August 23, 2019

Pennsylvania Department of Environmental Protection
Regional Clean Water Program Manager
2 Public Square
Wilkes-Barre, PA 18701-1915

Electronically submitted to abellanca@pa.gov

Re: NPDES Permit No. PA0276120, Storm Water, Slate Belt Heat Recovery Center LLC, 435 Williams Court, Baltimore, MD 21220-2888, Plainfield Township, Northampton County

Delaware Riverkeeper Network (DRN) submits these comments on the proposed changes to the draft National Pollution Discharge Elimination System (NPDES) permit (Permit No. PA0276120) to authorize the discharge of stormwater associated with industrial activities to waters of the Commonwealth from a biosolids processing facility proposed to be constructed on Pen Argyl Road in Pen Argyl, Northampton County, by Slate Belt Heat Recovery Center, LLC of 435 Williams Court, Suite 100, Baltimore, MD, 21220.

The Pennsylvania Department of Environmental Protection (PADEP) states in the notice in the Pennsylvania Bulletin published at 48 Pa.B. 6281 (September 29, 2018):

"Changes to previous Draft NPDES Permit due to revised NPDES Permit Application:

- Revised Drainage Areas and Outfall locations (regrading plan changes, revised stormwater controls).
- Enhanced NPDES Monitoring Plan: First year of quarterly monitoring; Outfalls Nos. 001, 002, 004, and 007 shall include monitoring/reporting for 1,1,1-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,2-Dibromoethane; 1,2-Dichloroethane; Benzene, cis-1,2-Dichloroethene; Ethyl Benzene; Methylene Chloride; Tetrachloroethene; Toluene; trans-1,2-Dichloroethene; Trichloroethene; Vinyl Chloride, and Xylenes. Outfall No. 004 monitoring will include copper and Nitrate-N monitoring.
- Enhanced Stormwater Best Management Practices (BMPs) including direction of roof drainage to Basin No. 2; stormwater inlet filter inserts; "isolation flip gate" control for Outfall No. 001 to allow capture of spills, leaks, and other releases.
- Part C.VI.C condition expanded to allow submittal of a Standard Operating Procedure (SOP) for discharge of uncontaminated precipitation collected in the thermal heater containment areas."

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Delaware Riverkeeper Network remains opposed to the issuance of NPDES Permit No. PA0276120, regardless of the proposed changes. We request that the draft permit be withdrawn based on our concerns stated in our comment submitted November 21, 2018, attached and our further objections stated herein.

General Comments

Contaminants must be added to the permit

DRN is opposed to the location of the SBHRC in proximity to the two protected streams that flow from the property, Little Bushkill Creek and Waltz Creek.

DRN does not consider the parameters in the permit to be nearly as expansive as required in order to capture and treat and/or remove pollutants that will potentially be in the sewage sludge, wastewater and process water that would be processed at the SBHRC. Scientific papers and reports are available that identify some of the known contaminants in sludge and the produced biosolids. These contaminants could be in the sludge materials that are imported to the site, can be found in the wastewater and process water produced by the drying process at the SBHRC, could be contained in the biosolids stored on and transported from the site and could make their way into stormwater runoff.

Studies by the U.S. Geological Survey and others have found a much wider array of contaminants in the sewage waste stream than the heavy metals, pathogens, and other substances that agencies currently regulate. One study found biosolids produced through various sewage processing methods have similar organic wastewater contaminants OWCs), regardless of the type of processing. OWCs are organic compounds present in products used prevalently and move through the sewage treatment process to sewage sludge and finished biosolids. OWCs include pharmaceuticals, hormones, detergents, fragrances, plasticizers, polycyclic aromatic hydrocarbons (PAHs), disinfectants, fire retardants, and pesticides. Little research has been done on the composition and fate of these contaminants and yet they are being released into sludge and biosolids. (Kinney, C.A., Furlong, E.T., Zaugg, S.D., Burkhardt, M.R., Werner, S.L., Cahill, J.D., & Jorgensen, G.R. (2006). Survey of Organic Wastewater Contaminants in Biosolids Destined for Land Application. *Environ. Sci. Technol.*, 2006, 40 (23), pp 7207–7215. Retrieved from https://pubs.acs.org/doi/abs/10.1021/es0603406)

In 2009, the U.S. Environmental Protection Agency (EPA) released a Targeted National Sewage Sludge Survey to estimate pollutant concentrations in biosolids. 84 biosolid samples were collected from the 74 facilities. The report reported the concentrations for 145 analytes, including metals, classicals, organics, polybrominated diphenyl ethers (PBDEs), pharmaceuticals, steroids, and hormones. Metals were found in virtually every sample, with antimony being found in 72 samples. Of the six organics, four were found in at least 72 samples, one was found in 63 samples, and one was found in 39 samples. Three pharmaceuticals were found in all 84 samples, and nine were found in at least 80 samples. Three steroids were found in all 84 samples, and six were found in at least 80 of the samples. Five hormones were found in less than six samples. All but one of the 11 various different types of PBDEs (flame-retardants) were found in all 84 samples. (Targeted National Sewage Sludge Survey Sampling and Analysis, Technical Report. U.S. Environmental Protection Agency. January 2009. http://water.epa.gov/scitech/wastetech/biosolids/index.cfm#tnsss)

These results are alarming because there are known adverse health effects for these pollutants but the EPA does not regulate many of them in biosolids or biosolids processing, despite the fact that they were so numerous and prevalent in the samples they tested. These pollutants can reasonably be expected to be contained in the materials to be handled at this facility. Yet DEP is not requiring sampling for these nor are they requiring permit limits for these dangerous substances. The redrafted permit must be changed to reflect these and other substances, including emerging contaminants, to protect water quality and public health.

A study in Maine on sewage sludge and PFAS resulted in action being taken by the state to require all applied sewage sludge to be tested for PFAS. In the mid-1980s, sewage sludge from the Kennebunk and Ogunquit sewer districts and fly ash from the S.D. Warren paper mill were spread as biosolids on the Stoneridge Farm in Arundel, Maine as part of a statewide program to help utilities get rid of the waste and fertilize pastures. In 2016, the local water district detected PFAS in a well it maintained on the farm. Maine DEP tested the farm and issued a report on February 24, 2017 that showed that PFAS was detected in water samples collected from the residential farm well, a small perennial stream, and a pond in the gravel pit at the farm. The residential well showed PFAS at 50 ppt, the stream showed PFAS at 7.93 ppt, the gravel pit pond showed PFAS at 41.07 ppt. These concentrations are all significantly high and above minimum risks levels for PFAS from the Agency for Toxic Substances and Disease Registry. DEP also tested the milk tank at the farm, which showed PFAS at 690 ppt, nearly 10 times higher than the EPA guideline for drinking water of 70 ppt. Twelve soil samples were taken at the farm and PFAS readings ranged from 1,800 ppt to 896,200 ppt, shocking the farmer, the agency, and the community. Maine DEP announced that they would now require all sludge material licensed for land application in the state to be tested for PFAS. (https://kkw.org/wp-content/uploads/2018/02/DEP-Phase-2-study.pdf; https://www.seacoastonline.com/news/20180201/dairy-farm-contaminated-kkwwds-kimball-lane-well) The dairy farm and other farms have suffered devastating consequences. (https://www.newscentermaine.com/article/news/tainted-milk-threatens-to-shut-down-century-old-dairy-farm/97-a06e0f1d-a3fd-4711-8299-23f3528af61c)

DEP must require permit limits and sampling for PFAS in the NPDES stormwater permit with the best approach being that DEP requires their removal from the sludge prior to the delivery of sewage sludge to the SBHRC. If this action is not taken, SBHRC will become a conduit for PFAS pollution, spreading the highly toxic compounds with serious known health effects, including cancer and developmental effects in infants and children, further into the environment and into biosolids that are applied as fertilizer. PFAS are known as “forever chemicals”, because they do not break down in the environment but persist indefinitely, a permanent threat.

A study published this year concluded that sewage sludge contains mixtures of various environmental chemicals, including endocrine disrupting chemicals (EDCs), which can be metabolized/stored or excreted in a variety of ways in the liver. The study measured levels of major environmental chemicals in sheep liver tissues and assessed liver responses to exposure by measurement of transcripts, proteins, and lipids in males and females. Sheep were chosen as test animals because they are large, long-lived mammals with long gestation times similar to humans. Four groups of sheep (from conception to 19 months in females; conception to 7 months in males) were raised on sludge-fertilized pastures. Control male livers had higher levels of benzo[a]anthracene, chrysene, and total PAHs, whereas control female livers had higher levels of naphthalene, PCB 101, PCB 153 and total PCBs. Liver accumulation of benzo[a]anthracene and chrysene

increased in sewage sludge exposed females, while PCB 153, PCB 180, and total PCBs decreased. No differences in liver environmental chemical accumulation were observed in sewage sludge exposed males. These differences may reflect physiological differences between males and females in how they process xenobiotics and provides support that the liver is functionally sexually dimorphic. The liver is a metabolically and developmentally critical organ, and if these results were translated to humans, they would be expected to have serious impacts such as liver disease and/or liver cancer. (Filis et al. (2019). Long-term exposure to chemicals in sewage sludge fertilizer alters liver lipid content in females and cancer marker expression in males. (*Environment International* 124 (2019) 98–108. Retrieved from https://reader.elsevier.com/reader/sd/pii/S0160412018317318?token=511BC094F19BC803F836C510B44AE771869B5EF2211C0D8239917DF2C8FD480A0FBCB18CEB8A216E9768F45A31FEE461), The health effects of EDCs in sewage sludge and/or biosolids are too serious to risk. These chemicals must be included in the permit limits of the NPDES permit, requiring sampling and removal from the stormwater generated.

The applicant plans to produce biosolids from the sludge at this facility. Biosolids, even Class A biosolids, are known to contain dangerous contaminants, as discussed in scientific literature.
Over 300 organic chemicals from a diverse range of classes of compounds have been identified in biosolids. The most common organic contaminants found in biosolids are phthalic acid esters (PAEs), polycyclic aromatic hydrocarbons (PAHs), chlorobenzenes (CBs), polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs), chlorophenols, polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs), organotin compounds, brominated flame retardants, surfactants, pharmaceuticals and personal care products, and natural and synthetic hormones. (Haynes, R.J., Murtaza, G., & Naidu, R. (2009), Chapter 4 Inorganic and Organic Constituents and Contaminants of Biosolids: Implications for Land Application, *Advances in Agronomy***,** Volume 104, Pages 165-267. Retrieved from https://www.sciencedirect.com/science/article/pii/S0065211309040048).

Other organic contaminants in biosolids include polychlorinated alkanes (PCAs), polychlorinated naphthalenes (PCNs), polybrominated diphenyl ethers (PBDEs), triclosan (TCS), triclocarban (TCC), benzothiazoles, antibiotics, synthetic musks, bisphenol A, quaternary ammonium compounds (QACs), steroids, and polydimethylsiloxanes (PDMSs). (Clarke, B.O., & Smith, S.R. (2010), "Review of 'emerging' organic contaminants in biosolids and assessment of international research priorities for the agricultural use of biosolids", *Environ Int*. 2011 Jan; 37(1):226-47. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/20797791).

According to a 2019 study, microplastics are being removed from sewage treatment plants but are concentrated in the sewage sludge. "Wastewater treatment plants efficiently remove microplastics from sewage, trapping the particles in the sludge and preventing their entrance into aquatic environments. Treatment plants are essentially taking the microplastics out of the waste water and concentrating them in the sludge, however. It has become common practice to use this sludge on agricultural soils as a fertilizer." The study examined 31 fields. Microplastics were found in soil samples, with the counts increasing where increased rates of sludge were applied. The report concluded that sludge is proposed as a primal driver of soil microplastic pollution. The SBHRC will, then, actually be spreading pollution of dangerous microplastics, similar to the spread of PFAS, unless it is removed from the waste stream. The NPDES permit and sampling must add microplastics.

Four major types of human pathogens can be found in biosolids: bacteria, viruses, protozoa, and helminths. Potential transmission pathways of human pathogens from biosolids include air, soil, and water. In addition, it is possible that vectors, such as flies, could transmit pathogens from biosolids. Dangerous bacteria found in biosolids includes *E. coli, Listeria monocytogenes, Staphylococcus aureus, Helicobacter pylori, and Legionella.* Protozoan parasites found in biosolids include Cryptosporidium, Giardia, and Microsporidia. Helminth worms found in biosolids include Ascaris lumbricoides, Trichuris trichiura, Hymenolepsis nana, Taenia saginata, Taenia solium, Necator americanus, Ascaris suum, and Toxocara canis. (Jenkins, S.R., Armstrong, C.W., & Monti, M.M. (2007), "Health Effects of Biosolids Applied to Land: Available Scientific Evidence", Virginia Department of Health. Retrieved from http://www.vdh.virginia.gov/content/uploads/sites/12/2016/02/Biosolids-1.pdf). The health effects of pathogens include sever illness and death in certain circumstances. To protect human health, all potential pathogens that could be found in the sludge must be sampled for and added to the permit limits.

There are also certain properties or materials that are very dangerous in sludge that can be carried into the wastewater, as well as the final biosolids product. It is known that sewage sludge contains detectable amounts of radioactive materials. In addition, sewage flowing into a POTW can include anthropogenic materials exempt from regulatory control, such as excreta from individuals undergoing medical diagnosis or therapy, and discharges of limited quantities of radioactive materials from some licensees of the U.S. Nuclear Regulatory Commission (NRC) and NRC Agreement State licensees. Other sources of radioactive materials that may enter sewage collection systems include landfills, stormwater runoff, groundwater, surface water, residuals from drinking water treatment plants, and waste streams from certain industries (e.g., ceramics, electronics, optics, mining, petroleum, foundries, and pulp/paper mills). Some states have identified cases where radium from drinking water treatment residuals has been concentrated in sewage sludge. (U.S. Nuclear Regulatory Commission (2004), SCORS Assessment of Radioactivity in Sewage Sludge: Modeling to Assess Radiation Doses, Sewage Sludge Subcommittee. Retrieved from http://www.iscors.org/pdf/FinalDoseModeling.pdf)

DRN considers the redrafted NPDES permit inadequate to fulfill its charge of preventing pollution because many highly toxic and/or hazardous substances are in the sewage sludge, its process water and wastewater, and/or the biosolids, posing an unacceptable risk to the ground and surface water resources, Little Bushkill Creek, Waltz Creek, local ecosystems, the regional environment, and the public from the stormwater generated by proposed operations at the SBHRC.

<u>Groundwater and the quarry pond are not sufficiently protected but must be; Little Bushkill Creek and Waltz Creek will be degraded</u>

The former quarry pond is named "Sediment Basin 2" in the redrafted NPDES permit. The pond is a Pennsylvania Water of the Commonwealth as per PA Code Title 25, Chapter 102. The pond discharges to groundwater and is hydrologically connected to Little Bushkill Creek and Waltz Creek, waterways protected as High Quality/Cold Water Fishery streams under PA regulations. The redrafted permit says sampling and monitoring regarding the pond will be included in the PADEP Waste Management Permit. However, since that permit is not drafted yet, it is premature to consider this redrafted NPDES permit. The issue of the water quality of the pond, baseline and during operation of SBHRC is central to the stormwater permit. To assess the potential for degradation of the pond as a Water of the Commonwealth, the groundwater and the streams, this permit must require that a groundwater study be done before any decisions are made regarding

the NPDES permit limits, permit parameters and sampling of stormwater to be contained in the NPDES permit. The geophysical groundwater study would identify the flows, quantity, and quality of the pond and groundwater and will provide missing information about the regional aquifer. This information will inform the permit requirements and the consideration of using the pond as a sediment basin. The overarching purpose of DEP permitting is to protect the streams and environment, prevent the degradation of ecosystems, ground and surface water, and protect the health and safety of the impacted community. To do this, information is needed that is currently absent.

Little Bushkill Creek and Waltz Creek are protected streams under Pennsylvania regulations. As discussed in this comment, they require anti-degradation protections. Under Pennsylvania's Special Protection Waters Program, the Little Bushkill Creek is designated as a High Quality Creek, Cold Water Fishery that cannot be degraded. Both the groundwater connection to the Little Bushkill from the quarry pond and the surface drain on the access road on which the sludge trucks would travel discharge to the Little Bushkill Creek, carrying pollution that will harm the creek and the life in it. Waltz Creek is also High Quality and a Cold Water Fishery with reproducing trout its entire length. That existing use is protected by law and under 25 Pa. Code Section 93.3 Table 1, brown and brook trout must be protected but instead will be exposed to polluted runoff and discharges from the quarry pond where stormwater runoff is supposed to be contained.

The applicant has not performed the required anti-degradation process at PA Code § 93.4c. Implementation of antidegradation requirements. Included in this section of the Code is the non-discharge alternatives analysis at Section 93.4c.b.1(i)(A):

> (i) *Nondischarge alternatives/use of best technologies.*
>
> (A) A person proposing a new, additional or increased discharge to High Quality or Exceptional Value Waters shall evaluate nondischarge alternatives to the proposed discharge and use an alternative that is environmentally sound and cost-effective when compared with the cost of the proposed discharge. If a nondischarge alternative is not environmentally sound and cost-effective, a new, additional or increased discharge shall use the best available combination of cost-effective treatment, land disposal, pollution prevention and wastewater reuse technologies.
>
> (B) A person proposing a new, additional or increased discharge to High Quality or Exceptional Value Waters, who has demonstrated that no environmentally sound and cost-effective nondischarge alternative exists under clause (A), shall demonstrate that the discharge will maintain and protect the existing quality of receiving surface waters, except as provided in subparagraph (iii).

There are other provisions of this section of the PA Code regarding water quality that have not been performed. The applicant may be assuming that the removal of wastewater offsite relieves them of the anti-degradation requirements. However, the quarry pond (Sediment Basin #2) does discharge to the two streams through groundwater and there is inadequate stroemwater treatment of the drain that empties into the UNT of Little Bushkill Creek. Furthermore, Waltz Creek would receive outflow from the quarry pond (Sediment Basin #2) and inadequately treated stormwater through the inlets on the access road. Therefore, all requirements under this section of the PA Code must be met for the SBHRC.

DRN is concerned about other discharges to groundwater or surface water that may occur from the SBHRC site. The addition of stormwater volume to the quarry pond from the SBHRC site could change how the groundwater flows move and could influence discharges to other locations in addition to the two creeks.

Because no hydrogeologic study of the pond has been done, which would examine the regional groundwater table, it is unknown if there would be stormwater or wastewater infiltration to groundwater that would affect existing wells or water features such as wetlands and springs. The applicant states there will be no stormwater or wastewater infiltration to groundwater a within ½ mile of any "public water supply well, spring or infiltration gallery". There is no empirical evidence or report to substantiate this statement. This is another reason why a hydrogeologic study must be done prior to the finalization of the NPDES permit.

Sampling and monitoring plan inadequacy

DRN is very concerned about the overall limited nature of the sampling plan in the redrafted permit. There is no reason that continuous monitoring cannot be required to ensure that pollution does not occur. Baseline sampling should not be a one-time event but should be done in a series at different seasons and times to provide an accurate assessment of the baseline conditions.

This is important because, for instance, there has been unspecified fill placed in the quarry pond when the pond was first being used as a sediment basin by GCSL. There has also been direct runoff without stormwater treatment into the pond over several years. The depth of the pond is not verified by actual measurements, only estimated, limiting the knowledge of how much sediment is stored in the pond and how much more can be added and where in the pond it would settle, and accurate projections of the use of the emergency spillway to assess potential impacts to Waltz Creek and for flood avoidance. The condition of the water since the closure of the quarry is unknown.

There are too many variables to rely on one sampling of the quarry pond, especially considering that conditions and qualities of the water could change throughout the year. A clear and complete picture of the water quality and condition of the pond must be made prior to final action on the NPDES permit.

The baseline sampling of other site features is to be followed by quarterly monitoring for the first year, then semi-annual monitoring for certain outfalls: 001, 002, 003, and 004. Additional sampling for Volatile Organic Compounds (VOC) is required for outfalls 001, 002, 004, and 007 for the first year only unless PADEP requires otherwise due to violations. At outfall 004, copper and nitrate-N have been added for the first year or upon request by PADEP. Essentially, monitoring will be reduced or will cease entirely for certain dangerous pollutants after the first year of operation.

First, monitoring should be continuous but if DEP were to decide otherwise, it should remain monthly or quarterly in perpetuity and not be reduced over time for any of the outfalls or drainage areas. To reduce the sampling frequency will reduce the opportunity for discovering pollution, a pollution event, pollution trend, or an undetected spill or leak. Secondly, it is unacceptable and illogical to stop monitoring because the activity at the facility will be ongoing with dangerous materials and substances being handled, transferred, and discharged as stormwater from the site as long as the SBHRC is in operation. Operations at this crowded site and high risk facility with 12 hour truck transport of dangerous materials and 24/7 operations of the sludge dryer, requires continuous and perpetual monitoring and sampling. To do otherwise as is proposed in the redrafted NPDES permit is not protective of the environment, water resources, or public and must be changed.

Comments on specific changes:

• Revised Drainage Areas and Outfall locations (regrading plan changes, revised stormwater controls).

Outfall No. 1:
The Redrafted Permit states that vegetated swale No. 1 does not appear to collect all stormwater. DRN considers it essential that all stormwater, including the portion of the driveway/paved area that is currently designed to flow directly to the quarry pond, also called Sediment Basin #2, is captured and treated prior to any discharge and is monitored continuously and reported publicly with all other monitoring data. DEP should reserve the right to require future installation and reporting but should require all controls from the start. The entire site, access road, driveway and entrance area is an industrial site and should be controlled as such to prevent water quality degradation.

Drainage Area/Outfall No. 5:
The Redrafted Permit states that a portion of the employee paved parking lot drains directly to the quarry pond (Sediment Basin #2). DEP must require all stormwater drainage to filter through best management practice treatment systems, including the staging/parking area for waste-containing trucks and all access areas, including the western access roads. DRN objects to DEP's allowance of the staging/parking area for waste-containing trucks to be addressed by a future requirement for monitoring and no requirement in the permit for capture and treatment of the stormwater produced by this area. Trucks containing untreated and potentially polluting and/or hazardous materials that could leak or be washed onto the ground from trucks or deposited on the ground from air emissions from trucks (or the facility operations) during stormwater-generating, water-spraying, or deicing events will regularly and heavily use these areas. Prevention of polluted runoff must be the top priority at this industrial site in all locations involved with this proposed facility.

DRN disagrees that wastewater storage tank containment area discharge should be allowed to discharge as stormwater through Outfall No. 5. This containment area is supposed to collect any spills or leaks, any wash-off of pollutants from the 300,000-gallon silo that will contain untreated and potentially toxic and hazardous materials. This fluid will have the properties of wastewater and must be returned to the silo or a holding tank to be disposed of at a wastewater treatment facility permitted to process this waste.

Drainage Area/Outfall No. 006 to High Quality UNT to Little Bushkill Creek:
DRN supports that Chapter 93 Antidegradation protection requires absolutely no discharges to the Little Bushkill Creek (including named or unnamed tributaries) and that the applicant define the stormwater outfall area No. 6. It is DRN's position that secondary containment then, in turn, must be directed to a holding tank that either delivers the containment contents to the wastewater silo or to an approved wastewater treatment facility. DRN also considers the drainage of any inadequately treated stormwater or secondary containment liquids directly to Waltz Creek is prohibited in order to protect the existing uses of Waltz Creek and its protected status.

Drainage Area/Outfall No. 007 (site entrance and part of access road):
The stormwater that flows from Drainage Area No. 7 to Outfall No. 7 will be monitored at Outfall No. 7, according to the Redrafted Permit. It appears that sheet flow will go directly to the quarry pond (Sediment

Basin #2) and will be monitored at Outfall No. 7. While it is important that monitoring is required and not put off to a future requirement that may or may not be imposed by DEP as was originally being considered, DRN questions how the quality of sheet flow from Drainage Area No. 7 will be accurately measured at Outfall 7. To protect water quality in the sediment basin, all sheet flow must be filtered to remove pollutants and monitored prior to its discharge into the quarry pond (Sediment Basin #2).

New Outfall/Drainage Area No. 008 (driveway/paved area draining directly to GCSL Access Road):
The new drainage area should be separately handled so that there is no discharge directly to Waltz Creek without stormwater treatment to remove pollutants. It appears that by requiring the drainage to go to the inlets, DEP is attempting to do that. In General Comments, we discussed the issues and concerns we have about the proposed stormwater treatment practices, the inadequacy of proposed permit parameters and monitoring. As far as this Outfall/Drainage Area, DRN opposes DEP "reserving the right" to require equipment to measure and monitor the quality of stormwater flows. DEP must require this in the permit at this time in order to accurately monitor stormwater quality and ultimately prevent water quality degradation from this drainage area. The trucks and other motor vehicles for this project will be using this driveway and paved area, posing the potential for substantial pollution releases.

Future Site Changes to Drainage Area:
All buildings, structures, and equipment associated with the project at this site must be shown and detailed now, not in the future. The cumulative impacts of all the parts of the facility must be considered individually and as a whole but without this information now, that is not possible. The application should not be considered complete until this information is supplied and made publicly available for public review and comment.

• Enhanced NPDES Monitoring Plan and Related Changes:
DRN agrees that improvements to the Monitoring Plan that have resulted from agreement between the applicant and Plainfield Township should be made part of the NPDES permit.

Stormwater Resampling Commitment:
While DRN recognizes the improvement in the plan that in the event of a violation of the pollution limits in the permit, the "Enhanced Monitoring Plan" requires resampling at the next storm event instead of waiting until the next DMR reporting period sampling event. However, we do not agree this is satisfactory in terms of catching and stopping pollution from a spill, leak, accident or from stormwater. DRN advocates that resampling be done immediately to provide data that ensures that the violation is not continuing and remedial actions taken by the facility have been effective and to prove that there is no threat to water quality. In addition, DRN does not agree that NPDES permit parameters are sufficiently complete and/or are representative of the pollutants that could discharge to the listed outfalls, as discussed under General Comments in this comment letter.

Stormwater Outfall/Inlet Inspection SBHRC Commitment:
The conflicting size storms for the stormwater control BMPs referenced in the June 20 and July 1 letters from the applicant, must be resolved so that the more protective measures are required – the inspection after storm events greater than 0.5 inches over 24 hours. This is a more frequent storm that can produce heavy downpours, especially considering the actual time in which the precipitation fell, which could be very short. Storm events in the last 2-3 years have been heavier and more precipitation has occurred in the region. The

result is the opportunity for unexpected stormwater runoff that can overwhelm or damage equipment and BMPs. The prudent action of inspections at more frequent intervals will provide more safety and environmental protection and should be required.

First Year Quarterly Monitoring:
DRN stated our concerns about the permit parameters and sampling parameters under General Comments. More parameters of potential constituents in the materials that will be handled at the site must be included in the sampling. DRN agrees that baseline sampling is essential at all sampling points and also considers baseline and continuous sampling of the quarry pond (Sediment Basin No. 2) to be essential. Without sampling of a broad and comprehensive list of parameters, it will not be known if contamination by some of the most significant and dangerous contaminants is already present in the pond or has occurred because of site activities.

It appears DEP is allowing Outfall No. 7 monitoring results to be used as partially representative of areas not being sampled. This should not be allowed as it is not real data and the margin for error is too great.

Additional Monitoring Parameters:
DRN opposes the cessation of VOC and copper and Nitrate-N monitoring after the first year and advocates that this monitoring be done in perpetuity to safeguard against undetected pollution and degradation of water quality. We realize that if there is a CAP in place, the monitoring will continue but this is not enough to prevent pollution. We also advocate that continuous monitoring with remote reading of the data be required due to the dangerous properties of the potential pollutants that will routinely be handled at this site.

Corrective Action Plan (CAP) Requirements:
DRN recognizes that the CAP process is supposed to require "upfront" action by the permit violator. First, it cannot be considered "upfront" when action is being taken to correct an already-occurred exceedance of permit limitations. It is required, as far as DRN understands, by current DEP regulations that immediate action must be taken to correct an exceedance or violation so the pollution ceases and is prevented from occurring again. It seems odd that DEP would want those responsible for a violation to take corrective action before getting DEP approval. Of course, an ongoing pollution event must be stopped without any delay but there are standard procedures that can be followed to do that and that is required by law. However, how to correct an exceedance or violation should be urgently reviewed by DEP to ensure effective response by the applicant. DEP should be given information and the corrective action must be evaluated immediately. There is no reason to wait to see if the CAP worked in the next required sampling event. There is no acceptable rational for DEP waiting beyond the emergency response to evaluate and decide if further corrective action is necessary. Pollution could be continuing but it will not be known for what could be weeks or months, depending on the next sampling event that has been agreed upon. DRN also considers it very important for these exceedance events and/or violations to immediately be reported publicly on a website or platform that is accessible easily to the public in a timely and continuous manner.

DRN supports that no permit limits be removed from the permit. The "antibacksliding" provisions of the state's special protection waters program are paramount. Both the Little Bushkill Creek and Waltz Creek are protected streams and must be protected as per state regulations, Pennsylvania's Clean Stream Law, the federal Clean Water Act, and the Pennsylvania Constitution. There is no justification presented by the applicant for the substitution of Technology-based Effluent Limits for Federal Effluent Limitation

Guidelines or that would allow the downgrade of current water quality, stream designations or a redefinition of natural background conditions.

The potential for contaminated "run-on" from the GCSL or GKEDC presents a problem that is imbedded in the site and its use. DRN does not support the use of the property owned and used by GCSL and used by GKEDC for the SBHRC. The complexity of how to manage and operate these operations is difficult enough due to the variety of pollutants at a landfill and potential for spills, accidents, and polluted runoff from the operations due to the large amount of activity every day at the landfill and the type of mixed materials, some hazardous, that enter the landfill property and are deposited in the landfill. Adding to these day to day operations that rely on the quarry pond (Sediment Basin #2) to provide a major portion of the stormwater management for GCSL and GKEDC, the extremely busy, intense, and dangerous operations of the SBHRC, including the transport, transloading and storing of contaminated waste and potentially hazardous and toxic material and the drying of these materials, is simply not sustainable as a safe and nonpolluting facility.

This section of the redrafted permit recognizes one of the difficulties inherent with this set-up – the fact that it will be very difficult if not impossible to find the responsible party and/or the source of contamination or a pollution event in areas where stormwater is mixed from the different entities. DEP's solution that there should be some agreement amongst the parties seems unrealistic and impractical. DRN considers the arrangement that SBHRC will take responsibility to be a recipe for failure if a complex pollution problem or degradation trend materializes. In the case of a catastrophic event, depending on the facts, the blame will be difficult to assign if circumstances are at all unclear. The preferable solution is an option that locates the SBHRC on property where the site and the sedimentation basin and stormwater management BMPs are solely operated and influenced by SBHRC.

DRN opposes DEP's "kicking the can down the road" by deciding to put off until the renewal of the NPDES permit what is the best sampling plan for the co-used areas. DEP states that for Outfall No. 5, for instance, they cannot know if the stormwater outfall sampling will be representative because GKEDC/GCSL run-on quality is not known. Why can't sampling of those facilities' stormwater be done? Furthermore, the answer is not to accept an inadequate monitoring plan but to make proactive efforts to separate the pollution streams by changing the proposed use of the property. It does not make environmental sense to locate the SBHRC at this complicated already active location.

Other SBHRC proposed changes:
DRN opposes any reduction of required stormwater controls and any elimination of parameters or pollution limits in the permit. The applicant has not made any justification for such; for DEP to agree to such changes would not comply with current state or federal regulations and laws.

• Additional Stormwater Best Management Practices (BMPs)

Roof Drains:
DRN supports roof drainage collection but does not consider the proposed filter inlets to be capable of removing the potential pollutants that would be deposited there. Without removal of these pollutants, directing the runoff to the quarry pond (Sediment Basin #2) will cause degradation of its water quality and will provide an uncontrollable pathway for pollution to groundwater and the streams. Our concerns about

the lack of permit limits for the constituents in the emissions, waste, wastewater, and stormwater runoff from the facility operations are discussed in General Comments.

Revised Post-Construction Stormwater Controls:
DRN agrees that all stormwater controls must be maintained by the SBHRC but we do not agree that what is proposed is adequate to prevent pollution to the water resources, quarry pond (Sediment Basin #2), the groundwater, or Little Bushkill Creek or Waltz Creek. Please see General Comments in this comment letter.

Additional Stormwater Drainage System:
ADS Flexstorm inlet inserts and ADS Cleartec Rubberizer Pouch inserts (or their equals) are required to be installed in all stormwater outfalls discharging to the quarry pond (Sediment Basin #2). The redrafted permit states that these are to treat Total Suspended Solids (TSS), oil and grease, "plus other contaminants". DRN notes that the Flexstorm inserts have different types of insets under that name with varying specifications. For instance, one Flexstorm inlet insert is advertised to last 3 months, another is said to last 4 years. DEP should be more specific with the model of the insert and with the specifications regarding what pollutants are to be treated to what level of treatment. For instance, TSS cannot be increased in the receiving streams so the device used must remove all TSS.

The list of contaminants treated by this device is very short on the manufacturer's website and the "other pollutants" that these devices are claimed to remove are not specified for the Flexstorm manufacturer. (https://www.inletfilters.com/sites/default/files/resource-files/spec.pdf) Some are rated to remove TSS, oil, grease and some hydrocarbons. For instance, the Cleartec Rubberizer Pouch has a model for post-construction inlets which removes oil/grease/fuel and some PAH polycyclic aromatic hydrocarbons. There are no other pollutants listed that DRN could find in our search of the pollutants that these inlets can remove. Depending on the insert model, more or less treatment is provided for different contaminants, supporting that DEP set the requirements for inlet inserts based on specific treatment goals, not a brand name "or equivalent" of a device. DRN requests that the public is provided with information on what pollutants are removed and to what levels they are removed by these inlet devices to substantiate the conclusion that these inlet inserts will effectively treat the stormwater that will be flowing through them from each of the drainage areas.

Additionally, the manufacturer states that these inlet inserts must be inspected after each ½-inch or more rain event. (https://www.inletfilters.com/sites/default/files/resource-files/spec.pdf) This supports the inspection and maintenance requirement of the 1/2 inch interval rain event in the permit. The manufacturer makes it very clear that maintenance and emptying of these devices is essential to their function.

As DEP is undoubtedly aware, the Cleartec Rubberizer Pouch is made of plastic layers that catch and solidify oil and grease. Each can hold up to 4 lbs. of oil. (https://www.inletfilters.com/products/flexstorm-filter-bags) They do not function and can cause pollution events if not cleaned out routinely on a rigorous schedule. In addition, the disposal of the pouches and inserts must be done in a prescribed manner, with recycling of oil and grease and disposal in a specialized waste facility for the fabrics, mesh, and plastic materials, as they will be classified as hazardous or regulated waste. There should be a reporting schedule for the maintenance of these devices to DEP with all reporting made public on an accessible online platform.

Overall, the treatment being provided by these inlet inserts and pouches is very limited, the specifications are unknown or, at best, too vague to be reassuring and meaningful, and do not provide treatment or removal of many of the most dangerous pollutants that can be expected to run off in stormwater from the facility and its related roadways and access areas.

All stormwater piping and related BMPs must be shown on the plans for the public to view and understand. Details about how the isolation flap will be operated must be disclosed to assure remote operation at all times based on alarm sensors and other monitoring devices. DRN does not consider the capacity storage of two truckloads of liquid (approximately 15,000 gallons) by the flap device to be sufficient. The size should be based on a reasonable scenario such as how many tank trucks are on the site at one time, in case of a traffic accident involving all on site trucks. What is the rationale for the two truck capacity? What kind of tank will contain the material captured and how will it be accessed in an emergency? These details should be required by DEP to be explicitly stated so they can be included in the permit. The isolation flap seems to only be provided at Inlet IN-4, which is upstream of the Outfall No. 001 discharge to the quarry pond (Sediment Basin #2) so is of limited value in terms of preventing catastrophic release of pollution on the property. How will other events such as a large fluid release be contained and why isn't this isolation valve device and storage being provided at all inlets/discharges?

Outfall No. 007 BMPs:
The proposed trench drain does not provide any information about how the collected runoff will be filtered to remove pollutants from this drainage area. The direct drainage through a pipe with riprap discharge point can readily become a conduit for pollution. DRN opposed this trench without an effective BMP to remove all pollutants.

PPC Plan Requirement and BMPs:
The PPC Plan with the SPCC Plan must be provided with a redrafted permit for the public's review and comment. This plan is of the utmost importance to prevent accidental releases and events from causing pollution through stormwater runoff.

The inundation area that would be created in a storm or flood event for the Emergency Spillway must be developed and mapped and made public for public review and input.

• Part C.VI.C condition expanded to allow submittal of a Standard Operating Procedure (SOP) for discharge of uncontaminated precipitation collected in the thermal heater containment areas.

Secondary Containment Area Precipitation SOPs:
DRN considers it essential that the Containment Area runoff be contained and routed through to the wastewater silo or a holding tank so that this waste can be delivered to an approved waste treatment facility. The secondary containment that catches precipitation is supposed to also catch spills and leaks of pollutants and can be expected to contain multiple dangerous pollutants that will not be treated by the stormwater BMPs. DRN notes that the applicant's request to remove pollution control (i.e. TDS) due to "…factors unrelated to SBHRC" is further evidence of the unmanageability of the co-use of this site by GCSL and GKEDC and must be denied. The requirement for no TDS to be discharged to the receiving waters that are protected by state regulation must be adhered to through control at the site that removes all secondary

containment fluids off site for proper disposal. The SOPs to accomplish the required collection, treatment and prevention of pollution must be produced in a redrafted permit with the SOPs available to the public for review and input. They cannot be added as after-the-fact conditions with the permit and must be part of the public process.

Thermal Heater Containment Area:
There is no evidence that the thermal heater will not contribute pollutants to the drainage area in which it is located. All collected precipitation from the containment area for the thermal dryer and the thermal oil pad must be taken off site after storage in holding tank or in the wastewater silo. SOPs that fully characterize the constituents in the thermal heater and oil pad are essential for protective measures to be instituted to prevent pollution from these locations/operations. These must be produced in a redrafted permit with the SOPs available to the public for review and input.

Use of Basin No. 2 for firefighting or other uses:
DRN opposes the use of the water from the quarry pond (Sediment Basin #2) unless water quality testing of the waterbody is accomplished at baseline (background conditions, current) and continuously to assure acceptable water quality. This is essential because the pond is directly connected to groundwater and to the Waltz Creek and Little Bushkill Creeks through the groundwater flows from the pond to surface water. It is essential that discharge of water uses from the pond water be kept from entering the creeks but DEP's proposal to attempt to limit the flow of water used for dust control, firefighting, or other purposes to the surface drainage areas to Waltz Creek and Little Bushkill Creek is not protective enough. The groundwater connection from the pond (Sediment Basin #2) to the creeks and the need to protect the quality of groundwater that is impacted by the use of the pond as a sediment basin must also be recognized. Pollution must be prevented from entering the pond. The quality of the pond water that would be withdrawn and used must be fully assessed now and throughout the life of the facility. This is also required today for the current operations of the GCSL and GKEDC.

DRN additionally states that alternative water sources for these purposes must be tested and characterized and deemed clean in order to be applied where it will runoff into the pond and/or streams.

DRN points out that explosions and fires at this proposed facility must be prepared for by emergency response and fire officials. Explosions and fires have occurred and continue to occur at Synagro sludge facilities, raising substantial safety issues. As recently as August 2 of this year a Synagro "…machine used to dry wastewater sludge and turn it into pellets" in Stamford, Connecticut exploded, sending three people to the hospital. (https://m.stamfordadvocate.com/local/article/Explosion-at-Stamford-Water-Pollution-Control-14275125.php).

Here are some reports of other Synagro incidents:
2003-2005 Synagro is the parent company of the New York Organic Fertilizer Company. In 2009:
"(February 5, 2009) - Attorney General Andrew M. Cuomo today announced he is suing the New York Organic Fertilizer Company (NYOF Co) and its parent company, Synagro Technologies, Inc. (Synagro), to force their South Bronx facility to end persistent noxious odors that have plagued the surrounding Hunts Point community for years. The lawsuit charges that odors emanating from the facility have created a public nuisance under New York State law." (https://ag.ny.gov/press-release/attorney-general-cuomo-sues-south-bronx-fertilizer-company-end-noxious-odors-threaten)

“Last summer, residents of Hunts Point in the Bronx celebrated a hard-fought victory: -NYOF Co, the company running a hugely odoriferous sewage-to-fertilizer operation on Oak Point Avenue, lost its contract with the city and shut down its factory.
But recent moves by the New York City Department of Environmental Protection could yet undo that triumph. The agency began accepting proposals late last year for new programs to treat biosolids—that is, sewage. One of the companies eager to participate is none other than Synagro Technologies Inc., NYOF Co's corporate parent, which wants to build a new sewage-treatment facility at the site of its old plant. There is little that area residents can do at this point but hold their noses.”
(https://www.crainsnewyork.com/article/20110116/SUB/301169986/bronx-stews-over-sewage-treatment-proposals)
2003 - 2007 A series of explosions and fires at the Sand Island facility "In 2003, the City Council began deliberations on a resolution to grant a Special Management Area Use Permit for Synagro to construct and operate the digester at the Sand Island Wastewater Treatment Plant. That year we were informed of a large explosion at a Synagro-owned facility in the Bronx that sent an unpleasant wave of burnt fecal odor into surrounding communities and forced the closure of several city blocks. Since I last looked into this facility, I learned that it suffered at least four fires since March 2003." Honolulu HI
May 15, 2006 “Water plant fire stirs up foul odor in Hagerstown” by MARLO BARNHART.
“Smoke with a smell described by fire officials as "unsavory" blanketed parts of Hagerstown Tuesday night when a fire broke out in the pelletizer machinery at the Hagerstown Water Pollution Control plant off Frederick Street. The original call for the fire came in at 10 p.m. at Synagro, formerly known as Wheelabrator, which is the contracted operator of the city's pellet plant at 1 Clean Water Circle. As firefighters arrived, more calls began coming in to Washington County Fire and Rescue Communications from residents reporting the smell of smoke in their homes.”
March 13, 2007 “An explosion Tuesday tore a hole in the roof of a building where Synagro turns sludge into fertilizer for the City of Hagerstown at a water-treatment facility on Frederick Street." "They used to sell it, but the market for sales now has kind of dried up," Barton said." Hagerstown MD
July 26 2016 “The incident occurred at the Synagro facility, which converts sludge from the neighboring Patapsco Waste Water Treatment Plant into pellets for fuel and agriculture”, Baltimore Department of Public Works spokesman Jeffrey Raymond said. South Baltimore MD
July 26 2019 “Incident Description: On August 2, 2019, the Stamford Advocate reported an explosion at a wastewater treatment facility in Stamford, CT. One area resident reported hearing a noise that felt like an “earthquake” because his home shook. Although there was no fire, firefighters joined EMS at the scene. The plant’s Director of Administration later said that the explosion occurred in a building where a machine used to dry wastewater sludge and turn it into pellets is located. A contractor had turned off a fan to make a repair and when it was powered back on, the explosion occurred.” https://dustsafetyscience.com/dust-explosion-stamford-connecticut/

The danger of explosion and fire obviously must be prepared for at the SBHRC. Synagro’s operations of this facility pose new threats to residents and the region. This must be prepared for by proper training, the provision of required equipment, emergency notification procedures and response plans such as evacuation planning in the emergency response plan. The public must be aware of this plan and its details and have the opportunity to comment on the proposed plan through the official public participation process for this proposed NPDES permit.

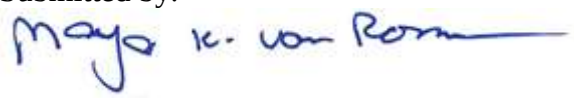
Wastewater Hauling Trucks:
It appears that the "possum belly" trucks may not be approved for transporting sewage sludge and the wastewater produced by the SBHRC by PennDOT, other state transportation agencies or interstate highways. This is a key issue that must be resolved because without these trucks being approved in all the states involved and on interstate highways, the project cannot proceed as planned.

In closing

DRN will submit separate comment on the proposed Air Quality Plan for the SBHRC. We want to state on this record that we are very concerned about the deposition of pollutants from air emission from the dryer plant, the trucks and other motor vehicles, and the emissions from the stored and transported sewage sludge and biosolids and other equipment operation at the SBHRC. The deposition on the land, vegetation, and water in the air shed of the facility has the potential to cause contamination of the environment. We will also address our concerns about the impacts to the health and safety of the people in the impacted region, particularly in Pen Argyl, in our separate Air Quality Plan comments.

Delaware Riverkeeper Network requests that the Department withdraw the redrafted NPDES permit for a new discharge of treated Industrial stormwater from the proposed Slate Belt Heat Recovery Center.

Submitted by:



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Attachment: Comment from Delaware Riverkeeper Network to PADEP Re: PA0276120, Storm Water, SIC Code 4953, Slate Belt Heat Recovery Center LLC, November 21, 2018

November 21, 2018 **Electronically submitted c/o: Colleen Connelly**, coconnolly@pa.gov

Pennsylvania Department of Environmental Protection
Regional Clean Water Program Manager
2 Public Square
Wilkes-Barre, PA 18701-1915

Re: PA0276120, Storm Water, SIC Code 4953, Slate Belt Heat Recovery Center LLC, 435 Williams Court, Baltimore, MD 21220-2888. Facility Name: Slate Belt Heat Recovery Center (SBHRC). This proposed facility is located in Plainfield Township, Northampton County

Delaware Riverkeeper Network submits these comments on the draft National Pollution Discharge Elimination System (NPDES) permit (Permit No. PA0276120) to authorize the discharge of stormwater associated with industrial activities to waters of the Commonwealth from a biosolids processing facility to be constructed on Pen Argyl Road in Pen Argyl, Northampton County, by Slate Belt Heat Recovery Center, LLC of 435 Williams Court, Suite 100, Baltimore, MD, 21220.

The Pennsylvania Department of Environmental Protection (PADEP) states in the notice in the Pennsylvania Bulletin Sept. 29, 2018 VOL. 48, NO. 39: "The application is for a new NPDES permit for a new discharge of treated Industrial stormwater. The receiving stream(s), Waltz Creek and UNT Little Bushkill Creek, are located in State Water Plan watershed 1-F and is classified for Cold Water Fishes, Migratory Fishes, High Quality—Cold Water, and Migratory Fish, aquatic life, water supply and recreation. The discharge is not expected to affect public water supplies." PADEP provides a list of contaminants that may be included in the final permit and states that the design flow is 0 MGD.

Delaware Riverkeeper Network objects to the draft permit and requests that the permit be withdrawn based on our concerns stated herein.

It is stated in Synagro's application for the industrial stormwater discharge permit that the project "meets the provisions of zoning ordinance" or that it has received zoning approval from the Township. (PADEP General Information Form, p. 3.) This is obviously false since Plainfield Township Planning Commission hearings are ongoing and there are contested zoning issues. The draft permit should be withdrawn by PADEP on these grounds.

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It is unclear precisely how PADEP will assure that the stormwater discharge doesn't degrade Little Bushkill Creek and Waltz Creek, both High Quality (HQ) streams, which are protected from degradation under PADEP regulations. The limits for the parameters listed in the draft permit are unclear and do not include many of the pollutants that can be found in sludge and its process wastewater.

In the application to PADEP for this permit, Synagro submitted only partial, unclear, or, in some cases, invalid information about the proposed facility:

> Sediment basin #2 is described as an "existing, permitted, non-discharging, engineered stormwater control pond" and "does not connect with Little Bushkill Creek" (NPDES permit app., March 2018, Module 1, p. 3). However, the draft permit is based on invalid information about sediment basin #2. Plainfield Township filed an appeal with PADEP on September 11, 2018 contesting the classification of the basin as described above based on 17 objections. The draft permit should be withdrawn until this legal matter as to whether the sediment basin is legally "permitted" is resolved.
>
> Sediment basin #2 is a former quarry pond that discharges to groundwater and is hydrologically connected to groundwater. The groundwater is in the headwater drainage area of the Little Bushkill Creek watershed. The former quarry pond may also be hydraulically connected to the Waltz Creek watershed. The applicant's statement that sediment basin #2 is "non-discharging" is inaccurate.
>
> The application materials claim that only "uncontaminated runoff" will be sent to the quarry pond/sediment basin #2 but this description does not consider all the contaminants that could be in the stormwater that may be carried there by all activities at the site, regardless of whether the stormwater originates in the designated "contaminated" or "uncontaminated" stormwater runoff areas.
>
> There is no explanation of how it was concluded that the stormwater from the site will not be contaminated except to state that areas where the sludge processing activities will take place will collect stormwater to be sent to the wastewater silo and then trucked offsite, not to the basin. The entire site and entrance area is an industrial site and should be controlled as such.
>
> The application materials describe the vegetated swale that is proposed around a portion of the quarry pond/sediment basin #2 as a "best management practice". But it is not demonstrated that the swale will remove the contaminants in the stormwater that may be carried there; it is simply assumed. (NPDES permit application, March 2018, Introduction, p ii.).
>
> The application materials state that the drying units will use waste heat from the Green Knight landfill gas-powered turbines and go so far as to say "The proposed project location was chosen based on the waste heat source provided" by Green Knight. This is misleading at best because there is no analysis that shows how much landfill gas will be produced or for how long it will be used. Imported natural gas is identified as the alternative fuel to be used and there is already a gas pipeline in the vicinity and a new one is part of the project proposal. (NPDES permit application, March 2018, Introduction, p i.)

There are other issues and questions raised by the stormwater discharge permit due to lack of information or lack of sufficient detail:

The extent and frequency of monitoring at Outfall 001, where the swale will convey stormwater, is unclear. It is stated in the application materials that it will be sampled once at the startup of the operation and at least semi-annually after that, based on permit requirements that are not spelled out. The parameters to be tested for are listed in the application as "oil and grease, BOD5, COD, TSS, Total Nitrogen, Total Phosphorus, and pH", and as required in the NPDES permit. (MODULE 1 Supplemental Narrative - Anti-Degradation, Slate Belt Heat Recovery Center, p.1-2.) There is no mention of required monitoring for contaminants that are known to be contained in sludge and the process wastewater.

It is important for the public and municipal officials to know what is in the wastewater that is being produced, stored, transferred, and trucked off site and through the community's roadways and, in turn, what contaminants could be contained in stormwater produced at the site.

It is also not stated why monitoring won't be continuous. Continuous monitoring is warranted considering the irregular and changing make-up of the contaminated materials from a wide variety of sludge sources that will be entering and leaving the facility due to the different waste streams produced by the contributing sewage facilities. How will the routine spills and runoff that occur at an industrial operation of this intensity - at such a crowded location with a variety of dangerous pollutants - be discovered and prevented from entering the pond/basin and, in turn the groundwater and the Little Bushkill and Waltz Creeks, if there is no continuous monitoring system for a comprehensive list of contaminants to alert for pollution? Scientific papers and reports are available that identify some of the known contaminants in sludge. These contaminants could be in the sludge materials that are imported to the site and could make their way into stormwater runoff.

For instance, a study published in 2011 analyzed perfluorinated chemicals (PFCs) in land-applied biosolids coming from a sewage treatment plant in Decatur, Alabama. Local farmers had applied it to agricultural fields in Lawrence, Morgan, and Limestone counties in Alabama. (Lindstrom, A.B. Strynar, M.J., Delinsky, A.D., Nakayama, S.F., McMillan, L., Lieblo, E.L., Neill, M., & Thomas, L. (2011), "Application of WWTP Biosolids and Resulting Perfluorinated Compound Contamination of Surface and Well Water in Decatur, Alabama, USA. *Environ. Sci. Technol.*, 2011", 45 (19), pp 8015–8021. Retrieved from https://pubs.acs.org/doi/abs/10.1021/es1039425) Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), two highly toxic PFCs, were detected in ground and surface water samples collected there, some at very high concentrations, above the EPA's health advisory levels. These chemicals, linked to cancer and other diseases, don't break down in the environment and, when ingested, build up in people's blood, increasing the risk of developing adverse health effects.

The applicant plans to produce biosolids from the sludge at this facility. Biosolids, even Class A biosolids, are known to contain dangerous contaminants, as discussed in scientific literature.

Over 300 organic chemicals from a diverse range of classes of compounds have been identified in biosolids. The most common organic contaminants found in biosolids are phthalic acid esters (PAEs), polycyclic aromatic hydrocarbons (PAHs), chlorobenzenes (CBs), polychlorinated

biphenyls (PCBs), organochlorine pesticides (OCPs), chlorophenols, polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs), organotin compounds, brominated flame retardants, surfactants, pharmaceuticals and personal care products, and natural and synthetic hormones. (Haynes, R.J., Murtaza, G., & Naidu, R. (2009), Chapter 4 Inorganic and Organic Constituents and Contaminants of Biosolids: Implications for Land Application, *Advances in Agronomy***,** Volume 104, Pages 165-267. Retrieved from https://www.sciencedirect.com/science/article/pii/S0065211309040048).

Other organic contaminants in biosolids include polychlorinated alkanes (PCAs), polychlorinated naphthalenes (PCNs), polybrominated diphenyl ethers (PBDEs), triclosan (TCS), triclocarban (TCC), benzothiazoles, antibiotics, synthetic musks, bisphenol A, quaternary ammonium compounds (QACs), steroids, and polydimethylsiloxanes (PDMSs). (Clarke, B.O., & Smith, S.R. (2010), "Review of 'emerging' organic contaminants in biosolids and assessment of international research priorities for the agricultural use of biosolids", *Environ Int*. 2011 Jan; 37(1):226-47. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/20797791). Contaminants are from medical, industrial and household sources. (Jenkins, S.R., Armstrong, C.W., & Monti, M.M. (2007), "Health Effects of Biosolids Applied to Land: Available Scientific Evidence", Virginia Department of Health. Retrieved from http://www.vdh.virginia.gov/content/uploads/sites/12/2016/02/Biosolids-1.pdf)

Heavy metals found in biosolids include arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, selenium, and zinc. (Haynes, R.J., Murtaza, G., & Naidu, R. (2009), Chapter 4 Inorganic and Organic Constituents and Contaminants of Biosolids: Implications for Land Application, *Advances in Agronomy***,** Volume 104, Pages 165-267. Retrieved from https://www.sciencedirect.com/science/article/pii/S0065211309040048) Synthetic fibers or "microplastics" that detach from clothing during laundering, including polyester, nylon, and rayon, are non-biodegradable, are found in sludge and persist in biosolids. (Zubris, K.A.V., & Richards, B.K. (2005) "Synthetic fibers as an indication of land application of sludge", *Environmental Pollution*, (138) 201-211. Retrieved from https://www.lehigh.edu/~incheme/pdfs/papers%20and%20projects/April%202,%202005%20Synthetic%20Fibers%20as%20an%20Indicator%20of%20Land%20Application%20Sludge%20-%20Elsevier%20-%20Zubris.pdf)

The antibacterial pesticides triclosan and triclocarban are found in high concentrations in biosolids because 95% of their uses are in consumer products that are disposed of down residential drains. (Shinbrot. X. (2013), "Biosolids or Biohazards? *Pesticides and You*, Vol. 32(3)". Retrieved from https://www.beyondpesticides.org/assets/media/documents/infoservices/pesticidesandyou/documents/Biosolids.pdf)

Four major types of human pathogens can be found in biosolids: bacteria, viruses, protozoa, and helminths. Potential transmission pathways of human pathogens from biosolids include air, soil, and water. In addition, it is possible that vectors, such as flies, could transmit pathogens from biosolids. Dangerous bacteria found in biosolids includes *E. coli, Listeria monocytogenes, Staphylococcus aureus, Helicobacter pylori, and Legionella.* Protozoan parasites found in biosolids include Cryptosporidium, Giardia, and Microsporidia. Helminth worms found in biosolids include Ascaris lumbricoides, Trichuris trichiura, Hymenolepsis nana, Taenia saginata, Taenia solium, Necator americanus, Ascaris suum, and Toxocara canis. (Jenkins, S.R., Armstrong, C.W., & Monti, M.M.

(2007), "Health Effects of Biosolids Applied to Land: Available Scientific Evidence", Virginia Department of Health. Retrieved from http://www.vdh.virginia.gov/content/uploads/sites/12/2016/02/Biosolids-1.pdf).

There are also certain properties or materials that are very dangerous in sludge that can be carried into the wastewater, as well as the final biosolids product. It is known that sewage sludge contains detectable amounts of radioactive materials. In addition, sewage flowing into a POTW can include anthropogenic materials exempt from regulatory control, such as excreta from individuals undergoing medical diagnosis or therapy, and discharges of limited quantities of radioactive materials from some licensees of the U.S. Nuclear Regulatory Commission (NRC) and NRC Agreement State licensees. Other sources of radioactive materials that may enter sewage collection systems include stormwater runoff, groundwater, surface water, residuals from drinking water treatment plants, and waste streams from certain industries (e.g., ceramics, electronics, optics, mining, petroleum, foundries, and pulp/paper mills). Some states have identified cases where radium from drinking water treatment residuals has been concentrated in sewage sludge. (U.S. Nuclear Regulatory Commission (2004), SCORS Assessment of Radioactivity in Sewage Sludge: Modeling to Assess Radiation Doses, Sewage Sludge Subcommittee. Retrieved from http://www.iscors.org/pdf/FinalDoseModeling.pdf)

Will the Department investigate the presence of these chemicals, pathogens, and radioactive materials to be certain that these toxic compounds are not being spread into the local environment and community through the stormwater that would be generated by the facility?

Considering the potential for these pollutants to spill or wash into the stormwater generated at the facility, how the stormwater will be prevented from contaminating sediment basin #2, the groundwater, and the watersheds of Little Bushkill Creek and Waltz Creek is of great importance. The application and draft permit does not adequately address these issues, supporting the conclusion that the draft permit must be withdrawn.

An enormous amount of truck traffic enters and leaves the Grand Central Sanitary Landfill through the State Rt. 512 entrance every day during operating hours (6:00 am to 6:00 pm). Sewage sludge and garbage is currently trucked into the landfill for disposal on the same road through this entrance. Forty truck trips per day are planned to serve the proposed sludge drying plant and another ten truck trips per day to carry the "biosolids" pellets to market, adding to the already heavy truck traffic.

Runoff drains and/or flows to Waltz Creek or Little Bushkill Creek, both High Quality, Cold Water streams protected from degradation by state regulation. There is no discussion about the potential impacts of polluted runoff from this additional truck traffic and no proposed management practices to prevent polluted runoff to these waterways and their watersheds from the cumulative day-to-day truck traffic on this roadway and entrance area, despite the dangerous and, in some cases, hazardous materials being hauled through these locations.

There will be air emissions from this proposed facility's operations, as stated in the application materials, as well as from diesel truck traffic. (PADEP General Information Form, p. 6.) How will the deposition of air emissions to the ground surface and water be measured and controlled in the stormwater runoff?

It is stated in the application materials that there will be no storm or wastewater infiltration to groundwater within ½ mile of any "public water supply well, spring or infiltration gallery". However, the quarry pond/sediment basin is hydraulically connected to groundwater. Furthermore, it is unknown if there is a spring, well, or other infiltration mechanism within ½ mile so this statement is unsubstantiated.

Delaware Riverkeeper Network requests that the Department withdraw this draft NPDES permit for a new discharge of treated Industrial stormwater from the proposed Slate Belt Heat Recovery Center.

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