. Specifically, the report states:

[O]n Exhibit 4 for the same flow rate, the approximate pressure line between the Hancock CS and Highland CS is less vertical than the pressure line between Highland CS and Huguenot Regulator. The pressure line slope between Highland CS and Huguenot Regulator should be the same or even less vertical because gas flow rate in that segment is the same or less than that for the Hancock CS to Highland CS segment, while the pressures are similar. This deviation in pressure slope or verticalness, because it can significantly affect the analysis, needs to be properly investigated and reconciled. A simple comparison analysis of the Exhibits will further demonstrate that a 30-inch pipeline for the Huguenot Loop would be suitable. Millennium has not adequately justified their proposing a 36-inch diameter pipeline for the Huguenot Loop. Installing a 36-inch pipe segment that is larger than is needed on this primarily 30-inch Millennium Pipeline system, given the current and proposed MAOPs, signals further expansions are anticipated for this Project. (emphasis added)

Therefore, the record before the Commission shows that Millennium has proposed a project that is designed to accommodate future upgrade projects and overbuilds the pipeline for its stated needs. As described in the expert report, based on the throughput demand established in the flow

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4 It should be noted that the report shows that the Exhibit G flow diagrams are riddled with fundamental errors and required Accufacts to make several assumptions when generating its report. These errors alone require additional information and reconciliation by the Project applicant in order for the Commission to appropriately review the Project.


6 The exhibits referenced in the report that support its conclusions contain hydraulic modeling based on CEII data provided by Millennium. These exhibits have been submitted separately to the Commission as privileged.


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diagrams, Millennium could construct a pipeline project that impacts the same, or smaller, footprint using a 30-inch pipeline for the looping rather than a 36-inch pipeline. The Commission has conceded that it could accomplish this by adding a de minimus amount of horsepower to the proposed compressor station. Had Millennium wanted this project to function seamlessly with its existing 30-inch system, it would have designed the loops at that same pipe diameter and MAOP. The fact that Millennium designed a much larger pipeline loop than necessary, at a much higher MAOP that does not match its existing system indicates that Millennium clearly overbuilt its Project in violation of the Commission’s rules and regulations, in order to support anticipated, potential, or already planned future upgrades.

3. The Commission erred because the Commission’s Truncated Cumulative Impacts Review Render The Environmental Assessment Unlawful.

The Commission violated NEPA by failing to provide a meaningful analysis of the cumulative impacts of the interdependent and interconnected projects. NEPA requires “agencies to consider the cumulative impacts of proposed actions.” NRDC v. Hodel, 865 F.2d 288, 297 (D.C. Cir. 1988) (“Hodel”). See also TOMAC v. Norton, 433 F.3d 852, 864 (D.C. Cir. 2006). An agency must analyze the impact of a proposed project in light of that project’s interaction with the effects of “past, current, and reasonably foreseeable future actions.” 40 C.F.R. § 1508.7. “Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” Id. A finding of “[s]ignificance cannot be avoided by terming an action temporary.” 40 C.F.R. § 1508.27(b)(7). “[A] meaningful cumulative impact analysis must identify (1) the area in which the effects of the proposed project will be felt; (2) the impacts that are expected in that area from the proposed project; (3) other actions—past, present, and proposed, and reasonably foreseeable—that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall
impact that can be expected if the individual impacts are allowed to accumulate.” *Grand Canyon Trust v. FAA*, 290 F.3d 339, 345 (D.C. Cir. 2002). NEPA requires such an analysis because “[e]ven a slight increase in adverse conditions . . . may sometimes threaten harm that is significant . . . may represent the straw that breaks the back of the environmental camel.” *Id.* at 343.

NEPA’s cumulative impact analysis requirement is not satisfied where the “analysis” merely announces that there may be risks or impacts, but does not provide the kind of information about those risks or impacts that would be “useful to a decisionmaker in deciding whether, or how, to alter the program to lessen cumulative environmental impacts.” *Hodel*, 865 F.2d at 299 (“perfunctory references” do not constitute “analysis”). A cumulative impact section that merely “recites the history of [project] development” in the area and then offers the “conclusory statement” that “the cumulative direct impacts have been minimal” does not satisfy NEPA requirements. *FOE v. United States Army Corps of Eng’rs*, 109 F. Supp. 2d 30, 42 (D.D.C. 2000) (citing *Hodel*, 865 F.2d at 298). More generally, an agency must provide a reasoned explanation to support its assertions and conclusions; otherwise, its decision is arbitrary and capricious. *Alpharma, Inc.v. Leavitt*, 460 F.3d 1, 6 (D.C. Cir. 2006) (“Alpharma”).

Here, the Commission failed to take a hard look at the cumulative impacts of the interconnected Millennium projects. The Commission also failed to provide a reasoned basis for excluding the construction and operation of the related gas power-plant from its environmental review. This is particularly troubling because the Commission, for the first time, conceded that the pipelines associated with the Project would be utilized to feed the CPV Valley Energy Center powerplant.
There is little to no analysis of the impact of the construction and operation of each of the projects on the same sub-watersheds and tributary basins. Also, at no point does the EA consider or analyze whether the individually insignificant post-mitigation impacts on waterways and wetlands from multiple pipeline projects in the same corridor could have a cumulatively significant impact.

In addition to failing to address the disturbance and re-disturbance of wildlife, waterbodies, and wetlands in the same sub-watersheds and abutting construction zones, the Environmental Assessment fails whole-sale to mention any of the numerous violations of permitting conditions, non-compliance issues, failed stormwater controls, failed restoration, and insufficient re-vegetation efforts that plagued the Millennium’s initial project and restoration efforts. The Environmental Assessment of cumulative impacts analysis lacks any analysis of the aggregate or synergistic impacts of re-disturbing these specific areas.

The remainder of the cumulative impacts section lumps the Project in with other nearby Commission jurisdictional projects, which it discusses summarily without any of the necessary detail derived from the specific facts of those projects. The Commission’s unsubstantiated and abbreviated treatment of cumulative impacts in the Environmental Assessment for the proposed project mimics the Commission’s treatment of cumulative impacts in the Delaware Riverkeeper case, where the court found that the Commission failed to provide a sufficient hard look at the issue.

The Commission must consider whether a series of individually minimal impacts may nonetheless collectively create significant impacts. The fact that the impacts of the individual projects may have been minimized by imposition of procedures required by the Commission and
other agencies does not constitute an analysis of whether the sum of the “minimized” impacts from each project is significant.

Additionally, the cumulative impacts assessment fails to consider the ramifications of the anticipated and inevitable looping of the whole Millennium pipeline that will be necessitated by, and is clearly planned for, by this Project.

4. **The Commission erred because it failed to appropriately consider impacts to Streams, Endangered Species that are Water Dependent, Class A, B, and C Waterbodies, and wetlands.**

The EA construction methods proposed do not protect the biological integrity or best usages for the streams (Class A, B, and C) and wetlands to be impacted by the proposed ESU project. The EA likewise does not consider cumulative impacts such as past cuts and repeated cuts for future expansions, nor does it consider harm to one sub watershed that may have multiple crossings for the project and the cumulative harm that comes with all of these impacts. For example, at least 25 waterbodies would be crossed by the ESU alone, the majority of which (at least 17 of the 25) are designated by NYSDEC as important cold water fisheries that include best usages of fish propagation and survival, and fishing. For example, Shin Hollow Brook (S-12) is proposed for a flume or dam and pump crossing method, and supports wild brown and brook trout, which will undoubtedly be negatively impacted through water quality impairments and habitat alterations.

The impacts to the water quality, biological integrity, and the best uses of the Neversink River are likewise particularly problematic. The proposed project crosses this Class B waterbody in a location with mature riparian forest and with a southern riparian zone exhibiting extremely steep slopes (exceeding 100%; see EA Table A-10). Despite the applicant’s attempt to reduce impacts through the use of a HDD crossing of the Neversink River; the staging, drilling, and permanent removal of mature riparian forest on these steep slopes for the pipeline
ROW and HDD will directly cause increases in suspended sediments, turbidity, water temperature, and nutrients, all in violation of New York State water quality standards, and will indirectly exacerbate the violations of the pH water quality standards that required the listing of the Neversink River as “impaired” on the 303(d) and Integrated Lists for New York State waterbodies through increases in nutrients that lead to excessive growth of algae, weeds, or slimes.

The EA also acknowledges the appreciable risks from HDD in terms of bentonite drilling fluids surfacing within the Neversink River, which would cause direct and immediate violations of turbidity water quality standards. The HDD drilling itself, therefore, is a likely cause of water quality violations for the Neversink River and poses threats to the Dwarf Wedgemussel population in the River. Indeed, the concerns of frac-outs from HDD construction activity under the Neversink River were so great that Millennium agreed to use an existing pipeline that already traversed under the river when it first installed its system. In the 2006 Final Environmental Impact Statement that FERC issued for the Northeast (NE)-07 Project, a cluster of projects that included the Millennium Pipeline Project, FERC wrote:

In 2004 and 2005 Millennium conducted a reassessment of the use of a conventional bore technique to construct the Neversink River crossing. The result of this review was that the method was likely to fail based on the subsurface conditions at the site. After review of all possible alternatives, Millennium proposed incorporating a segment of Columbia’s existing 24-inch-diameter Line A-5 pipeline between MPs 340.5 and 347.7 into the project to avoid making a new crossing of the Neversink River. The continued utilization of this segment of the existing Line A-5 pipeline would result in the avoidance of any construction in the vicinity of the Neversink River.  

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The conclusion was drawn then, and it must be true now, that construction activity under this stretch of the river represents too great a risk to the Neversink River.

These impacts to water quality will impair the best uses for this Class B waterbody by negatively affecting water clarity, creating growths of algae and weeds, resulting in the impairment of the primary and secondary contact recreation uses of the Neversink River. More significantly, the Neversink River harbors the only population of the State and Federally Endangered Dwarf Wedgemussel wholly within New York State waters (note: a small population of this species also exists along the border waters of Pennsylvania and New York State in the Delaware River, with nearly all identified locations within the Pennsylvania jurisdictions of these boundary waters). The only remaining population of this New York Endangered species already has been decimated in recent years, with the current population estimated at approximately 10% of the population identified as recently as the 1990s.\(^9\) In fact, the Neversink population of Dwarf Wedgemussel once was estimated to be the single largest or second largest extant population of this endangered species range-wide.\(^10\) The recent declines in population, however, have reduced the population so severely that relatively small tributary populations are now estimated to exceed the size of the once-preeminent Neversink River population.\(^11\) The tenuous existence of this last remaining New York State population of Dwarf Wedgemussel has been recognized by both state and federal agencies, with the State of New Yorkdesignating it as an endangered species in 1990 and the U.S. Fish and Wildlife Service listing it as a federally endangered species in 1993.


Wedgemussel is thus already in jeopardy and must not be threatened with new impairments to water quality and habitat that threaten its survival and propagation. As noted, the proposed project will directly impact the forested riparian zone of the Neversink River and will lead to water quality standard violations, impairing the best uses of this stream, particularly for such a sensitive and imperiled obligate aquatic species and its ability to survive and propagate.

These impacts to the Neversink River, while significant, would be at least as severe under the alternatives considered by the applicant or through conventional trenching via flume or dam/pump approaches. All of these alternatives would permanently reduce the extent, health, and function of riparian forests, leading to increased water temperatures, increased turbidity and suspended sediments, and increased nutrient loading to the Neversink River, thus violating New York State’s water quality standards and impairing both the biological integrity and the best uses of this Class B stream, including the best uses of fish and wildlife propagation and survival. Permanent and irreversible impacts to the stream, to the riparian corridor, and to the already-diminished Dwarf Wedgemussel population are thus unavoidable under either the preferred route or any of the alternatives considered in the EA, or under other conceivable options. The threat to the Neversink River and the Dwarf Wedgemussel population simply cannot be mitigated or avoided.

The Neversink River also has 3 proposed crossings of tributaries plus 2 crossings for pipeline access roads. One crossing, S-15 at MP 1.4 proposes a dam and pump or flume trenching. When trenching is employed, as acknowledged by NYSDEC\textsuperscript{12}, even what is deemed a dry crossing “will negatively impact and affect the riparian and in-stream conditions necessary

\textsuperscript{12} NYSDEC WQC joint permit denial letter to National Fuel Gas Supply Corporation and Empire Pipeline, April 7, 2017
to provide habitat to support trout presence and preserve water quality”. The EA also does not include a trenchless feasibility analysis as has been requested for other New York pipeline projects by NYSDEC. Due to these water quality threats, NYSDEC\textsuperscript{13} \textsuperscript{14} has denied two other larger pipeline projects deploying similar construction techniques deemed acceptable by FERC:

It is evident that the impacts from the Project…will impede the best usages of many waterbodies, particularly those with a trout standard or rare species, by degrading the survival and propagation of balanced, indigenous populations of shellfish, fish and wildlife that rely upon these waters. As it relates to State narrative Water Quality Standards, 6NYCRR § 703.2 states that there shall be “no increase [in turbidity] that will cause a substantial contrast to natural conditions.” The techniques utilized for construction of the Project will cause numerous violations of the turbidity standard.

Furthermore, pipeline ROW cuts to smaller and narrower headwater streams cause significant harm. The ROW for the Huguenot Loop is 125 feet wide, 80 feet of which is additional to the existing Millennium ROW corridor (40 ft. on either side of the existing ROW). The EA falsely suggests that trenching these smaller streams, many of which have trout and cool water, is an acceptable harm. However, the science clearly shows these headwater streams are harmed, and water quality downstream is impacted as a result of such large ROW crossings through riparian buffers and small headwater streams. These crossings increase turbidity and sediment during construction, increase soil compaction within and in addition to temporary and additional temporary work spaces (TWS and ATWS), remove riparian buffers, and cause thermal impacts\textsuperscript{15} to headwater tributaries. The Princeton Hydro\textsuperscript{16} expert report regarding ESU impacts submitted November 2016 states the following:

\textsuperscript{13} NYSDEC WQC joint permit denial letter to National Fuel Gas Supply Corporation and Empire Pipeline, April 7, 2017.
\textsuperscript{14} NYSDEC WQC joint permit denial letter to Constitution Pipeline Company, April 22, 2016.
\textsuperscript{15} Delaware Riverkeeper Network, Thermal Impacts to Exceptional Value Waterbodies in Pennsylvania Cut by Gas Pipeline Projects, Sept., 2016.
Headwater streams are ecologically important and have a strong influence on downstream water quality and quantity, and are very sensitive to land use change including soil disturbance and loss of riparian vegetation (Alexander et al., 2007)…. Vegetation clearing and soil compaction increase runoff and associated erosion from the site, as less precipitation is intercepted or infiltrated into the soil. Along with sediment issues downstream of the site, increased runoff is associated with greater pollutant loading. Wetland and stream crossings are particularly sensitive to future erosion and water quality issues owing to their ecological importance. Increased sedimentation and pollutant loading in streams degrades in-stream habitat and causes eutrophication.

NYSDEC\textsuperscript{17} also notes the 100\% mortality and in-stream aquatic life losses that come with dry trench stream crossings that are dewatered for the length of the ROW, which would be at least 80 feet but up to 125 feet for ESU. According to FERC EA Appendix E, 10 streams would likely be impacted in this way, with proposed crossing width equaling 107 feet total. Using the conservative 80 foot ROW disturbance (not the 125 foot ROW) – the impact would total at a minimum 8,560 linear feet of stream habitat having 100\% direct mortality. NYSDEC\textsuperscript{18} goes on to acknowledge with these stream cuts:

This [100\%] loss will continue for a period of time and only gradually abate under natural conditions when recovery and stabilization of this area occurs following completion of construction and rewatering.

Riparian buffer impacts and in stream habitat destruction from trenching are also noted by NYSDEC\textsuperscript{19}:

The loss and conversion of riparian cover types will increase the input of turbid water (in violation of water quality standards)….construction will destabilize stream banks and

\begin{footnotes}
\footnote{16 Princeton Hydro, Environmental Review of the Proposed Millennium Pipeline Eastern System Upgrade, Nov 28, 2016.}
\footnote{17 NYSDEC WQC joint permit denial letter to National Fuel Gas Supply Corporation and Empire Pipeline, April 7, 2017}
\footnote{18 NYSDEC WQC joint permit denial letter to National Fuel Gas Supply Corporation and Empire Pipeline, April 7, 2017}
\footnote{19 NYSDEC WQC joint permit denial letter to Constitution Pipeline Company, April 22, 2016}
\end{footnotes}
increase risks for further erosion and bank instability that would compromise water quality. Excavation across streambeds will remove in-stream habitat forms such as rocks and woody debris that form pools and pockets as habitat for trout and other aquatic organisms...these changes will negatively affect the best usages of trout and trout spawning streams by reducing the habitat to support trout and thereby fish survival, spawning and fishing...The Department finds that these construction techniques [trenching] would cause significant damage or destruction to both riparian and in-stream habitat, in turn causing violations of State water quality standards related to turbidity and best usages of the affected waterbodies.

NYSDEC\textsuperscript{20} also cites long-term post construction impacts to riparian vegetation:

The permanent loss of the native, established riparian vegetation [in the permanent ROW] will have a negative effect on water quality and stream ecological health for the full service life of the pipeline.

To assess the scope of turbidity violations from open trench waterbody cuts, NYSDEC\textsuperscript{21} calculated a conservative estimate of turbidity violations for each stream cut to include at least two days at each stream crossing for another proposed pipeline project. If the same approach for just this leg of Millennium’s ESU project is calculated, according to the FERC EA Appendix E, at least 10 streams are proposed for trenched stream crossings or access road modifications that may involve instream work. That would result in at least 20 stream pollution violations for the ESU project using NYSDEC’s conservative estimate. 16 wetland crossings are proposed to be open cut which would add an additional 32 sediment pollution violations in wetlands using NYSDEC conservative calculations. If one is to also consider the steep slopes, erodibility of soils, and low soil revegetation qualities, this number is likely to be much higher than two instances per stream crossing. And as indicated in earlier comment, Millennium segmented

\textsuperscript{20} NYSDEC WQC joint permit denial letter to Constitution Pipeline Company, April 22, 2016
\textsuperscript{21} NYSDEC WQC joint permit denial letter to National Fuel Gas Supply Corporation and Empire Pipeline, April 7, 2017
connected projects that, if examined together, would likely lead to NYSDEC denial based on cumulative harm from open trenches alone.

Because open trench pipeline installations may unnaturally alter both stream bank and streambed (i.e., channel) stability, there is an increased likelihood of scouring within backfilled pipeline trenches. This is because open trenches themselves, when backfilled, may not be compacted to stable pre-trench sediment permeability conditions. Flooding rivers can scour river bottoms and expose pipelines to powerful water currents and damaging debris. Additionally, unusually heavy rains including those associated with climate change, threaten to increase overall stream degradation and channel migration – thereby exposing shallowly buried pipelines.

Scour hole development proximal to pipelines is well-documented in both stream and seabed settings. Stream-based pipe “failures [have been] caused not only by vertical scour of the streambed but also by bank erosion, lateral channel migration, avulsions, bridge scour, and secondary flows outside the main channel. … Several of the pipelines in [a] study failed as a result of a meander migration or avulsion of the stream into previously less active or nonexistent channels.” Based on field observations and hydraulic modeling for the 100-year design flood, researchers documented maximum vertical scour to 26.6 feet (8.1 meters) and lateral scour to 6,274 feet (2,050 meters) at some failed pipeline crossings.

An expert at HydroQuest has determined that, at a minimum, any pipeline installed using the open trench cut method needs to be installed at least 24 feet below the stream bed in order to

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prevent exposure from scour. While bridge piers are more readily exposed to stream scouring than pipelines, it is telling that bridge failure analyses have determined that channel scour occurs to depths of up to three times that of maximum river floodwater depth (e.g., scour to 30 feet with a 10 foot floodwater depth).

Studies documenting the effects of stream crossing construction on aquatic ecosystems identify sediment as a primary stressor for construction on river and stream ecosystems and confirm conclusions also cited by NYSDEC. During the construction of pipeline stream crossings, discrete peaks of high suspended sediment concentration occur due to blasting, trench excavation, and backfilling. Excavation of streambeds can generate persistent plumes of sediment concentration and turbidity. This sedimentation has serious consequences for the benthic invertebrates and fish species whose vitality is crucial for healthy aquatic ecosystems. There have been documented reductions in benthic invertebrate densities, changes to the structure of aquatic communities, changes in fish foraging behavior, reductions in the availability of food, and increases in fish egg mortality rates. In addition to the stream crossing construction activity itself, the associated new road construction increases the risk of erosion and sedimentation.

There are numerous environmental risks associated with open trench burial of gas pipelines (wet, dry, slurry). Open trench burial involves the excavation of sediments for pipeline

24 Hydroquest Memorandum re: Hydrologic and Environmental Rationale to Bury Gas Pipelines using Horizontal Directional Drilling Technology at Stream and River Crossings, 6/8/2012 (Hereafter Hydroquest Report)
26 Id.
27 Id.
28 Norman, supra note 12, at 9-10.
installation perpendicular to or across streams and their sometimes wide floodplains, along with removal of vegetation and well-established ecosystems. Disruption of the stream channel and banks can cause destabilization of the stream’s natural flows, causing channel migration and erosion that are harmful to the stream. The open trench cut method of crossing streams results in sedimentation, impacts to benthic habitat, and can result in changes to stream morphology that can further affect downstream habitats.

Sedimentation results from the actual crossing activity itself as well as the removal of vegetation and activity that takes place on the stream-adjacent (riparian) lands. While dam and pump methods, can reduce sediment loadings associated with a wet cut method, there are still sediment releases at levels of concern and impact, and the diversion of the water creates impediments to fish and flows that also have impacts on waterways. Additionally, this method of crossing takes longer, and so it results in longer-term direct impacts to the stream and sediment releases over a prolonged period.

Sediment carried in the water column is abrasive and can result in increased erosion downstream. Deposited sediment from construction activities can fill in the interstitial spaces of the streambed, changing its porosity and composition, and thereby increasing embeddedness and reducing riffle area and habitat quality. Furthermore, deposited sediment has the potential to fill in pool areas and reduce stream depth downstream of the construction area.

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30 Expert Report from HydroQuest, attached.
32 Pipeline Associated Watercourse Crossings, 3rd Edition, publication prepared for CAPP, CEPA, and CGA by Tera Environmental Consultants
33 Read, supra note 22, at 235-251.
34 Norman, supra note 12, at 9-10.
Benthic invertebrates can have higher drift rates during stream crossing construction and reduced densities following open trench cut methods of crossing. Reduced densities can be the result of both the higher drift and the increased sedimentation that affects suitability of habitat resulting from the pipeline installation. Changes in downstream diversity and structure of benthic invertebrate communities can also result. While, in time, the benthic community generally restores, that does not diminish or negate the ecosystem affects during the time of damage including the other cascading affects to other ecosystem services otherwise provided by the invertebrates – including as food for other dependent species, the water quality benefits provided by invertebrates’ breakdown of nutrients, and the breakdown of instream detritus creating food for other species.

Using the open trench cut method of crossing can also affect fish, including direct harm but also by reducing the suitability of habitat for eggs, juveniles and overwintering. Fish exposed to elevated suspended solids levels can experience reduced feeding rates, physical discomfort or damage from the abrasive materials on their gills, decreased instream visibility, reduced food supply, and increased competition as fish attempt to move to cleaner waters. The filling of riffles not only can have adverse impacts for invertebrates and fish, in terms of taking important habitat, but it can also diminish the ability of the riffles to help create oxygen important for aquatic life. Over time these impacts can depress the immune system of fish, result in lower growth rates, result in increased stress on individuals and populations, and cause

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37 Ibid 1.
38 Pipeline Associated Watercourse Crossings, 3rd Edition, publication prepared for CAPP, CEPA, and CGA by Tera Environmental Consultants
39 Ibid 1.
damage to the gills – all of which can result in a decline in fish and population health and survival rates.\textsuperscript{40} This is compounded by adverse effects to the suitability of habitat for eggs and juveniles both of which are compounded by adverse effects to the suitability of habitat for eggs and juveniles necessary to support the overall community and population.\textsuperscript{41} Additionally, downstream sedimentation and disruption of flows during crossing activities can result in areas of the stream that are shallower or dewatered, thereby taking preferred habitat.\textsuperscript{42}

Pipeline construction results in the loss of riparian (streamside) vegetation.\textsuperscript{43} For each of the pipeline construction techniques there is a resulting loss of vegetation and foliage associated with clearing the stream banks. Riparian vegetation is an important part of a healthy ecosystem and protects the land adjoining a waterway which in turn directly affects water quality, water quantity, and stream ecosystem health.

Riparian corridors protect and restore the functionality and integrity of streams. A reduction in healthy and mature streamside vegetation reduces stream shading, increases stream temperature and reduces its suitability for incubation, rearing, foraging and escape habitat.\textsuperscript{44} While horizontal directional drilling may move the construction footprint further away from the stream, it too results in vegetative losses and soil compaction that can have direct stream impacts. The body of scientific research indicates that stream buffers, particularly those dominated by woody vegetation that are a minimum 100 feet wide, are instrumental in providing numerous ecological and socioeconomic benefits.\textsuperscript{45}

\textsuperscript{40} Ibid 1.  
\textsuperscript{41} Pipeline Associated Watercourse Crossings, 3\textsuperscript{rd} Edition, publication prepared for CAPP, CEPA, and CGA by Tera Environmental Consultants  
\textsuperscript{42} Ibid 1.  
\textsuperscript{43} Norman, supra note 12, at 8.  
\textsuperscript{44} CAPP (2005), supra note 16, at 1-4.  
The loss of vegetation also makes the stream more susceptible to erosion events, exacerbating the sedimentation impacts of construction. In crossings that result in open forest canopies, increases in channel width, reduced water depth, and reduced meanders have persisted in the years after using an open cut method of installation.\textsuperscript{46}

Appendix F of the FERC EA notes at least 16 wetlands to be open cut by the ESU project. Using NYSDEC’s same conservative approach above, this would equal another 32 instances of turbidity and sediment pollution entering these sensitive wetland habitats. Nine of these wetlands are characterized as PFO or a combination of PFO/PEM, meaning that with these open cuts, mature trees in the wetland would be cut down. This cutting of mature forested wetlands leads to thermal impacts that are sustaining to those wetlands for decades in temporary cleared areas and for the life of the project in the permanent ROW. NYSDEC and PA DEP\textsuperscript{47} have acknowledged this impact for PFO wetlands for past pipeline projects.

NYSDEC\textsuperscript{48} acknowledges wetland impacts include:

\begin{quote}
Disturbances to wetlands…will have permanent and temporary negative impacts on New York’s surface and subsurface water quality by decreasing wetland functions and benefits directly associated with protecting and preserving the integrity of water chemistry and biology…Changing the type and species of vegetation in the wetland will permanently change ecological community dynamics and the types and composition of wildlife using that wetland…Project activities will not only cause permanent changes to surface water, those project activities will cause soil compaction and alter soil profile. These activities will also cause at least temporary and possibly permanent changes to soil dynamics from the altered soil characteristics, including complete removal and “replacement” of the pre-existing soil layers. Infiltration rates of water and the flow of water through the soil will also be impacted which will affect local subsurface water quality.
\end{quote}

\textsuperscript{46} Ibid 1.
\textsuperscript{47} PA DEP Technical Deficiency Letter to Transco Gas Leidy Pipeline, (E40-748), Sept. 4, 2014
\textsuperscript{48} NYSDEC WQC joint permit denial letter to National Fuel Gas Supply Corporation and Empire Pipeline, April 7, 2017
NYSDEC also cites the need for permit issuance in wetlands only when it has been determined that there is no alternate to accomplish the applicant’s objectives.

The FERC EA claims 3.1 acres of wetland impacts for construction and 1.8 acres for operation of the pipeline. 1.14 acres consist of PFO wetlands (according to Appendix F). Two wetlands are noted as potentially having shallow bedrock which could require blasting. Again, the ESU project should be considered with the other clearly related projects that Millennium wants to undertake but treats as segmented projects.

The FERC EA falsely concludes impacts and potential impacts from steep slopes will be minimal, despite Millennium clearing steep slopes from MP 0.8 to MP 2.8 and MP 5.3 to MP 6.5 (Table A-10). Despite concerns regarding erodible soils and steep slopes provided in a Princeton Hydro expert report in November 2016, the EA outlines 3.1 miles of steep slope trench cuts (the Huguenot loop is 7.8 miles total). The EA notes 14 percent of the Huguenot Loop, or 1.1 mile, would traverse slopes and side slopes greater than 30 percent, and that these areas are more prone to landslides (these numbers do not match numbers in EA Table A-10 for steep slopes not being HDD’d). Landslides involve the downslope mass movement of soil, rock, or a combination of materials on an unstable slope. The EA states that landslide incidence and susceptibility mapping compiled by the USGS for the Project area shows 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). (Despite moderate landslide incidence, in the EA, MP 0.8 to MP 2.8 is proposed to be cleared of vegetation and trenched.) Landslide incidence is moderate at the Highland Compressor Station. Additionally, portions of the Highland and Hancock Compressor Stations are comprised of steep slopes. FERC’s EA states there would be no harm from landslides because of Millennium’s proposed E&S measures. DRN field observations, the
record of Soil Conservation E&S pipeline Notice of Violations (NOVs), nor the science bares out this conclusion since similar E&S measures on steep slopes have failed for similar pipeline projects – including the use of temporary swales, sediment traps during construction and remediation with trench breakers, compacted back fill, slope breakers, jute matting and other E&S controls.49

The Princeton Hydro expert report50 cites problems with construction on steep slopes and failing E&S measures:

The prevalence of steep slopes in the construction area greatly increase the likelihood of short term construction related erosion in addition to long term decreased stability of these steep slopes, which will be damaging to both upland areas and nearby waterbodies. Despite Millennium’s assurances that they will use sediment control measures appropriately and mitigate damages, these measures frequently are applied incorrectly, fail, or fall short. There have been multiple occasions of fines levied against pipeline construction companies for improper erosion and sediment control, equipment outside of the permit area, drilling mud spills, discharge of fluids, and failure to minimize wetland disturbance (e.g. Legere, 2014; Mayer, 2009; Phillips, 2016; Rittenbaugh, 2014; Hamill and Olson, 2012).

Princeton Hydro’s expert report found discrepancies with Millennium soil calculations in the Resource Reports – this issue that could cause increased erosion and sediment pollution and turbidity to nearby streams does not appear to be addressed in the FERC EA:

Millennium claims that only 9.75 acres or 0.05 % of the total project area affects soils that are highly erodible [Resource Report 7, p.11, 24]. However, erodibility was determined by the average K-factor of each soil type, which is a problem for several reasons. The K-factor is a function of soil physical characteristics such as grain size and structure, and does not take into account the slope of the soil, which is critical component of erosion risk. Also, Millennium calculated the overall K-factor of each soil type as an average of all the soil horizons, when most erodible soil in the construction zone, aside from the trench itself, will be the surface soil layers. Finally the k-Factor is designed to represent soils in the natural condition, and the reported K-factor is not accurate for

49 Delaware Riverkeeper Network, People’s Dossier of FERC Abuses
disturbed soils (NRCS-USDA). Millennium reports slopes of greater than 30% at 28 locations along the Huguenot Loop for a combined distance of 1 mile along the pipeline route. This is 13% of the total length of the project [Rpt. 6, p.16], and does not account for slopes less than 30% which might still be prone to significant erosion. (PH report)

Table B-1 of the EA provides further concerns with soil qualities. Over 48% of the project has soils that are prone to have low revegetation potential – 66.3 acres along the pipeline corridor and ATWS areas have low revegetation potential alone. This characteristic can lead to continual runoff and erosion problems long after pipeline construction is completed. Finally, shallow bedrock is noted for 41.8 percent of the project area (see table B-1) which could mean more blasting being needed if mechanical ripping of rock is not feasible – further disturbing the soils natural qualities and potential incidence for higher erodibility.

Pipelines have been seen by experts to be conduits for diverting groundwater from its natural path. Several sensitive, shallow and principal aquifers of New York including the Ramapo River Basin Aquifer, the Delaware River Streamflow Zone recharge area for the New Jersey Coastal Plains Aquifer SSA, and the New Jersey Fifteen Basin Aquifers Systems SSA could be impacted by the ESU project.

According to expert observation, pipeline trenches can divert groundwater and as a result “permanently alter the hydrologic cycle in the vicinity of the pipeline right-of-way. This alteration will decrease the water resources available to support wetland hydrology and stream base flow in the summer and fall dry season.” For example, observations of the Tennessee Gas Pipeline’s 300 Line Upgrade project by a hydrologist determined that “pipeline trenches intercepted shallow groundwater in places, creating preferential paths for dewatering shallow groundwater not just in the disturbed construction areas, but also in areas surrounding the right-

\[51\] Affidavit of Peter M. Demicco, DRN v. PA DEP an TGP NEUP, 2012.
of-way, further negatively impacting ground water resources and wetlands.”52 As a result, it was observed that the 300 Line Upgrade pipeline project had “already resulted in permanent changes to wetlands…..”53

The FERC EA (Table B-9) lists “May affect, not likely to adversely affect” or “No effect” for a number of sensitive endangered and threatened federal and state listed species yet it is clear from the EA that many of these determinations that are in consultation with the Fish and Wildlife Service and the NYSDEC, have yet to be finalized and are still ongoing and under review by these consulting agencies. How is FERC backing up the determinations they are clearly making prematurely before consultations are completed? There is an abundant chance of multiple sensitive species being impacted that are found in the survey areas or vicinity of the project indicating the unique, intact and healthy ecosystem through which this pipeline would cut. Bog turtle, dwarf wedgemussel (noted above in Neversink River), brook floater mussel, northern long-eared bat, bald eagles, puttyroot orchid (Apelcrum hyemale), and Indiana bat are all documented. For bog turtle, 6 wetlands (W-28A, W-21, W-20, W-19, W-16, W-07) were identified as potential bog turtle habitat in Phase I surveys. Considering the length of the project, this amount of harm to potential wetlands that could impact the bog turtle and that FERC suggests that HDD under 2 of these wetlands is sufficient to protect 2 of the 6 wetland habitats where bog turtles may be located does not support FERC’s premature determination (not yet confirmed by the FWS and its review of Phase 2 studies).

The putty root orchid, a NY state listed endangered plant (this orchid is also endangered in New Jersey and rare in Pennsylvania) has a preference for dappled sunlight during the fall, winter and spring and the root system of this orchid benefits from (and may require) a symbiotic

52 Affidavit of Peter M. Demicco, DRN v. PA DEP an TGP NEUP, 2012
53 Affidavit of Peter M. Demicco, DRN v. PA DEP an TGP NEUP, 2012.
relationship with compatible mycorrhizal fungi. Otherwise, this orchid may fail to flourish. Propagation by seed is very difficult and rarely successful. A moist to mesic loamy soil with abundant organic material is preferred. Soil pH can vary from mildly acidic to neutral. FERC suggests that even with these unique qualities and micro-climate conditions required of the orchid, though it is located near the location of the Highland Compressor station, “Millennium will plant conifers along the limits of the [compressor station] workspace nearest the puttyroot orchid location to minimize potential habitat changes.”

The EA recognized that there may be “foraging area” near the Highland Compressor Station yet there is no mention of the Delaware Riverkeeper Network letter submitted on October 18, 2016 where a potential den and a juvenile timber rattlesnake was observed by a member of the public in the area of the compressor in August, 2016. The distance between the potential den and the closest area of permanent disturbance was measured to be approximately 266 feet. The distance between the potential den and the closest Temporary Work Space (TWS) was measured to be approximately 142 feet. Timber rattlesnakes are especially sensitive to vibrations so the notion that the compressor’s continual operations of a station in the vicinity of this currently undisturbed parcel is absurd. Rattlesnakes were also observed 900 feet from the Ramapo Meter station. Furthermore, in FERC’s Final Supplemental EIS (FERCEIS0-195F) (Dockets CP98-150-006, CP98-150-007, CP98-150-00, et. al) for the Millennium pipeline indicated at least 14 rattlesnake dens were likely to be disturbed for that pipeline project. These cumulative impacts from repeated cuts and harms over time need be considered fully and not segmented out. Each population and den destroyed or habitat now having a potential compressor site within 142 feet of TWS, with its continued noise and impacts, clearly leads to more
decimation to populations that deserve protection – a premature determination by FERC of “May affect, not likely to adversely affect” is not appropriate.

Millennium is proposing similar construction techniques, best management practices, and Erosion and Sediment Control practices that were implemented and used as industry standard practices for its 2006 Millennium Pipeline Project, which involved construction of 182 miles of 30-inch-diameter pipe across eight counties in Southern New York. Construction began in the middle of June 2007. (FERC Dockets: Millennium Pipeline CP98-150-006, CP98-150-007, Columbia Gas Docket Nos: CP98-151-003, et al.).

On June 20, 2008, the New York State Department of Environmental Conservation (NYSDEC) issued a “Stop Work Order” to Millennium for inadequate and failing construction practices impacting the East Branch Delaware River. The pipeline company had cleared a 100-foot ROW path along a 50% steep slope which caused a mudslide, discharging sediment directly into the East Branch Delaware River, and along its banks, and causing violations of the turbidity standard for this Class C waterbody. Millennium was cited for inadequate erosion control devices that were not in compliance with DEC Technical Standards, i.e., the New York Standards and Specifications for Erosion and Sediment Control, aka the Blue Book.

there was a mudslide earlier in the week and there is sediment from the site on the banks and in the river. The erosion stabilization controls, to the extent they are in place on the face of the mountainside, don’t meet DEC technical standards including the hay bales along the slope. Furthermore the Department didn’t provide approval to exceed 5 acres of disturbed area which is required under the stormwater permit. Your client is hereby notified that they must cease all construction activity on the site and immediately stabilize all areas of disturbance to prevent discharges from the site and contravention to

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54 NYSDEC, Region 4 Letter to Millennium Counsel, Mr. Thomas West, West Firm, Stop Work Order, Town of Hancock, No NYR10P622 and Stormwater Discharge Permit: GP-02-01. June 20, 2008.
the water quality…Measures to mitigate impacts from forecasted rain should also be undertaken immediately as needed.\textsuperscript{55}

A July 3, 2008 NYSDEC letter\textsuperscript{56} after a site inspection at this one location along the East Branch Delaware River outlines 14 concerns and issues needing attention by Millennium Pipeline during the pipeline stop work order to address concerns and pollution issues related to inadequate and problematic construction practices causing pollution to the East Branch Delaware River:

the grading at the top of the hillside prevents the installation of water bars to outlet to a stabilized area per NYS technical standards…the elevation outside the ROW allowed for drainage from temporary slope breakers to undisturbed areas…rills and gullies were observed mid slope indicating the need for additional slope breakers…concern was raised with method of dispersion of the water existing the temporary slope breakers such that it did not re-concentrate given the extreme grades…evidence of undercutting and erosion were evident around and below (BMP) practices (i.e. haybales)...the rock channel installed to receive flow from the hillside...has several design issues that have the potential to cause this practice to be the source of sediment (pollution) rather than remove it...stockpiles that are not subjected to day to day activities need to be stabilized per the SPDES permit…it is unclear why the permanent stabilization cannot begin once the heavy equipment access point shifts to the top of the hill…it appeared there was not sufficient topsoil available to establish a dense vegetative cover.\textsuperscript{57}

On November 24, 2008, NYSDEC\textsuperscript{58} issued a notice of "Complaint" to Millennium Pipeline Company, documenting hundreds of state and federal water quality violations spanning from August 23, 2007 to November 3, 2008. The complaint cited over eleven "causes of action" outlining 104 actions by DEC affecting multiple waterbodies over multiple instances including receiving streams and watersheds of: Mongaup River, Black Ash Creek, Ramapo River, Stony

\textsuperscript{55} Id.
\textsuperscript{56} NYSDEC, Region 4 Letter to Millennium Counsel, Mr. Randolph West, URS Corporation, SPDES Millennium Pipeline Permit No: 10P622. July 3, 2008.
\textsuperscript{57} Id.
Brook Creek, Indian Kill Reservoir, Spring Brook, East Branch Delaware River, Torne Brook, Phelps Creek, Greenwood Lake, Greenwood tributary, Calkins Creek, Trib to Baldwin Creek, Trib to Dean Creek, Ten Mile River, Trib of Callicoon Creek, Longhouse Creek, Trib to Stanley Hollow Creek, Stratton Mill Creek, Tuscarora Creek and Trib to Tuscarora Creek, Mitchell Pond, Hankins Creek, Owego Creek, Halfway Brook, Tarbell Creek, Trib to Sand Creek, Marsh Creek, Hoolihan Brook, Roods Creek, Sands Creek, Crystal Lake, Trib of Gold Creek, Laurel Creek, Wheeler Creek, Basket Creek, Nanticoke Creek, Mahwah River, Bouchoux Brook, and multiple wetlands and additional unnamed tributaries. DEC complaints included as subset of examples from Complaint letter:

- The General Permit states that the owner shall not disturb greater than five acres of soil at any one time without prior written approval by the department. Millennium "continuously" disturbed an excess of five acres during the 2007 and 2008 construction seasons and never requested authorization from DEC.
- The General Permit requires the permittee to comply with state water quality standards. **Millennium was cited 169 times for violating NYS Narrative Water Quality Standards for turbidity and oil and floating substances.**
- The General Permit requires the permittee to prepare a Final Storm Water Pollution Prevention Plan (SWPPP) prior to filing the NOI. Millennium had not filed an SWPPP with Department as of the date that the Complaint was filed (over fifteen months after beginning construction).
- Additionally, Third Party Monitors documented the following violations of the General Permit:
  
  **Wetland and Waterbody Construction and Mitigation Procedures:**
  - Failure to have Plans for ROW greater than 75 feet
  - Failure to have Sediment barriers
  - Failure to construct bridges for unrestricted flows and no soil discharge
  - Failure to install temporary erosion and sediment controls
  - Failure to maintain Temporary Erosion and Sediment Controls
  - Failure to install and maintain (daily) Erosion Controls During Grading
  - Failure to store Soil Piles Ten Feet From Water-body
  - Failure to Install Temporary Trench Plugs
  - Failure to Follow Trench Dewatering Specifications
  - Failure to Remove Waste from Construction Work Area (CWA)
  - Failure to Restore after Final Grading
Failure to Follow water-body crossing procedures
- Discharge of Bentonite Drilling Fluid from Frack Out
- Failure to install/Maintain Equipment Bridges Per FERC Standards
- Trench Dewatering to Wetland or Water-body
- Failure to Use Trench Plugs
- Failure to Minimize Construction Wetland Disturbance
- Failure to Mark Wetland Boundaries Prior to Clearing/Construction
- Failure to Properly Address Temporary Access Roads
- Failure to Properly Clear Wetlands
- Failure to Properly Follow Trench De-watering Procedures
- Failure to Follow Backfilling Procedures

Millennium was cited 642 times for the above-listed violations. Millennium's failure to implement the erosion and sediment controls are violations of the Water Quality Certification (WQC) and the General Permit.

Millennium failed to train its environmental inspectors for the project. Inspectors lacked project-specific environmental training for conducting inspections pursuant to the General Permit.

Millennium violated the "Upland Erosion Control, Re-vegetation and Maintenance Plan" and the WQC by failing to conduct daily inspections.

Department staff reviewed Millennium's environmental inspections website and there were no documented inspections for the month of June 2008.

Millennium violated the General Permit by failing to have each of its contractors sign the certification statement which identifies trained contractors that will be responsible for installing, constructing, repairing, inspecting and maintaining the erosion practices included in the SWPPP.

Millennium violated the WQC by conducting clearing and restoration during the restriction period for cold-water streams. The specified construction timing windows are meant to minimize impact on water quality and to avoid interruption of spawning runs in water bodies.

Millennium failed to retain a permit for storm water discharges, resulting in the disturbance of soils outside of the Construction Work Area covered by the General Permit.

Millennium violated the States Navigation Law by discharging hydraulic oil into the East Branch of the Delaware River.

Millennium failed to notify the department within two hours of a petroleum discharge in violation of the Navigation Law.

A civil Penalty of $7.4 million was assessed against Millennium and the company was ordered to deposit $2 million into a distinct Environmental Benefit Project (EBP) escrow account. The money would be spent on an EBP determined by the Department. However, that is not what happened. Based on the Order of Consent signed by the acting DEC Commissioner Alexander
B. Grannis and Millennium's President, Richard H. Leehr: Department staff agreed to withdraw the complaint with prejudice and Millennium was assessed a civil penalty of $200,000. Millennium was ordered to hire five full-time positions by a third-party entity, for a total EBP payment of $1 million. Four of the positions were for storm water pollution control specialists and the fifth position was a stream protection biologist. DEC agreed not to sue Millennium.

All of these violations and instances of harm were allowed under FERC’s Environmental Impact Statement for the original Millennium pipeline project and in this instance of the ESU Project – an EIS is not even being required and segmentation strategies continue. Furthermore, FERC BMP practices for this current ESU proposal would be much the same practices that clearly did not work the first time around and led to hundreds of violations and impacts to New York waterbodies and violations to NY’s water quality standards. To allow and permit further damage again by Millennium due to FERC’s inadequate regulations and false assumptions in the EA regarding the now proposed ESU project is unacceptable. By all standards, the Millennium Pipeline was not "environmentally acceptable" and most certainly did not have "appropriate mitigation." The environmental monitoring for the project did not "ensure compliance with all mitigation measures." The Millennium ESU should not be allowed to be built.

5. The Commission erred because it failed to appropriately consider induced natural gas development.

The EA includes no analysis of impacts to the environmental that will result from induced new natural gas drilling development caused by the Project, and from the installation and operation of a new gas distribution system that will be caused by the Project.

The inducement of future gas development along the northern tier of Pennsylvania is an indirect effect of the pipeline’s construction and operation that must be evaluated in the Commission’s environmental review of the Project. Such development is fairly understood as
being indirectly caused by the availability of infrastructure to transport the gas to market. See, e.g., City of Davis v. Coleman, 521 F.2d 661, 677 (9th Cir. 1975) (EIS for highway project needed to analyze impact of induced development despite uncertainty about pace and direction of development); Natural Res. Def. Council, Inc. v. Fed. Aviation Admin., 564 F.3d 549 (2d Cir. 2009) (agency properly considered indirect and cumulative impacts of induced growth caused by construction of new airport); Border Power Plant Working Grp. v. Dep’t of Energy, 260 F. Supp. 2d 997, 1012–18 (S.D. Cal. 2003) (NEPA required agency review of air emission impacts from Mexican power plants as part of EIS for transmission line project in California that indirectly caused such emissions). Such development is reasonably foreseeable given the demand for gas drilling in the Marcellus shale region. See, e.g., Sierra Club v. Marsh, 976 F.2d 763, 767 (1st Cir. 1992) (future impacts are reasonably foreseeable if they are “sufficiently likely to occur that a person of ordinary prudence would take them into account when reaching a decision.”). This induced development is particularly relevant here where DRN has submitted expert reports detailing that the existing Project is necessarily designed in contemplation of future looping of Millennium’s system.

6. The Commission erred because it failed to consider and account for the ways in which the proposed Project’s harms outweigh its benefits.

Section 7 of the NGA, 15 U.S.C. §717f, and FERC’s Statement of Policy for Certification of New Interstate Natural Gas Pipeline Facilities, 88 FERC ¶ 61,227 (1999), clarified, 90 FERC ¶ 61,128 (2000), further clarified, 92 FERC ¶ 61,094 (2000) (“Certificate Policy Statement”), require the Commission to determine whether the Project facilities are “in the public interest” and whether the proposed pipeline is “required by the public convenience and necessity.” Specifically, the Certificate Policy requires the Commission to balance the alleged need for a project against the adverse impacts on affected landowners and the surrounding
communities. 88 FERC ¶ 61,747. Stated simply, the Commission cannot approve a project unless it concludes that the project’s benefits outweigh its adverse impacts. Here it is clear that the project benefits do not outweigh its adverse impacts, and such a conclusion is supported by the findings of an expert analysis submitted here by DRN.

This expert report specifically reviewed the Project’s impacts on property values, the social costs of carbon, and public health, and concludes that “[d]ue to flaws in methods, assumptions, and execution of its study, we conclude that the benefit estimates Millennium has provided are overstated. On the cost side, the situation is worse.”59 See Exhibit B.

The Commission failed to account for diminution in property values to compare with the alleged benefits of the Project. For example, the report cites a systematic review of property values impacted by pipelines which found that:

- 68% of Realtors believe the presence of a pipeline would decrease residential property value.
- Of these Realtors, 56% believe the decrease in value would be between 5% and 10%. (Kielisch does not report the magnitude of the price decrease expected by the other 44%.)
- 70% of Realtors believe a pipeline would cause an increase in the time it takes to sell a home. This is not merely an inconvenience, but a true economic and financial cost to the seller.
- More than three quarters of the Realtors view pipelines as a safety risk.
- In a survey of buyers presented with the prospect of buying an otherwise desirable home with a 36-inch diameter gas transmission line on the property, 62.2% stated that they would no longer buy the property at any price. Of the remainder, half (18.9%) stated that they would still buy the property, but only at a price 21%, on average, below what would otherwise be the market price. The other 18.9% said the pipeline would have no effect on the price they would offer.60

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60 Id. at 18.
The expert report concluded that a reduction in offer price for homes that are in close proximity to this pipeline would range from 10% to 60%. Thus, it is clear that property values along rights-of-way for pipelines necessarily suffer significant losses.\footnote{Economic Costs of the Eastern System Upgrade: Effects on Property Value, the Social Cost of Carbon, and Public Health, Key-Log Economics, LLC. For the Delaware Riverkeeper Network, April 2017} This fact was not accounted for in the EA.

Additionally, the expert report also examined the impact of property values with regard to proximity to compressor stations and found that “the mounting anecdotal information suggests there is a negative relationship, and depending on the particular circumstances, the effect can be large—up to the 100% loss.”\footnote{Id. at 24.} Specifically, the “properties within one half mile of the Highland CS would lose 25% of their value if the station is built.”\footnote{Id.} Overall land value impacts include $2.0 million in diminished property value with the most intense effects felt by the owners of 5 parcels in the path of the right-of-way, who collectively would lose between $7,814 and $24,187 in property value. Some 196 additional parcels lie outside the ROW but are within or touching the evacuation zone. These parcels’ owners would lose an estimated $753,692 (Table 5). Finally, the compressor stations would reduce the value of 43 properties by a total of $4.9 million.\footnote{Id. at 26-27.} The resulting impact would therefore drive up expenses while driving down the counties’ most reliable revenue stream. However, when calculating the benefit versus the costs of this project the Commission has failed to account for any of this data. As such their decision is arbitrary. Additionally, the Project will likely dampen economic activities related to existing scenery, recreational opportunities, and quality of life factors, and therefore undermine the progress...
toward economic development goals related to these factors. A loss of scenic and recreational amenities, the perception and the reality of physical danger, and environmental and property damage resulting from the ESU could discourage people from visiting, relocating to, or staying in the region. Workers, businesses, and retirees who might otherwise choose to locate the Project’s proposed route or near the compressor stations will instead pick locations that have retained their character, their productive and healthy landscapes, and their promise for a higher quality of life.

If, for example, the ESU were to cause a 5% drop in recreation and tourism spending from 2015 baselines, the project could mean $47.2 million less in travel expenditures each year (Tourism Economics, 2016a, 2016b). Those missing revenues would otherwise support roughly $3.1 million in local tax receipts, $2.6 million in state tax revenue, 745 jobs, and $22.1 million in payroll in the three-county region. Again, none of these economic costs are accounted for in the EA.

Furthermore, the expert report concludes that the studies cited by Millennium for the proposition that property values are not impacted are not reliable because they fail to account for that “void entirely their conclusions.” Specifically, the expert report states:

First, the studies fail to consider that the property price data employed in the studies do not reflect buyers’ true willingness to pay for properties closer to or farther from natural gas infrastructure. For prices to reflect willingness to pay (and therefore true economic value), buyers would need full information about the subject properties, including whether the properties are near a pipeline. Second, the studies finding no difference in prices for properties closer to or farther away from pipelines are not actually comparing prices for properties that are “nearer” or “farther” by any meaningful measure. The studies compare similar properties and,

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65 Id. at 31-32.
66 Id.
67 Id. at 32.
68 Id. At 20.
not surprisingly, find that they have similar prices. Their conclusions are neither interesting nor relevant to the important question of how large an economic effect the proposed pipeline would have.\footnote{Id.}

The Commission also does not account for the social costs of carbon. The social cost of carbon (“SCC”) is a comprehensive estimate of the economic cost of harm associated with the emission of carbon. Using U.S. EPA estimates based on the average of impacts from three assessment models and discount rates of 5\% and 2.5\%\footnote{U.S. EPA, Climate Change Division, 2016}, the cost to society of the carbon transmitted through the proposed Project would total between $4.8 and $18.8 billion over 50 years. The Commission must count this significant cost among the effects of the proposed pipeline.\footnote{Id. at 28-29.} However, nowhere in the EA are these costs estimated or accounted for.

Lastly, natural gas transmission projects such as the proposed Project are known to releases toxins, smog forming pollutants, and greenhouse gases that have a negative impact on public health. For example:

[Compressor] stations are implicated as contributing to a long list of maladies. According to Subra (2015), individuals living within 2 miles of compressor stations and metering stations experience respiratory impacts (71\% of residents), sinus problems (58\%), throat irritation (55\%), eye irritation (52\%), nasal irritation (48\%), breathing difficulties (42\%), vision impairment (42\%), sleep disturbances (39\%), and severe headaches (39\%). In addition, some 90\% of individuals living within 2 miles of these facilities also reported experiencing odor events (Southwest Pennsylvania Environmental Health Project, 2015). Odors associated with compressor stations include sulfur smell, odorized natural gas, ozone, and burnt butter (Subra, 2009). Furthermore, compressors emit constant low-frequency noise, which can cause negative physical and mental health effects.\footnote{Luckett, Buppert, & Margolis, 2015}
The Commission has failed to assess these impacts either qualitatively or quantitatively with regard to the proposed Project.\textsuperscript{73} In addition to the health impacts, the pollution from compressor stations can cause damage to agriculture and infrastructure. One study found that shale gas air pollution damages in Pennsylvania already amount to between $7.2 and $30 million, with compressor stations responsible for 60-75\% of this total.\textsuperscript{74} Using the low estimate of 60\%, that is between $4.32 and $18 million in damages associated with compressor stations.\textsuperscript{75}

As explained above, the EA fails to demonstrate that impacts on landowners and the surrounding community have been mitigated or are outweighed by any alleged public benefits of the Projects. Absent the comprehensive assessment of adverse impacts to landowners and surrounding communities that NEPA requires, the Commission is not in a position to draw a conclusion as to whether the Projects’ potential public benefits outweigh the potential adverse effects. Moreover, and as discussed in detail in the Key-Log Report on the Need for the Proposed Constitution Pipeline, incorporated fully by reference herein, the Commission’s assumptions that the Projects will fulfill a need is misplaced.

\textbf{7.} The Commission erred because it failed to account for the extent to which Project construction and operation will emit air pollutants and fails to present a comprehensive analysis of the direct, indirect, and cumulative effects of the Project on climate change.

As discussed below, the EA fails to account for the extent to which Project construction and operation will emit air pollutants and fails to present a comprehensive analysis of the direct, indirect, and cumulative effects of the Project on climate change. The EA acknowledges that construction and operation of the proposed projects will result in result in significant emissions of various air pollutants, including NOx, VOCs, carbon monoxide, particulate matter, sulfur

\textsuperscript{73} Id. at 30.
\textsuperscript{74} Walker & Koplinka-Loehr, 2014
\textsuperscript{75} Id.
dioxide, and GHGs, particularly methane. Methane is a potent GHG, which the Intergovernmental Panel on Climate Change (“IPCC”) estimates to have 34 times the global warming potential (“GWP”) of carbon dioxide (“CO2”) over a 100-year period.

The EA fails to undertake a meaningful analysis of the climate change impacts of the GHG emissions, including fugitive emissions of GHGs, which would result from the construction and operation of the proposed Project. The Commission acknowledges that emissions of GHGs from the operation of the Project will result in environmental impacts; however, the analysis stops there.

The proposed Project will emit GHGs equivalent to Americans driving more than 10 billion additional miles a year. This number is derived from calculating that CO2 emissions from a gallon of motor gasoline is 0.00892 metric ton, the ratio of carbon dioxide emissions to total GHG emissions is 0.985,\textsuperscript{76} and then the average fuel economy of vehicles sold in FY 2013 was 24.7 miles per gallon.\textsuperscript{77} Therefore, the Project’s annual emissions of 4.3 million metric tons of CO2 are the equivalent of 10.1 billion miles based on average fuel economy of vehicles sold in FY 2013. However, the Commission discards this massive, and quantifiable, increase in GHGs by claiming that there is no way to specifically evaluate the incremental impact of such an increase on climate change. It appears the Commission will rely on such a dismissal of this issue until we reach a catastrophic tipping point, when it will be too late to avoid or mitigate impacts. Such an outcome is precisely what NEPA is intended to prevent.

\textsuperscript{76} See Environmental Protection Agency, Greenhouse Gas Equivalency Calculator, September 2013, www.epa.gov/cleanenergy/energy-resources/ref.html#vehicles

The CPV powerplant is clearly an intended delivery point of the ESU project. Based on the recent decision by the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) in *Sierra Club, et al. v FERC*, --F.3d--., 2017 WL 3597014 (D.C. Cir., Aug. 22, 2017), which found that FERC is required to consider and quantify the downstream greenhouse gas (“GHG”) emissions from the combustion of the natural gas transported by a project as part of their National Environmental Policy Act (“NEPA”) review, FERC’s environmental review of the ESU project is inadequate and deficient as it fails to consider or quantify the indirect effects of downstream GHG that will result from burning the natural gas that the ESU project will transport to the CPV Valley Energy Center and/or other natural gas powerplant facilities. In addition to examining end use emissions, both agencies need to account for the emissions and other impacts from the source of the gas as well. This analysis should examine both existing feeder facilities and expected induced development. Neither the downstream GHG impacts nor the upstream GHG impacts have been accounted for.

To fulfill NEPA’s mandate, FERC must prepare a full environmental impact statement (EIS) for the Project, to account for the cumulatively significant climate impacts of the greenhouse gas emissions from this Project and other gas projects in the region, including the CPV Valley Energy Center and other deliver point natural gas powerplants. In light of the recent D.C. Circuit’s decision in the Sierra Club case, this EIS must:

- quantify the project’s emissions combined with past, present, and reasonably foreseeable future gas projects in the region;
- and adopt appropriate mitigation measures in recognition of the past, present reasonably foreseeable future gas projects in the region to reduce the severity of cumulative impacts from the project.

FERC should also employ the social cost of carbon as a methodology for assessing the significance of the project’s impacts.
Despite the fact that each of these projects has been advanced before FERC and NYSDEC as independent projects, Millennium’s ESU is clearly inter-connected with the Millennium Valley Lateral Project and the associated CPV powerplant.

Expert analysis, conducted by Accufacts Inc.⁷⁸ of the Project’s recently released Critical Energy Infrastructure filings, confirms that Millennium has improperly split the ESU from the overall planned expansion of its natural gas pipeline system in an attempt to avoid a more rigorous comprehensive environmental review of the project’s construction, operation and maintenance.

As discussed in the attached Accufacts report:

The 24-inch Neversink segment has become an increasing bottleneck as gas rates have increased in recent years on the Millennium system. The serious impact of much higher gas rates and actual gas velocities, can be easily demonstrated by reviewing the steep slope (more vertical nature) of the pressure plots on Exhibit 1 and 3 for the existing Neversink segment. These steep slopes, higher pressure loss per mile, suggest that the Neversink 24-inch pipeline is destined for a different service, such as to serve as a much lower gas flow delivery supply gas line to the proposed CPV power plant. Once the Neversink is looped with a 30-inch 1,200 psig MAOP pipeline, the smaller diameter weaker MAOP Neversink pipeline segment is of little value to the mainline Millennium Pipeline system except to serve as a delivery supply line to customers on that segment, essentially the proposed CPV power plant.

In addition to the Accufacts Report, the US Environmental Project Agency (EPA) is on record stating their concerns over the interdependency of the Valley Lateral Project and the ESU in comments on the FERC dockets for both projects. In a June 10, 2016 letter to FERC, EPA Region 2 states:

EPA is also concerned that the proposed Eastern System Upgrade is connecting into the Valley Lateral Project (CP16-17) now under review by FERC. The EA must discuss this interconnect and its purpose in detail, and whether the Eastern System Upgrade would be

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constructed and meet the purpose and need with or without the Valley Lateral being completed.79

Similarly, in a June 8, 2016 letter to FERC regarding the Valley Lateral Project, EPA Region 2 states:

EPA also requests that the document more fully discuss the proposed interconnect to the Valley Lateral by the proposed Eastern Systems Upgrade project. It should be stated clearly whether this interconnect would be providing more natural gas to the Valley Lateral, and whether the Eastern Systems Upgrade requires this interconnect to function.

In the August 22, 2017 *Sierra Club, et al. v. FERC* decision, the D.C. Circuit found that FERC failed to assess the serious climate impacts of the Southeast Market Pipelines project and downstream gas-burning power plants. Several holdings from the decision apply to the Eastern System Upgrade Project’s environmental review, and indicate that FERC impermissibly neglected to consider all of the project’s climate impacts. The EA prepared by FERC for the ESU fails to reach an informed decision about the climate ramifications of the project. Instead of assessing soon to be implemented or constructed regional gas infrastructure projects and their cumulative climate impacts, the EA only generally discusses the types of climate change impacts that will burden the project’s geographic area. The EA states that GHG emissions from the project would be cumulatively insignificant without offering any rationale. Based on the D.C. Circuit instructions to FERC in the *Sierra Club* case, this must be corrected:

The EIS accordingly needed to include a discussion of the “significance” of this indirect effect, *see* 40 C.F.R. § 1502.16(b), as well as “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions,” *see* WildEarth Guardians, 738 F.3d at 309 (quoting 40 C.F.R. § 1508.7)....

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Quantification would permit the agency to compare the emissions from this project to emissions from other projects, to total emissions from the state or the region, or to regional or national emissions-control goals. Without such comparisons, it is difficult to see how FERC could engage in “informed decision making” with respect to the greenhouse-gas effects of this project, or how “informed public comment” could be possible.

As a result, FERC must prepare an EIS that quantifies the project’s emissions and past, present, and reasonably foreseeable future gas infrastructure projects in the region. To decide otherwise would violate NEPA’s mandate for an informed public process. Additionally, the EIS must employ the social cost of carbon methodology or, at the very least, a discussion of why the Agency elected not to use such methodology, in accordance with the D.C. Circuit’s ruling in *Sierra Club*:

> [I]n its rehearing request, Sierra Club asked FERC to convert emissions estimates to concrete harms by way of the Social Cost of Carbon. . . . But FERC has argued in a previous EIS that the Social Cost of Carbon is not useful for NEPA purposes, because several of its components are contested and because not every harm it accounts for is necessarily “significant” within the meaning of NEPA. See *EarthReports*, 828 F.3d at 956. We do not decide whether those arguments are applicable in this case as well, because FERC did not include them in the EIS that is now before us. On remand, FERC should explain in the EIS, as an aid to the relevant decisionmakers, whether the position on the Social Cost of Carbon that the agency took in *EarthReports* still holds, and why.”

Finally, FERC’s limited discussion of mitigation in the EA focuses on methane leak prevention and repair, which are necessary measures, but because of its flawed analysis, the Agency failed to analyze mitigation for the inevitable combustion emissions associated with the project and similar projects in the region. Instead, FERC relies on an unsupported conclusion that gas is cleaner than coal and so overall impacts are not significant. Such cursory analysis runs contrary to NEPA. As the D.C. Circuit held:

> The effects an EIS is required to cover “include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the
agency believes that the effect will be beneficial.” 40 C.F.R. § 1508.8. In other words, when an agency thinks the good consequences of a project will outweigh the bad, the agency still needs to discuss both the good and the bad.

The Sierra Club decision found that FERC’s NEPA analysis was flawed as it failed to consider and quantify the downstream GHG emissions from the combustion of natural gas transported by the project. In FERC’s review of the ESU, the Agency has again failed to consider or quantify the indirect effects of downstream GHG emissions that will result from the burning of natural gas that the Project will transport to the CPV Valley Energy Center, which has been demonstrated by expert analysis to be a delivery point for the ESU project.

For the reasons explained above, the environmental review fails to meet the requirements of the National Environmental Policy Act (“NEPA”), 42 U.S.C. § 4321 et seq. (2006), and its implementing regulations, 40 C.F.R. Pts. 1500-08. The Assessment cannot serve as the basis for an adequate hard look at the Project’s environmental impacts or support a finding of no significant impact (“FONSI”). Based on this flawed environmental review, the Commission cannot determine that the public benefits of the proposed Project outweigh its adverse impacts, thus violating the Natural Gas Act (“NGA”), 15 U.S.C. §§ 717f (2006) and its implementing regulations, 18 C.F.R. Part 157 (2011). Additionally, DRN requests that the Commission require Millennium submit additional information related to the interconnected nature of this project with several other of Millennium’s concurrent Commission-jurisdictional projects.

8. The Commission erred because it failed to take a “hard look” at alternatives to the proposed Project.

The Commission failed to take a “hard look” at the alternative of adding horsepower to the Minisink compressor station and using 30-inch pipeline loop would satisfy the purpose and need of the project while reducing environmental impacts.
The range of alternatives that the agency must consider is not infinite, but it does include all reasonable alternatives to the proposed action. The APA’s reasonableness standard applies both to which alternatives the agency discusses and the extent to which it discusses them. *City of Grapevine v. Department of Transp.*, 17 F.3d 1502, 1506 (D.C. Cir. 1994) (citation omitted). The Commission must give full and meaningful consideration to all reasonable alternatives to the proposed action. “By examining both the environmental impacts of the desired path and the impacts of other reasonable alternatives, NEPA enables an agency, and the public it serves, to evaluate whether the government has other options it could take that might be less damaging to the natural environment. *Soda Mountain Wilderness Council v. Norton*, 424 F. Supp. 2d 1241 (E.D. Cal 2006). Critically, NEPA’s requirement that agencies consider alternatives “is not merely to force the agency to reconsider its proposed action, but, more broadly, to inform Congress, other agencies, and the general public about the environmental consequences of a certain action in order to spur all interested parties to rethink the wisdom of the action.” *Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 296 (D.C. Cir. 1988); see also *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 195 (D.C.Cir.1991) (the purpose of alternatives analysis “is to inform both the public and the decisionmaker,” by giving them clearly defined alternatives).

Of course, only alternatives that are reasonable, or feasible, require discussion. Whether an alternative is reasonable depends upon the goals of the agency’s action, but “an agency may not define its goals in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goal, and the EIS would become a foreordained formality.” *Id.* at 196. While “no minimum number of
alternatives” must be considered, *Citizens for Smart Growth v. Sec'y Dept. of Transp.*, 669 F.3d 1203, 1212 (11th Cir.2012), agencies must present a reasoned alternatives analysis. See also *Ocean Advocates v. U.S. Army Corps of Eng’rs*, 402 F.3d 846, 869 (9th Cir. 2005) (enjoining agency decision that failed to provide quantifiable data necessary to conduct a comparative alternatives analysis).

Here, the Commission has failed to perform a legally sufficient alternatives analysis. For example, the Commission has conceded in its Order that the purpose and need of the Project can be fulfilled by merely adding 1,500 horsepower to the Minisink Compressor station and installing a 30 inch diameter pipeline instead of a 36 inch pipeline. The Commission failed to provide any analysis of this alternative anywhere in the record despite being well-aware of its viability. This is problematic because using smaller diameter pipelines is directly related to the total amount of environmental impacts that results from construction. For example, a smaller diameter pipeline requires a narrower width of the right-of-way as compared to larger diameter pipelines. Additionally, the size of the pipeline also relates directly to the size and scope of temporary work spaces, how much soil will be disturbed, and how efficient the system will operate. The size of the pipeline may also impact whether HDD wetland and waterbody crossings can be more widely applied. Indeed, open questions remain as to how the environmental impact of increasing emissions from adding 1,500 horsepower compare to the environmental benefits of reducing the footprint of the Project. Because there was no comparative data or analysis of this alternative in the EA – despite this alternative’s recognized existence by the Commission – the EA fails to comply with the requirements of NEPA.

**COMMUNICATIONS**
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CONCLUSION

For the aforementioned reasons, the Commission has failed to meet the requirements of the National Environmental Policy Act and its implementing regulations. The Environmental Assessment cannot serve as the basis for an adequate hard look at the Project’s environmental impacts, support a finding of no significant impact, or provide the basis for a certificate Order. The Commission cannot determine that the public benefits of the proposed Project outweigh its adverse impacts be relying on the flawed environmental review, thus violating the Natural Gas Act and its implementing regulations. Furthermore, DRN objects to the Commission’s use of tolling orders to indefinitely prevent aggrieved parties, such as DRN, from bringing challenges to the Commission’s decisions in the appropriate federal circuit court. To the extent the Commission issues a tolling order here, such an order would represent a violation of DRN’s rights and would be unlawful.

For the foregoing reasons, DRN respectfully request that the Commission grant this request for rehearing and rescission of the Order.

Respectfully submitted this 30th day of November, 2017.

/s/ Aaron Stemplewicz

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