

**Urge NJDEP and Governor Murphy
to DENY WATER PERMIT APPLICATIONS
for the Northeast Supply Enhancement Project (NESE)**

Send written messages until May 2, 2019.

This is the end of the written comment period.

Comment samples are on the following pages by topic area.

NJDEP has to make their decision on the water permit applications by June 5, 2019.



Look for online petitions to sign. You can personalize the online letters. One can be found at:

<https://secure.foodandwaterwatch.org/act/deny-nese-permits>

- ✓ Let them know that you are counting on the NJDEP to scrutinize the applications and hold Williams-Transco to the high environmental requirements of NJ with the expectation that the water permits will be denied.
- ✓ Tell them why you care. Express your concerns that are relevant to the water permit applications.
- ✓ You can also express your disappointment that the air pollution permit was already given for the NESE Project & let them know of your concerns about the health impacts of the air pollutants from Compressor Station 206.
- ✓ The goal is to have them be partners in protecting our air, water, environment and wildlife.

THE BALL IS IN GOVERNOR MURPHY'S COURT!

NJDEP and Governor Murphy need to hear from you.

- ◆ NJDEP can stop the NESE Project by denying the water permit applications.
- ◆ Thus, comments should make points about the risks and dangers to water quality and endangered or threatened species.

**NJDEP can stop the assault on our health, safety
and the environment posed by the NESE Project.**

**On the next pages are points for
written or emailed comments to be submitted/sent
up until May 2, 2019.**

For Applications for Coastal Wetland, Flood Hazard Area, and Waterfront Development permits:

1. Concerns for the Division of Land Use
2. Threats to Wetlands, Stormwater Runoff and Threatened/Endangered Species' Foraging Habitats
3. Risks to Water Supply and Groundwater
4. Construction Threats to Water Quality in Raritan Bay & the Shoreline Economy
5. Threats to Marine Mammals and Sea Turtles
6. Threats to the Benthic Community (including Shellfish, Horseshoe Crabs) and the endangered Atlantic sturgeon
7. Threats to State Goals & Effect of Climate Change and Emissions
8. NESE is not in the Public Interest
9. Questionable Need for this Added Gas in New York

For Dewatering Permit applications: Issues about -

1. Contaminated Groundwater
2. Dewatering when constructing in Acid Producing Soils
3. Hydrology
4. Data about and from borings along the Madison Loop
5. No Dewatering Application for the Compressor Station 206 Site
6. Safety Concerns

Written comments can be sent snail mail or by email.

Written Comments should be sent, by May 2, to:

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Send copies of comments to:

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Office of the Governor
PO Box 001
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Constituent.relations@nj.gov

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401 East State Street - 7th Floor, East Wing - PO Box 402
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REGARDING: APPLICANT: Transcontinental Gas Pipe Line Company LLC
PROJECT: Northeast Supply Enhancement (NESE) Project
FILE NUMBERS: NJDEP File No. 0000-01-1001.3 CSW180001 Coastal Wetland, FHA180001,
FHA180002 Flood Hazard Area, WFD180001, and WFD180002 Waterfront Development

NJDEP HEARING DATE: 03/18/19

Land Use Regulations – Concerns

Under the Federal Clean Water Act, NJDEP has the right and the duty to protect the quality of our local waters. NJDEP needs to conduct the stringent review of Transco's NESE Project that FERC failed to perform.

- (1) Williams/Transco has failed to satisfy the minimum requirements of an **alternatives analysis and impact assessment** as set forth in New Jersey's Freshwater Protection Act Rules and EPA's Clean Water Act Section 404(b)(1) Guidelines:

Alternatives Analysis for Site of Compressor Station 206:

- Williams/Transco selected a site with significant wetland impacts.
- Williams/Transco did not first avoid and then seek to minimize impacts.
- Williams/Transco has not demonstrated that site could not be located at another location that would completely avoid impacts to freshwater wetlands.

Impact Assessment: Williams/Transco has not sufficiently identified permanent, temporary, and secondary/indirect impacts.

- For example, Williams/Transco fails to correctly identify the forested wetland transition area at Milepost 10.5 -- with slopes in excess of 35% -- as a permanent impact.
- **Steep Slopes:** Williams/Transco has failed to include any proposed elevation contours on the plans to Land Use, but a diagram presented in the applications for Dewatering permits for Old Bridge and Sayreville (3/15/18), listed as Figure 4 and Figure F.1, indicates that there are steep slopes from MP 9.98 to 10.04 and from MP 10.46 to 10.68 that descend to wetlands.

It is impossible to determine the extent of the grading contemplated by Williams/Transco. It is important to point out that there is no such thing as "temporary regrading", and Williams/Transco must show the horizontal and vertical extent of the proposed grading, especially in regulated areas such as wetland transition areas and riparian zones, in order to realistically determine primary as well as secondary impacts as well as concerns relative to soil stabilization. Any areas of transition area subject to grading should be considered by the NJDEP to be a permanent impact.

- **Acid Producing Soils:** Williams/Transco fails to mention to FERC or the NJDEP the suspected presence of geologic formation of pyritic clay – high acid (pH3) producing soils at the Madison Loop that would not only create a risk from HDD to wetlands and steep slope stability, but introduce new risks to pipeline integrity. Low pH soils are more corrosive to pipelines. Upon exposure to air from trenching, the sulfide minerals in the clays oxidize and produce sulfuric acid. Once these acid producing clays are exposed to air, they will be difficult to stabilize due to the inability of plants to grow and thrive in these soils.

Importantly, the absence of plants in these areas is frequently related to aluminum toxicity driven by the low pH levels. The incomplete revegetation of this area was noted as apparent in Ruth Foster's 3/11/19 letter to FERC, citing the NJDEP's aerial photography logs that were examined pre-pipeline (1961), and post-construction (1974 through 2017) along the pipeline route that parallels NESE's proposed Madison and Raritan Bay Loops.

Williams/Transco's application is incomplete, and they need to further analyze the soils in the area and potential impacts.

- **Hydrology:** Any modification to wetland areas has the potential to modify groundwater flow paths and thus modify the discharge that currently drives the hydrology of the wetlands. Upland construction-related discharge changes at mileposts 10.6-10.9 could push beyond the limits of the wetlands system, and dewatering the coastal wetland at milepost 11.48 will exacerbate compaction and put tidal wetlands at risk.

(2) **HDD is not a perfect technology:**

- The NJDEP well knows from Williams/Transco's other failures in our state that HDD is not infallible and HDD failure and "inadvertent discharges" of drilling mud are a risk. In addition, pipeline disasters in other states underscore the need for NJDEP to be concerned. For example, the Rover pipeline had a spill of over 5 million gallons of drilling fluid – suffocating and permanently destroying wetlands. In Pennsylvania, the Mariner East pipeline has received a \$12.6 million penalty and a permit suspension as a result of dozens of violations.
- Until such time as New Jersey can update its regulations to address HDD failure, the NJDEP can, in accordance with N.J.A.C. 7:7A-13.2, establish permit conditions that require a contingency plan to assure compliance with "all applicable requirements of the Federal Act, the Freshwater Wetlands Protection Act, the Water Pollution Control Act, this chapter and other applicable rules or regulations." Simply put, Williams/Transco must have an emergency HDD failure plan in place that meets all NJDEP standards.

- (3) NESE's linear development plans do not appear to meet the **goals of the New Jersey Coastal Management Program and the Coastal Zone Management Rules** noted in N.J.A.C. 7:7-1.1(c) under (1) healthy coastal ecosystems; (2) effective management of ocean and estuarine resources; (6-iv) promote public health, safety and welfare; and (6-vi) promote and implement strategies that eliminate or reduce risks to human health and the ecosystem from coastal activities.
- (4) Considering the inappropriate and/or incomplete data about soils and geology constraints for the proposed retention basin and the tie-in pipeline at Compressor Station 206, no study of avoidance and mitigation for trenching through acid producing soil along the Madison and onshore Raritan Bay Loops, and incomplete consideration of alternative sites for Compressor Station 206 that would not involve a wetland or have less adverse impact on the aquatic ecosystem, the permit applications for the NESE Project do not meet all the **conditions listed in N.J.S.A. 13:9B-9, the Freshwater Wetlands Protection Act.**
- (5) Considering the identified issues with the design of the infiltration basin at the Compressor Station 206 site, lack of examination of erosion possibility from constructing through acid producing soil along the Madison and Raritan Bay Loops, and lack of consideration of the immediate and long-term impacts from all of NESE's pipeline construction, the applications for water permits for the NESE Project do not meet the **Goals of the Stormwater Management Act Rules** for stormwater management planning found at N.J.A.C. 7:8-2.2(a)
1. Reduce flood damage, including damage to life and property;
 2. Minimize, to the extent practical, any increase in stormwater runoff from any new development;
 3. Reduce soil erosion from any development or construction project;
 4. Assure the adequacy of existing and proposed culverts and bridges, and other instream structures;
 5. Maintain groundwater recharge;
 6. Prevent, to the greatest extent feasible, an increase in nonpoint pollution;
 7. Maintain the integrity of stream channels for their biological functions, as well as for drainage;
 8. Minimize pollutants in stormwater runoff from new and existing development in order to restore, enhance and maintain the chemical, physical, and biological integrity of the waters of the State, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial and other uses of water; and
 9. Protect public safety through the proper design and operation of stormwater management basins.

NESE Threatens Wetlands, Stormwater Runoff and Threatened/Endangered Species' Foraging Habitats

Both the Compressor Station 206 and Madison Loop are considered to be “major developments” under the Stormwater Management rules, and the entire NESE Project needs to be in compliance with the Stormwater Management rules.

- Sensitive wetlands would be harmed from construction of the NESE Project. The Madison Loop is planned to cross eighteen (18) wetlands. Of these, six (6) are classified as “exceptional” resources, two (2) are “ordinary”, and ten (10) are “intermediate”.
- Onshore pipeline construction fluid releases could impair nearby wetlands.
- Horizontal Directional Drilling (HDD), which has the highest likelihood of drilling fluid releases, would impact the wetlands on the Madison Loop. One HDD entry point at Milepost 11.48 is in an “exceptional resource value wetland” within 30-feet of a tidal stream. Soil compaction from construction vehicles is made worse by dewatering, and dewatering would likely be needed at this site. Additionally, HDD failures are known to happen, as was found with Williams/Transco’s Leidy to Long Island Expansion Project in NJ.
- Issues about construction through/near acid producing soil, wetlands/watercourses, contaminated/toxic sites, and habitat for threatened/endangered species, along with stormwater management at the proposed Compressor Station 206 site still need to be addressed.

(1) **Acid producing geologic materials** of both the Raritan and Magothy formations would be encountered when constructing the Madison Loop and onland Raritan Bay Loop trenches and HDDs.

- For construction of the HDD segments of the Madison Loop, the NJDEP noted that Williams/Transco would not be able to segregate the acid producing from non-acid producing sediments. According to the 3/11/19 letter to FERC from Ruth Foster of the NJDEP, a notation was made that this meant that “all of the installation sediment cuttings should be considered acid producing here. All the HDD borings indicated Magothy clay at depths the HDD will transverse.” Stabilization issues were also noted as a potential concern.
- It is noteworthy that Williams/Transco was aware of concerns about acid soils along the route of the Madison Loop from their Application (7/8/15) and Environmental Assessment (4/4/16) for the New York Bay Expansion Project, CP15-527, but the following were not noted in their Applications to FERC or NJDEP for the NESE Project.

In their Application for CP15-527, Williams/Transco wrote the following in Section 7.4.6 Acid Producing Soils -

The geologic units in the New Jersey Coastal Plain province which are capable of producing acid conditions in the soil included the Raritan, Magothy, Merchantville, Woodbury, Englishtown, Marshalltown, Navesink, Red Bank and Kirkwood Formations. The Project area for Station 207, the Morgan M&R Station, and the LNYB Replacements are located on the Magothy formation, an acid producing soil (NJGS, 2009).

Prior to ground breaking in the Project areas, pH testing will be needed to determine if acid producing soils are present and if so, to define the limits of acid soils in the excavation areas. Because of the ability of acid producing soils to impact water quality and alter natural communities, additional mitigation measures may be required, including topsoil dressing and extensive liming. In addition, a 150-foot riparian zone is required on any segment of water

flowing through an area that contains acid producing soils. Should pre-construction testing confirm the presence of acid-producing soils this state regulated buffer will be implemented; however, if not present, Transco will coordinate with the New Jersey Department of Environmental Protection (NJDEP) to determine if the standard 50-foot buffer can be implemented at the one stream crossing and the adjacent intermittent drainages situated onsite.

In the Environmental Assessment for CP15-527, FERC wrote in 2.2 Acid-Producing Soils (pg. 15) - The Project area for Compressor Station 207, the Morgan M&R Station, and the LNYB Replacements are located on the Magothy formation, an acid-producing soil (NJGS, 2009). Prior to construction in the Project area, Transco would conduct pH testing to determine the location of acid-producing soils. Because of the ability of acid producing soils to impact water quality, alter natural communities, and impact the facilities, if acid-producing conditions are encountered Transco may employ mitigations measures including topsoil dressing and extensive liming.

In a review of documents for the CP15-527 Project on the FERC docket, there was nothing to indicate that Williams/Transco actually completed pH testing before replacing the pipeline in Old Bridge/Sayreville for the New York Bay Expansion Project.

(2) Data about and from borings along the Madison Loop raise concerns that complete information about impacts to/from wetlands, watercourses, and acid producing soils was not provided to NJDEP.

In their application, AECOM noted that borings were not completed along all sections of the Madison and Raritan Bay Loops. Most borings were completed to provide information to Laney about possible HDD construction.

AECOM noted that they did not complete hydrometer testing or permeability testing as part of their study of borings, and they relied solely on soil classifications for calculations. This was done even though they also acknowledged that the aquifer thickness contributing to the flow is generally unknown, and the anticipated soil conditions in the area are heterogeneous. Even recognizing this, they used average permeability coefficients from the separate soil classifications.

- No borings or reports from borings done for this Project or from prior projects in the area of the Madison Loop were provided as part of the NESE applications to NJDEP from MP 8.57-8.9, 9.11-9.27, and 9.29-9.59 where it was documented that construction would encounter wetlands and watercourses. Additionally, concerns about contamination from the Road Depot Garage Area 3-1 at MP 9.5 and from the E.I. DuPont DeNemours & Co. site at MP 9.21 and 9.32 were not addressed with analyses of borings in these areas.
- Borings B-1 and B-2 were said to have been completed at MP 10.5 and 10.6 by AECOM on April 26, 2016. Documents to NJDEP for the NESE Project indicated that borings B-1 and B-2 were completed by AECOM for the New York Bay Expansion Project's 42" pipeline replacements, to be constructed 25-feet from the existing 42" pipeline between MP 10.00-10.22, 10.30-10.30, and 10.38-10.42. However, no boring logs or lab results for these were provided for the NESE Project to NJDEP or FERC or in FERC documents for the New York Bay Expansion Project. Furthermore, confusion about the lack of data from the 4/26/16 borings B-1 and B-1 arose from logs from other B-1 and B-2 borings, listed as having been completed for a 2005 report from URS for Williams/Transco's Morgan Replacement – Crossway Creek crossing by the Marina, which were provided in documents to FERC and NJDEP for the NESE Project.
- No borings or reports from borings done for this Project or from prior projects in the area of the Madison Loop were provided as part of the NESE applications to NJDEP from MP 10.07-11.17, 11.29-11.79, and 11.81-12.00. Again, these areas cover wetlands and watercourses, and the pipeline

construction would cross areas of identified contamination such as from the Global Sanitary Landfill (MP 10.13-10.38), E.I. DuPont DeNemours & Co. site (MP10.05-10.31) and the identified Historic Landfills at Mileposts 10.17, 10.65-10.68 and 10.77.

- **Acknowledgement that More Data from Borings is needed:** On February 5, 2019, Williams/Transco applied to the NJDEP’s Land Use for permits to complete more geotechnical borings along the Madison Loop in PI No. 1219-04-0001.3; Activity No. CZM190001.

(3) Habitat for Threatened/Endangered Species and Construction Timing Restrictions

NESE’s proposed pipeline contains habitat for the State threatened osprey and black-crowned night heron as well as for the State endangered bald eagle. Applications to NJDEP did not address likely timing restrictions for this. In Ruth Foster’s 3/11/19 letter to FERC, she noted that dewatering activity cannot take place from January 1 to July 31 within foraging habitats for bald eagles, and no construction activity with heavy machinery can take place between December 5 and July 31 for the bald eagle area without prior Department approval. She also noted that no work on the pipeline is permitted between April 1 and August 15 in regulated habitat areas of the osprey and black-crowned night heron. Thus, any permits should stipulate these timing restrictions.

Foraging habitats for these birds were listed for the following areas along the Madison Loop and, for the onshore Raritan Bay Loop, at MP 12.15 for the bald eagle and the black-crowned night heron.

	Mileposts
State endangered bald eagle	10.10, 10.45, 10.64-10.70, 10.88, 11.44-11.63, 11.65, 11.77, 11.84
State threatened osprey	11.55
State threatened black-crowned night heron	11.55-11.58, 11.65-11.73, 11.76, 11.84

(4) Compressor Station 206: Stormwater Management Concerns

Plans for infiltration basins at the CS206 site have not yet been approved by NJDEP, and there are concerns that the subsoil here is not sufficiently permeable; the plans and supporting information are misleading or inaccurate at times; and the design appears to be too small to be effective.

- The stormwater basin design is undersized and will fail. Williams/Transco’s own geologic data shows that their engineers erred in their stormwater calculations by using the wrong soil type. Thus, they underestimated the amount of runoff the site will create.
- Drainage of Compressor Station 206 Site - Reports and plans don’t match up, and their calculations do not accurately reflect their plans. They used dimensions that favor positive drainage outcomes such as larger drain pipe diameters and steeper grades.
- Under New Jersey regulations, Williams/Transco’s berm design qualifies as a dam. But the current design submission does not meet NJ’s requirements for emergency spillway design flow.
- The bottom of the basin designs does not clear the required one-foot separation from the existing ground water. The bottom of both basins would be 282-feet, and the test pits show ground water at 282.4-feet. (It should be noted that the locations of all test pits are not even included on the latest revised design plans).

Additional issues:

- The groundwater table here is high, and bedrock is found shortly below ground level.
- Flooding at CS206 could impact the plumes of contaminated groundwater at Higgins Farm Superfund Site.
- There's no certainty about groundwater mounding & potential modification of contaminated plumes at the Higgins Farm Superfund Site.
- Site has flows into Carters Brook and other streams that empty into the Millstone River which goes to the Raritan River (a drinking water source).
- The Millstone Watershed is impaired already, and no new construction can impair it further.
- The plan for the infiltration basin could lead to periodic inundation which would likely result in stagnant standing water > optimal condition for mosquito breeding. It's doubtful that this could meet Stormwater Best Management Practices where there cannot be standing water after 72 hours.
- Forests help to address stormwater runoff, and destroying forested land to build the NESE Project would hinder this protection. Removal of 16.6 acres of forested land at the CS206 site creates lost benefit of absorbing stormwater & pollutants. Recovery of forested areas that are not permanently removed could take 50+ years.
- We are already currently impacted by flooding: How is this proposed industrial compressor station not going to further exacerbate our situation with respect to flooding?
- Typical stormwater runoff pollution consists of everyday items like trash and sediment. But I don't expect that typical stormwater quality approaches/devices address the unique water quality concerns and pollution presented by an industrial gas compressor station (e.g. These stations hold large tanks containing toxic gas waste condensation products). So how can we expect Williams/Transco's poor design to prevent runoff pollution from these sources?

NESE Poses Risks to Water Supply and Groundwater

Both the Compressor Station 206 and Madison Loop are considered to be “major developments” under the Stormwater Management rules, and the entire NESE Project needs to be in compliance with the Stormwater Management rules.

Construction of the NESE Project could reduce the capacity of wetlands to buffer flood flow and control erosion. There was no factual determination by Williams/Transco that their Erosion and Sediment Control Plan would ensure that ground or surface water would not be degraded.

Construction of the Madison Loop is planned to go through or near other toxic sites –

- a. Road Department Garage Area 3-1 near MP 9.5;
 - b. Global Sanitary Landfill Superfund Site which is less than 0.1-mile south of MP 10.13 to 10.38 of the Madison Loop which is an NJDEP Classification Exception Area (CEA) which also acts as a Well Restriction Area (WRA);
 - c. E.I. DuPont DeNemours & Co. site with groundwater known to contain VOCs and metals that is currently being remediated in areas of the Madison Loop at MP 9.20-10.31;
 - d. Morgan Ordnance Depot north of MP 11.10 of the Madison Loop that may have contaminated soil and unexploded munitions;
 - e. Morgan Fire House at MP12.0 which, though listed as inactive, is <0.1 mile south of the proposed pipeline route;
 - f. 1788 Route 35 in Sayreville at MP12.0;
 - g. Historic Fill areas (known ones are listed at MP 10.24-10.34, 11.17-11.25 & 11.62-11.78); and
 - h. Reclamation Technologies which is less than 0.1 miles from the Madison Loop at 3200 Bordentown Ave. in Old Bridge
- Given that both the E.I. DuPont DeNemours and the Global Sanitary Landfill sites are Classification Exemption Areas and Well Restricted Areas, and given the likelihood of encountering contaminated soil and/or water, there is the possibility that construction in these areas would exacerbate contamination. This did not seem to have been adequately addressed in the permit applications.
 - In their applications, I did not read any documentation about the actual known contaminated plumes (spread and depth) for the identified toxic sites within ¼ mile of the Madison Loop (except for a verbal assertion that the DuPont site’s contamination is 150’ bgs), and I also did not see any investigation to determine if there were more Historic Fill areas beyond those identified by NJDEP maps.
 - The **NJDEP’s Statewide PFAS Directive, Information Request and Notice to Insurers** (3/25/19) includes the Parlin E.I. DuPont DeNemours site, and it was noted that a recent sampling there had GenX in several monitoring wells. As I am sure you are aware, this is a site where they produced nonstick Teflon, camera film, car paint and blended fluropolymers, and PFAS were/are found in the surrounding soil, water and air. As noted in the NJDEP’s Directive, PFAS compounds are extremely resistant to metabolic and environmental degradation (persist indefinitely in the environment), and they bioaccumulate (resulting in buildup of these toxins in living tissue). The Directive also notes that some PFAS are classified as likely carcinogens, and studies indicate that exposure may cause cancer (testicular, kidney & liver), autoimmune and endocrine disorders in adult, developmental effects during pregnancy in fetuses or to breastfed infants, and other associated human health effects including reduced vaccine response and increased cholesterol and liver enzymes. Thus, more careful review of information from EPA for this site seems to be warranted before rendering a decision on the permit applications, and NJDEP should consider all information requested in the Directive for this site (due within 21 days of receipt of the Directive) as part of the permit review process.

- When Williams/Transco did pipeline work as part of their NY Bay Expansion Project in this area, they actually encountered contaminated groundwater from the Global Sanitary Landfill between Mileposts 10.0 and 10.4. They did not address this in their current NESE Application to you or to FERC, and FERC told them to update their Materials & Waste Management Plan to anticipate encountering contaminated groundwater along the Madison Loop because they did before. Their update was noted to have been published in the May 11, 2018 supplemental information provided to FERC.
- At the Global Sanitary Landfill area, Williams/Transco noted in their 6/1/17 report to FERC for NESE that they did not anticipate encountering contaminated groundwater. The water table here was reported to be 4' bgs, and trenching is anticipated to be 8' bgs. The depth to contaminated groundwater at this area was not reported from a current report from those who continue with remediation activity here. It was also noted that Global's contaminated area was less than 100-feet south of the Madison Loop.
- The HDD planned for the Parkwood Village area was reported by Williams/Transco to FERC to have a maximum depth of 60' to 80' bgs, and Williams/Transco acknowledged that they would likely encounter groundwater here from the Road Department Garage Area 3-1 site.
- The HDD crossings at Cheesequake Road and Parkwood Village are in the area of known contamination from E.I. DuPont DeNemours and the Global Sanitary Landfill, and this would be approximately 75-foot bgs. The depth for the Madison Loop's new pipeline, where it would cross the existing 42-inch Lower Bay Loop C pipeline in two places in Old Bridge and two places in Sayreville, wasn't clear from publically-available information, but it was noted that there would be a vertical separation from the existing pipeline that is 4-feet bgs of 40-feet at Cheesequake Road and 50-feet at Parkwood Village. HDD construction for Cheesequake Road is proposed from MP 8.92 to MP 9.28, and HDD construction for Parkwood Village is proposed from MP 9.42 to MP 9.86.
- The spread of toxic soil and groundwater from the DuPont site is a concern here since, near Milepost 9.60, groundwater is 42' to 45' bgs, and near Milepost 9.74, groundwater was found at 55' to 71' bgs. In their 6/1/17 report to FERC, Williams/Transco acknowledged that groundwater contamination could be present in construction areas going through the DuPont site, but in their application to the NJDEP, they noted that groundwater contamination at the DuPont site is 150' bgs without providing supporting documentation that I saw. HDD construction for Parkwood Village is proposed from MP 9.43 to MP9.86.
- Historic Fill areas, mapped by NJDEP for areas over 5 acres, were identified as potential sources for groundwater contamination, but no details about exploratory testing were provided, and Williams/Transco noted that there could be more sites like this along the pipeline route that were not mapped by the NJDEP. In their supplemental submission to FERC (5/11/18), Williams/Transco noted that Historic Fill areas were at Milepost 10.24 to 10.34 in Old Bridge and at Mileposts 11.17 to 11.25 and 11.62 to 11.78 in Sayreville. They did not know the direction (upgradient or downgradient) from the proposed Madison Loop. HDD construction for the Lockwood Marina is proposed from MP 11.49 to MP 11.84.

Other Considerations:

- In New Jersey, the year 2018 had more precipitation than in any other year since record-keeping began in 1895.
- In New Jersey, efforts have slowly improved water quality of our rivers, lakes and other bodies of water since the 1972 Clean Water Act, but current reports indicate that 65% of these waters cannot support drinking water supplies, 75% can't be used for recreation, and 85% can't support aquatic life.

Source: *Surface Water Quality- Rivers and Streams: Chemical and Physical Measurements* - Updated 8/2017 *Environmental Trends Report NJDEP, Division of Science, Research, and Environmental Health*. Retrieved from <https://www.nj.gov/dep/dsr/trends/surfacewater-physical.pdf>

- Though it is not a definite plan, Trap Rock Quarry (adjacent to the proposed Compressor Station 206 site) is a potential future reservoir (after 2040) in the State's Master Water Plan. Airborne toxic emissions could hinder the feasibility of using water for drinking from that.

NESE Construction Threatens Water Quality in Raritan Bay & the Shoreline Economy

Coastal water has improved significantly since their low point in the 1970s. Stricter environmental laws, investments in waste treatment, and the decline of industries on the rivers that flow into the region have led to a dramatic improvement in water quality. The old toxins have become buried beneath the seabed of the Raritan Bay.

Under the Federal Water Quality Act, states have the right and the duty to protect the quality of their local waters.

Under New Jersey State law, it is the Department of Environmental Protection that carries out this responsibility. The NJDEP must evaluate any project that might degrade the color, clarity, temperature, or odor of NJ waters, or that might introduce oils, chemicals, or other refuse. Thus far, Williams/Transco has not demonstrated that they would not degrade water quality in Raritan Bay or wetlands from construction of the NESE Project.

In the NESE applications to the NJDEP and FERC, there was no complete analysis of the economic adverse impact that will result from disturbances in/by the Raritan & Lower New York Bays on the habitat or the greater community that relies on fishing and recreation.

(1) Turbidity and Suspension of Contaminated Underwater Sediments

The waters in Raritan Bay were once referred to as a “dead sea”. After decades of efforts to clean up the waters in the bay, marine life that had once vanished has begun to return. Whales are seen with increased frequency in Raritan Bay, and communities of seals live on Sandy Hook and an island by the Verrazano Bridge.

Source: Brown, D.M., Robbins, J., Sieswerda, P.L., Schoelkopf, R., & Parsons, E.C.M. (2018 January). Humpback whale (*Megaptera novaeangliae*) sightings in the New York-New Jersey Harbor Estuary. *Marine Mammal Science*, 34(1): 250-257.

The construction of a pipeline under the sea floor is a highly intrusive process that threatens the progress made in cleaning the waters and air of the Raritan Bay and New York Lower Harbor. It will result in a significant decline in the quality of the water in the Raritan Bay and threaten the large variety of marine wildlife that call it home. The NESE Project will increase the toxic substances in the waters in which we swim and fish.

- The excavation of a trench that would have a minimum cover of 7-feet over most of the 23.5 mile-long path under Raritan Bay and New York Lower Harbor will dig up toxic substances now buried in the sea floor. Of note, some areas require trenching with a cover of 15-feet “between MP17.23 and MP17.97 (Raritan Bay Channel and its bordering transition areas) and between MP24.70 and MP25.30 (Chapel Hill Channel and its bordering transition areas). At these locations, Transco will bury the pipeline to a depth of 15 feet below the authorized channel depth or the existing bottom if greater than the federally authorized channel prism.” [from Williams/Transco’s Supplement to FERC in Accession No. 20181012-5123 (33185953) - Page 2-3]
- Activities including pre-lay dredge, hand jetting, pile driving, and use of a vibratory hammer are proposed during aggregation, migration, and spawning periods of marine life and birds.
- The trenching will churn toxins up into the water, threatening both marine and human health.
- Trenching will kick-up more than 1 million cubic yards of sediment containing heavy metals and PCBs.
- The number and nature of marine vessels that will be intensively engaged 24/7 for much of a nine-month period will be powered by engines producing noxious gasses that pollute the air.
- Nine months of 24/7 construction in the bay also poses a hazard to marine life from vessel strikes and noise.

A **shortened timeline increases the intensity of work**, so the overall impacts will be magnified. Further, deeper drilling has been required and approved in some New York water areas, having further reaching effects on the timeline and backing into the work in New Jersey. If the sediment modeling was conservative and was based on a 15-month timeline, there should be greater impacts since faster excavation rates are being requested, and increased depths are now proposed in certain areas. Faster excavation rates would also lead to greater loss of sediment into the water column. This could not have been fully accounted for and still maintain a minimal impact, as is currently reported.

The **potential resuspension and redistribution of toxic substances now buried under the seafloor** is one of the most serious impacts of this pipeline construction on the water quality in Raritan Bay. These toxins pose a serious danger to both human health and marine wildlife. Dredging up buried industrial toxins (like arsenic, lead, zinc and mercury) and organic compounds (PCBs, DDT, dioxins) from the seabed will poison fish, shellfish and marine life in the Raritan and Lower NY Bays. Dredged-up toxins could affect aquatic migration, clog fish gills, interfere with breeding, and contribute to harmful algae blooms.

There are many points along the proposed route that exceed contamination levels; **minimal to no testing was done to test sediment along other alternate routes to determine if there were routes with less contamination.**

As stated in NESE's 1/25/19 FEIS (page ES-11), "Sediments within Raritan and Lower New York Bays contain contaminants from historical and ongoing anthropogenic sources. Seafloor-disturbing construction could resuspend sediment-bound contaminants into the water column, which could expose biota to contaminants and result in adverse effects. Transco's sediment chemical analysis found that most of the sample sites had at least one contaminant that exceeded upper-level effects thresholds. Concentrations of organic contaminants were greater than upper-level effects thresholds at approximately 33 percent of the sample sites. Approximately 83 percent of the sample sites had at least one exceedance of an inorganic (metal) threshold."

The **sediment modeling** does not address the effects of the different toxins in the contaminated sediments to any of the marine species (benthic or pelagic, migratory or otherwise) that may be exposed to those chemicals (including sediment used in backfill) with minimal evaluation of the effects otherwise. Such an oversight underscores Williams/Transco's intentional focus on sediment transport and misdirection away from what is actually in the sediment.

There was no analysis provided to document anticipated synergistic effects of exposure to a combination of toxins to any marine species (benthic or pelagic, migratory or otherwise).

The area off the south coast of Staten Island, for example, has unsafe levels of DDT, dioxins, furans, and PCB compounds, while directly south of the beaches of Jacob Riis State Park in the Rockaways, Williams/Transco found toxic metals like arsenic, lead, and mercury. The links between these post-industrial contaminants and both human and animal health are well known.

The **impact on human health** of these substances is well known. Arsenic, for example, causes a variety of cancers in humans. Lead causes neurologic impairment, especially in children. PCBs enter the food chain. More than 90% of human exposure to PCBs is through food, including fish and shellfish.

Additionally, Williams/Transco plans to release water used in testing the pipeline into the bay. Their plan involves releasing 3.2 million gallons of seawater that was treated with the **toxic chemical CORRTREAT 15316**. According to the Environmental Protection Agency, CORRTREAT 15316 is a highly toxic substance harmful to humans.

Furthermore, part of the Raritan Bay Loop would go through the **Raritan Bay Slag Superfund Site**. Lead, arsenic, antimony, copper, iron and chromium, are the primary contaminants contained in slag. Other metal contaminants include manganese, vanadium and zinc. Areas 7 & 11 of the Raritan Bay Slag Superfund Site are part of the NESE construction workspace, and toxic levels of lead, arsenic and other heavy metals have been found by the EPA and NJDEP in soils, sediments and surface waters here. The complex currents, eroded slag particles and dissolved metals from the jetty have not been adequately accounted for in avoidance plans by Williams/Transco. EPA recommended continued consultation about construction here.

There is not yet approval about **depositing dredged material** at the HARS site.

(2) Threat of Harmful Algal Blooms (HABs)

Incidence of Harmful Algal Blooms (HABs) is likely to increase due to resuspended sediments increase. This issue is not addressed by the NJDEP permit application, and it clearly affects Water Quality Certification. Though admitting to the fact that the study which was cited by FERC was not done in a saltwater environment similar to the project area, the FERC FEIS maintains that this would have a negligible effect on potential for HAB formation. However, the study was just of placement of dredge sediment with little mention of its level of contamination. Part of what we have seen influencing HAB occurrence, even in freshwater, is the conversion of nutrients that are bound in the upper layer of sediment and unavailable to plankton for growth into a more biologically available form. This happens due to shifts in environmental conditions, not unlike the removal of sediment from dredging. The study presented in the FEIS does not address the resuspension of nutrients into the water column by exposure from direct removal and disturbance, not just addition of sediment. This study does not provide a reliable comparison and cannot be relied on in this context. There is still concern for the increase of HAB occurrence.

Potential sediment disruption from construction in and around the inland tidal wetland areas of the Madison Loop adjacent to Cheesequake Creek could increase the potential for growth of harmful algal blooms (HABS). There were no studies or modeling presented that could justify the assertion of Williams/Transco that they would minimize sediment disruption here.

(3) Shore Economy

- Many New Jerseyans at the shore depend on clean water and access to the Raritan Bay for their livelihoods, and construction of the NESE pipeline would hurt them.
- Fishermen, recreational boaters, and whale-watching businesses would be negatively impacted since construction of the Raritan Bay Loop will go through seven separate recreational & commercial fishing grounds and hinder travel of boaters, including whale-watching vessels.
- The people in the Rockaways in NY and Sayreville in NJ suffered devastating losses after Superstorm Sandy, and now they are being asked to support a Project that would increase Greenhouse Gases and grossly impact their fishing and shore recreational economy.
- There was no complete analysis of the economic adverse impact from NESE that will result from disturbances in/by the Raritan & Lower New York Bays on the habitat or the greater community that relies on fishing and recreation.
- There was no comprehensive assessment of potential long-term effects of toxic sediment disturbance on shorelines, beachgoers, marine life or the health of shoreline communities in terms of costs to health, safety and economics.

Some references:

For historic contamination:

David Stradling (2010). The Nature of New York: An Environmental History of the Empire State. pp. 123-128, 181-184, 217-223.

For improved water quality:

NYC Department of Environmental Protection, 2016 Harbor Water Quality Report.”
<http://www.nyc.gov/html/dep/pdf/hwqs2016.pdf>

NESE Threatens Marine Mammals and Sea Turtles

One of the positive effects of the cleaner water off the shore of Raritan Bay has been the recent return of marine wildlife. The disruptions necessitated by a construction project of this magnitude will negatively affect seals and whales who return to the area. There was no comprehensive, scientific assessment of the short- and long-term impacts to marine mammal (dolphins, seals and whales) habitat.

- (1) The NESE Project threatens the water quality of Raritan Bay and the marine wildlife that inhabit it – endangered whales, endangered sea turtles and seals. The increased cloudiness of water (turbidity) from excavating the 23.5-mile trench will make it difficult for these animals to find food and to navigate. The toxins churned up by the excavation threaten to enter their food chain.
- (2) Nine months of 24/7 construction in the bay also poses a hazard to marine life from vessel strikes and noise. To protect these animals, Williams/Transco has proposed training vessel operators and crews to recognize them in the water and then take avoidance measures like slowing a vessel down or maneuvering it away. However, this will not work at night or in bad weather. Additionally, vessel operators are unlikely to be able to prevent collisions that may injure or kill seals, whales and turtles because (a) these creatures are often under the surface of the water for extended periods of time, and (b) the kinds of vessels used to construct an in-water pipeline are not agile or easy to maneuver.

Whales: The sightings of humpback whales have increased from only one (1) between 2011-2013 to 45 between 2014-2016. According to Paul Sieswerda, founder of Gotham Whale, there were 200 whale sightings in New York City waters in 2018. Humpbacks are seen here in all seasons except winter. Fin and right whales have also been seen in the New York Bight. All three of these whales are endangered.

Williams/Transco's construction schedule calls for trench work below the seafloor from August through December, a period when whales are particularly active in the area.

Additionally, the survival of these whales in our waters depends on menhaden, a filter feeder, which will not be able to filter the plankton they feed on because they will be covered with sediment during and after construction.

Sea Turtles: Five species of sea turtle are found in NESE's project area - Loggerhead, Green, Leatherback, Atlantic hawksbill, and (just recently), Kemp's ridley sea turtle. *All five of these species are listed as endangered or as threatened in New York and New Jersey, the states bordering the waters through which the pipeline would run.* In the summer of 2018, a Kemp's ridley sea turtle (rarest, smallest & endangered) emerged from the water onto the beach on the western end of the Rockaway Peninsula, built a nest, and laid her eggs. In October, 96 of her hatchlings were released into local waters. This critically endangered species generally returns to the same beach when they are ready to lay their own eggs. Potential impact avoidance for them was not considered to be needed by Williams/Transco or FERC in their documents even though the turtle must have traversed the waters where the offshore portion of the NESE pipeline is planned to go to get to the beach to lay her eggs.

Sea turtles depend on vision to locate prey, and construction's increase in turbidity and suspended sediments could impede their search for food. Additionally, mortality to benthic prey may force them away from their preferred foraging areas, and observers might not see them in waters with increased turbidity. Thus, risks to them from vessel strikes and other impacts would be increased by the NESE Project, and the plan for using observers is not adequate to avoid this.

Noise Impacts: Acoustic impacts and harassment of marine mammals will be intensified with an increase in work activity as Williams/Transco attempts to squeeze the amount of work originally proposed to be done over 15 months into only 9 months. Acoustic impacts are not fully addressed for fish or turtles relative to updated timelines.

Marine mammals are sensitive to noise, and the 24/7 noise and vibration generated by vessel engines and construction (in particular, pile-driving) will be difficult for these animals to tolerate and could alter their behaviors (travel, communication, breeding and eating). Noise and vibration can also disorient marine species and lead to long-lasting damage and growth abnormalities in newly hatched organisms. The number of marine vessels required by the NESE Project (with diesel engines 24/7) and the drilling required for the tunnelling portions will disrupt all types of species from bottom dwelling shellfish such as crabs to gigantic marine mammals such as whales.

NESE Threatens the Benthic Community (including Shellfish, Horseshoe Crabs) and the endangered Atlantic sturgeon

Compliance with the Coastal Zone Management Rules in N.J.A.C. 7:7-9.36(a)3(b) (which states “Development of endangered or threatened wildlife or plant species habitat is prohibited unless it can be demonstrated, through an endangered or threatened wildlife or plant species impact assessment as described at N.J.A.C. 7:7-11, that endangered or threatened wildlife or plant species habitat would not directly or through secondary impacts on the relevant site or in the surrounding area be adversely affected”) has not been satisfied.

The project will unavoidably impact soft-bottom benthic habitats. Impacts to benthic resources, including shellfish, need to be fully assessed and mitigated for.

- The application provides only a draft mitigation framework for proposed compensatory mitigation.
- The application lacks detail on the extent of the proposed impacts to benthic resources- including shellfish, proposed compensatory mitigation measures, and performance measures for ensuring mitigation measures are successful.
- There was no comprehensive, scientific assessment of the short- and long-term impacts to benthic organism (horseshoe crabs, surf clams) habitat.

Marine life that lives and feeds on the seafloor - clams, oysters and other mollusks, crabs and horseshoe crabs - are particularly vulnerable to the disruptions that the construction of the Williams/Transco NESE pipeline would entail. These species have both ecological and commercial value.

FERC estimates it would take these bottom-dwelling species, like clams and crustaceans, 1 to 3 years to recover after construction of the Raritan Bay Loop, but it could be longer factoring in weather, currents and the overall disruption caused by trenching the pipeline.

As stated in NESE’s 1/25/19 FEIS (page ES-11), “Direct impacts on offshore resources due to seafloor disturbance would include mortality, injury, or temporary displacement of the organisms living on, in, or near the 87.8 acres of seafloor directly affected by the Project. Indirect impacts would include suspension of sediments in the water column, which could clog fish gills and obscure visual stimuli, and the redistribution of sediments that fall out of suspension, which could bury benthic and demersal species, resulting in mortality of eggs and other life stages. Benthic invertebrates and demersal (bottom-dwelling) fish species in or near areas directly impacted by construction would be most affected. Pelagic fish, sea turtles, and marine mammals could also be affected but would likely temporarily vacate the area to avoid the disturbance.” These particular impacts would severely affect not only fish that are present but also impact recruitment and future fisheries either directly (by destroying eggs and spawning habitat) or indirectly (by completely deterring fish from inhabiting and spawning in the area).

As of now, there has not been an agreement between agencies charged with protecting threatened/endangered species in the waters and Williams/Transco for “time-of-year restriction” adherence and the proposed construction schedule. The 24/7 construction schedule for 9 months will disrupt fish migration, including that of the endangered Atlantic sturgeon. Williams/Transco has requested “flexibility” for the restricted times to construct during times that are sensitive periods for the species – such as their peak migration periods.

(1) Time of Year Restrictions

Williams/Transco has chosen to request flexibility with the protective Time of Year Restrictions (TOYR) for specific species over infringing on the TOYR of other sensitive species.

- **Horseshoe crabs** are threatened, and their status directly impacts that of at least one other species on the federally endangered list, the **red knot**. During May and June, horseshoe crabs come ashore to lay eggs

on beaches. Since horseshoe crabs do not stray far from their place of birth, disruption to their onshore migration could lead to long-term diminution of this critical ecological agent. At this point, Williams/Transco is choosing to forego avoidance measures during a critical time of year for this species and also not proposing any mitigation measures. It seems that there is no adherence at all to the “avoid, minimize, mitigate” practice relative to the horseshoe crab whatsoever. The encroachment of the TOYR on the horseshoe crab mating and nesting period makes it more likely that there will be an adverse impact on an endangered species’ population.

- **Migratory fish pathways** lie within the water column above the proposed pipeline path, where sediment will be resuspended and where vessels will be travelling to conduct the proposed work. Many of the species will be impacted during their annual migration and spawning season through the water column and not just along the bottom. For example, **winter flounder** spawn from December 15 through May 15 from Raritan Bay to the Ambrose Channel. The **Atlantic sturgeon**, which is on the Federal endangered species list, migrates from March 1 to June 30 into the western part of the pipeline’s route, and then returns through the eastern part of the pipeline route from October 1 through November 30.
- TOYR flexibility will not only affect benthic communities in New Jersey like the horseshoe crab, but it will also adversely affect sturgeon, winter flounder, and other migratory and economically important species, like the blue crab.

(2) Unearthing and spreading toxins

The excavation of trenches requiring a minimum of 7-foot cover and, in some areas, a 15-foot cover, will disturb 87.8 acres of sand and gravel, creating increased sediment in the water. The resulting increase in the cloudiness of the water (known as “turbidity”) threatens marine life since the clarity of water is critical to the ability of many species to navigate, find food, and avoid predators. Additionally, as the sediment settles back down, it will cover seabed species like clams and crabs.

Toxins from years of industrial dumping have become buried below the seabed of the Raritan Bay. Some are copper, lead, zinc, and mercury. The NESE Project would unearth them and let them land on the surface of the seabed for ground-feeding fish to ingest.

The release of toxic sediments would be particularly harmful to a number of bottom feeding species which play a vital role in the marine food web. This includes the Atlantic sturgeon, an endangered species, and the oyster, a species that filters seawater and creates reefs that assist with storm protection.

Additionally, the construction plan is to dig through area where clams are infected with Quahog Parasitic Unknown (QXP) which would be spread by dredging.

(3) Noise

Noise and vibration can also disorient marine species and lead to long-lasting damage and growth abnormalities in newly hatched organisms. The number of marine vessels required by the NESE Project (with diesel engines 24/7), inserting piles with diesel impact and vibratory hammers, and the drilling required for the tunnelling portions will disrupt all types of species from bottom dwelling shellfish such as crabs to gigantic marine mammals such as whales.

(4) Thermal Discharges

Construction activities will also create thermal discharges. A number of marine species are sensitive to fluctuations in water temperature – for example, the eggs of Atlantic cod and winter flounder. The massive construction barges and large machines, such as drilling equipment, will likely raise temperatures in surrounding waters.

Shellfish, which are sensitive to both the warming and the higher acidification of seawater as it stores more carbon dioxide, move relatively slowly to escape the threats. Surfclams along the East Coast die when it becomes too hot.

Atlantic sturgeon (endangered): The endangered Atlantic sturgeon and winter flounder are bottom feeders, and churning up of buried toxins from construction of NESE in Raritan Bay threatens their food source and impacts the food chain. Additionally, it is possible that the Atlantic sturgeon could be attracted to the construction area when their prey is stirred-up.

Raritan Bay is a major habitat for Atlantic sturgeon. Atlantic sturgeon feed on bottom-dwelling invertebrates. Williams/Transco acknowledges that those species -- clams, crustaceans, etc. -- would be the most directly and adversely impacted by construction. Williams/Transco estimates that it would take 1-3 years for these species to recuperate. The impacts of the 3-12 hours per day of construction activity on the sturgeon's habitat will not only expose them to plumes of toxic sediments (given that sturgeon consume large amounts of mud and sand as they feed) but also reduce and poison their prey. Williams/Transco does not adequately address the long-term implications of any of this, especially considering that sturgeon are slow to mature and reproduce - males take at least 12 years to mature and females reach maturity at 18 years.

Horseshoe crabs: The construction schedule of Williams/Transco includes May to September, disrupting the horseshoe crab in the crucial months when they come ashore to lay eggs on beaches and then when larvae are hatching. Impact has not been identified, and avoidance / mitigation plans haven't been published even though comments of NJ's Endangered and Nongame Species Program experts (ENSP) noted a preference for no near-shore activity between April 15 and September 15.

Horseshoe crabs are recognized as a "keystone" species because its eggs and larvae are an essential food source for other marine wildlife as well as for migrating birds, including the federally listed threatened and state-listed endangered red knot. *

Their blood (which is blue!) plays an essential role in human medicine. Pharmaceutical companies use *Limulus Amoebocyte Lysate (LAL)* made from horseshoe crab's blood to test the sterility of vaccines, drugs, prosthetics, and other medical devices. The LAL test is the most accurate test currently available.

The horseshoe crab population has substantially declined in recent decades. The FEIS states that "The most recent stock assessment report for horseshoe crab concluded that, since the ASMFC's initial horseshoe crab stock assessment in 1998, declining abundance in the New York region is evident, and the trend has not reversed (ASMFC, 2013a) ... In the 9 years of monitoring conducted by BRWC, there has been no sign of sustained recovery, and the population remains at about 25 percent of its carrying capacity (Reynolds, 2017)." {BRWC = Bayshore Regional Watershed Council}

This is likely due to diminished water quality, lack of spawning habitat, and constant disturbance; and any action construction by Williams/Transco - especially during spawning season - will further disrupt important ecological processes relating to the horseshoe crab (*Limulus polyphemus*) and eliminate any possibility of potential recovery, particularly in New Jersey where there are spawning populations. Several studies (including those done by the National Park Service) document small but viable breeding populations in portions of New York and along the southern coast of Raritan Bay in New Jersey; all of these areas would be impacted by the NESE project. Due to the nature of the size of the *Limulus* populations that occupy Raritan Bay and nest on the surrounding shorelines, any impact to the benthic environment would have significant and potentially irreversible impacts on habitat, food resources, and recruitment.

*** Impacts to Horseshoe Crabs also Impacts Red Knots:** Though the New Jersey and New York FWS offices concurred with FERC's conclusion that the NESE Project *may affect, but is not likely to adversely affect* the federally-listed threatened and state-listed endangered bird, red knot, conclusions seemed to be based on the

proximity of the birds to construction sites as well as whether or not they would be present in the open water habitat of the pipeline route in the bay. In the 1/25/19 FEIS, FERC noted that “large numbers of birds rely on New Jersey’s coastal stopover habitats during the spring (mid-May through early June) and fall (late-July through November) migration periods.” ... “The spring migration is timed to coincide with the spawning season for the horseshoe crab (*Limulus polyphemus*). Horseshoe crab eggs provide a rich, easily digestible food source for migrating birds.” ... “The red knot is known to occur along the northern point of the Sandy Hook Unit in the Gateway National Recreation Area (FWS, 2016f; 2017b), which is approximately 1 mile from the Raritan Bay Loop, during the spring and fall migration periods.” (Pages 4-172 and 4-173)

There did not seem to be clear consideration by FWS agencies about the effect of impact on horseshoe crabs as impacts on this food source for the red knot, and this should be factored into decision about the impact of construction on the food source for this federally-listed threatened and state-listed endangered species.

Additionally, it is known that this area is a key stop on the Atlantic Flyway for spring and fall migrating birds, and horseshoe crab eggs are one key source of food for them.

Surfclam: Interestingly, Williams/Transco reported that the dominant shellfish community in New York waters near Rockaway Delivery Lateral Transfer Point was the Atlantic Surfclam (*Spisula solidissima*) but that post-construction surveys show that concentrations and sizes of surfclams are declining in this area. The decline has also contributed to substantial decreases in harvesting due to small surfclam sizes. This population decline was documented by Williams/Transco following their construction of the Rockaway Lateral pipeline in this area in 2015. If Williams/Transco’s NESE project is allowed to proceed, further harm will be imposed on the already vulnerable surfclam populations of both New Jersey and New York.

The Raritan Bay Loop route and temporary construction workspace avoids the surf clam bed identified by the NJDEP specifically on Flynn's Knoll. However, the Project will directly disturb benthic habitat containing surfclam in other New Jersey waters. Surfclams in the seabed adjacent to the disturbed area may also be impacted by construction of the Raritan Bay Loop because of elevated levels of suspended sediments and additional sedimentation.

Oysters: As a species that filters seawater, the oyster is essential to the health of the waters in the New York Bight (which includes Raritan Bay). Oyster reefs can also reduce the impact of storms like Superstorm Sandy.

Efforts to establish 100 acres of oyster reefs are underway through the Billion Oyster Project, begun in 2014. The Billion Oyster Project has reinstated oysters and reefs along the waters of Staten Island in the area of the proposed pipeline.

Oysters are a filter feeder of plankton, and they will be affected by the construction of NESE’s pipeline in the New York Bight. The debris from digging will smother oysters.

NESE Threatens State Goals & Effect of Climate Change and Emissions

We Need Clean Energy Now

New Jersey has ambitious clean energy goals, as does New York State. The NESE Project is a large overbuild fossil fuel project that would hinder attainment of those goals by increasing our dependence on fossil fuels for years to come. It should also be noted that most projects of Williams/Transco in NJ have been expanded within a few years. If NESE is approved, plans for more pipelines and compressor station units are predictable in New Jersey.

According to a statement on the governor's website, the Renewable Energy bill (P.L. 2018, Chapter 17), passed and signed by Governor Phil Murphy in May of 2018, "establishes one of the most ambitious renewable energy standards in the country by requiring 21 percent of the energy sold in the state be from Class I renewable energy sources by 2020; 35 percent by 2025 and 50 percent by 2030. ... In addition, Governor Murphy signed Executive Order No. 28 directing state agencies to develop an updated Energy Master Plan (EMP) that provides a path to 100 percent clean energy by 2050. The new EMP is to be completed and delivered by June 1, 2019 and will provide a blueprint for the total conversion of the State's energy production profile to 100 percent clean energy sources by January 1, 2050."

Source: https://nj.gov/governor/news/news/562018/approved/20180523a_cleanEnergy.shtml

New Jersey is moving quickly to establish itself as a leader in clean renewable energy for use and jobs, and the NESE Project, along with at least a dozen other proposed fossil fuel projects in New Jersey, threatens that progress. Building and operating the NESE Project would guarantee reliance on fossil fuels well into the future.

Under the Murphy administration, New Jersey has joined the U.S. Climate Alliance and is working to return to the Regional Greenhouse Gas Initiative (RGGI). There is funding for a workforce initiative to expand clean energy job training and workforce development. There are goals for generating 3,500 MW of offshore wind energy by 2030 as well as energy storage of 600 MW by 2021 and 2,000 MW by 2030. There are requirements for utility energy efficiency, plans to support community solar, and a position favoring a ban on all fracking-related activities in the Delaware River Basin.

NESE and Impacts in NJ – Severe Weather Events and Other Harmful Consequences

Construction and operation of the compressor station and pipelines that are part of the NESE Project will increase greenhouse gases in New Jersey that lead to significant weather events and other harmful effects. Compressor stations and gas pipelines leak methane – the most potent short-term greenhouse gas.

New Jersey is already in an ozone-compromised region. Though the Marcellus Shale region has a lot of gas, New Jersey should not bear the safety and health risks of company profits to become the Pipeline State.

- Climate change-fueled natural disasters have led to exceedingly high costs, and these costs don't even begin to consider the costs to human health, both physical and psychological.
- In addition to threats to health from the toxic emissions from the gas-fired compressor station units, the NESE Project's impact on climate change would also harm our health, security and economy from leaking and burning of natural gas - more significant flooding, hurricanes, heat waves, air and water temperature increases, other health risks and the likelihood of infectious diseases and stress, and displacement.
- Extreme weather events not only result in damage to property, businesses, infrastructure and the environment, but also trigger stress and depression in people and are associated with costly health risks like water borne infections as well as increases in dampness and mold that trigger more allergies and respiratory disorders. Milder, shorter winters have increased the population of disease-carrying insects in our area. Longer and wetter seasons lead to more asthma, allergies and respiratory disorders. Flooding events are a pathway for pollution and bacteria to enter our waterways.

- As the climate warms and atmospheric carbon dioxide increases, the amount and potency of the allergens like ragweed and airborne fungi increases, with significant consequences for exacerbating asthma and other forms of respiratory distress.
- Other consequences could include higher cooling costs and a heightened risk of heat stroke.
- Warmer temperatures will also exacerbate the risk of vector-borne diseases like Lyme and West Nile

Remember Superstorm Sandy

New Jersey has suffered the effects of severe weather events like Superstorm Sandy and many rain bombs, and the NESE Project would make these worse since the transportation and use of natural gas includes planned and unplanned leaks of methane. Though we did not have a hurricane in 2018, that was the wettest year on record in New Jersey, and fossil fuel use contributes to this.

Many of us remember that Superstorm Sandy destroyed or damaged over 30,000 properties, cost over \$36 billion, and resulted in 37 deaths in NJ alone. Six years after Superstorm Sandy, over 1,000 NJ families were still not back in their homes. Inland flooding from Hurricanes Floyd and Irene showed that it's not just shore towns that are threatened by hurricanes.

In New York, 43 people lost their lives as a result of Superstorm Sandy, transportation systems and Wall Street were closed, homes/businesses were flooded or destroyed by fire, and economic losses were estimated to be \$19 billion with an estimated \$32.8 billion required for restoration.

Greenhouse Gas Emissions

According to NOAA / NASA, 2018 was the 4th warmest year on record (since 1880). "2018 is yet again an extremely warm year on top of a long-term global warming trend," said GISS Director Gavin Schmidt.

Since the 1880s, the average global surface temperature has risen about 2 degrees Fahrenheit (1 degree Celsius).

This warming has been driven in large part by increased emissions into the atmosphere of carbon dioxide and other greenhouse gases caused by human activities, according to Schmidt.

Accessed at: <https://www.nasa.gov/press-release/2018-fourth-warmest-year-in-continued-warming-trend-according-to-nasa-noaa>

In 2016, the average global temperature was 1.69 degrees Fahrenheit above the average temperature for the 20th century, and the *rate* of change has nearly doubled in the past 50 years. A major driver of this rapid rise in global temperatures and the increasing instability of our climate is the use of fossil fuels. Of the fossil fuels we use, methane - the primary constituent of the gas that the NESE would transport - is 84 times more powerful a greenhouse gas in the first twenty years after its release than is the more commonly known greenhouse gas, carbon dioxide. If we are going to prevent the worst-case climate change scenarios, if we are going to hold the increase in global temperature well below 2 degrees Celsius (3.6 degrees Fahrenheit), we must transition rapidly away from fossil fuels and build our lives around renewable energy.

Impacts from increases in greenhouse gases include, but are not limited to:

- climate change's effect on more frequent and severe weather events and rising sea levels,
- higher rates of flooding & associated diseases, mold, and emergency room visits, and
- economic impacts (fishing & tourism industries, lost time at school or work, and impairments to habitats & environment that would affect marinelife)

NESE’s Applications & reviews clearly omitted assessing actual greenhouse gas (GHG) emissions, both initially and cumulatively, for the impact on Central New Jersey from Compressor Station 206 (CS206).

Yearly Emission Estimates for Compressor Station 206	
Greenhouse Gas Equivalent (CO₂e)	136,143 tons per year
• Methane (CH₄, most impacting GHG)	more than 33.41 tons every year *
• Carbon dioxide (CO₂)	claimed est. 130,943 tons every year
• Nitrous oxide (N₂O)	claimed est. 3.29 tons every year

* *Note: Any accounting for fugitive emissions (leaks) is likely grossly underestimated.*

The threshold for comparing this to the Prevention of Significant Deterioration (PSD) threshold of 75,000 tons per year of emissions of 132,720 tons of Greenhouse Gas Equivalent per year (as noted in the application) was not triggered because CS206 was not considered a major source for the NJDEP.

- **Exhaust Temperature & Velocity:** Compressor Station 206 would have two smokestacks, each emitting exhaust at a rate of 210,000 cubic feet per minute at a temperature greater than 849° Fahrenheit. There were no available studies of the impact of exhaust at this velocity, amount or temperature on the environment.
- **It’s old technology** and, as confirmed by the manufacturer, combustion exhaust temperature increases at lower than 100% load along with emitting more unburned fuel and chemical byproducts.

Reported emissions estimates for the Solar Mars 100 turbines proposed for Compressor Station 206 are not warrantied by the turbine manufacturer, and they were not validated by FERC or NJDEP.

- As stated by the manufacturer of the Solar Mars 100 turbines - “non-warrantied emissions of SO₂, PM_{10/2.5}, VOC, and formaldehyde.”
- VOC emissions are not warrantied due to erratic operation turbine as confirmed by: “Any emissions warranty is applicable only for steady-state conditions.” This actually refers to all emissions, and changes in turbine load produce erratic chemical emissions.

Williams/Transco noted that they have never used Selective Catalytic Reduction (SCR) technology on a Solar Mars 100 before, so the impact on pollution reduction cannot be adequately assessed.

- In the application to NJDEP for a Freshwater Wetlands Individual Permit (June 19, 2018), the Question and Answer document (page 13) notes: “Compressor Station 206 will be Transco’s first natural gas transmission compressor station to utilize SCR on the turbine driven compressors.”

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Table 9.2-14: Operational Potential to Emit – Tons per Year (tpy) – Compressor Station 206

Pollutant	Gas Compressor Turbines (tpy) ^a	Emergency Generator	Condensate Tank	Fugitive ^b	Blowdown	Total
CO	56.86	0.52	N/A	N/A	N/A	57.38
NO _x	22.74	0.26	N/A	N/A	N/A	23.00
VOC	8.35	0.13	1.00	0.43	0.26	10.17
PM ₁₀	18.94	0.004	N/A	N/A	N/A	18.94
PM _{2.5}	18.94	0.004	N/A	N/A	N/A	18.94
SO ₂	3.07	0.0002	N/A	N/A	N/A	3.07
GHG as CO₂e	132,720	53	N/A	456	2,914	136,143*
Ammonia	14.79	0.00	N/A	0.00	N/A	14.79
Formaldehyde (largest single HAP emitted from gas turbines)	0.33	0.02	N/A	0.00	0.00	0.35
Total HAPs	0.68	0.02	N/A	0.01	0.00	0.71

^a Includes annual PTE for two gas turbines in normal operational mode, sub-zero mode and startup/shutdown mode

^b Fugitive emissions from pipeline valves and flanges within Compressor Station 206.

Key:

- CO = Carbon monoxide
- CO₂e = Carbon dioxide equivalent
- GHG = Greenhouse gas
- HAPs = Hazardous air pollutants
- N/A = Not applicable – pollutant not produced by this source
- NO_x = Nitrogen oxide
- PM₁₀ = Particulate matter less than or equal to 10 microns in diameter
- PM_{2.5} = Particulate matter less than or equal to 2.5 microns in diameter
- PSD = Prevention of significant deterioration
- SO₂ = Sulfur dioxide
- tpy = Tons per year
- VOC = Volatile organic compound

* In the FEIS (1/25/19), FERC's Table 4.10.1-5 listed the total GHG as CO₂e as 140,935 ton per year.

In the DEIS, it is also noted that the Potential to Emit for Carbon Dioxide (CO₂) is 130,943 tons per year, based on continuous operation of 8,760 hours per year (365 days/year). (Table 3.5-2, page 3-41)

Methane is the main component of natural gas, and its impact on the climate is more severe than that of carbon dioxide.

It is argued that methane is a short-lived pollutant and therefore should be treated differently. However, "short-lived" is relative. Methane stays in the atmosphere for an average of nine years, which, according to the latest IPCC report, is about the timeframe humanity has to stabilize greenhouse gas emissions in order to avoid the worst impacts of global climate change. Additionally, methane is a much more potent greenhouse gas than CO₂, producing 84 times the global warming potential (GWP) of an equivalent weight of CO₂ over a 20-year period.

Even over CO₂'s average 100-year lifetime in the atmosphere, methane yields 25 to 32 times the global warming potential of CO₂. Nitrous oxide is worse still, creating 298 times the global warming potential of CO₂ over a 100-year period, as well as causing depletion of stratospheric ozone, leading to more sun burns and skin cancer.

In short, methane and nitrous oxide are much worse greenhouse gases than CO₂, especially when we consider the speed with which we need to act. CO₂ is only the most damaging greenhouse gas emission because there is so much more of it emitted worldwide.

Also to note - Natural gas is not the "transition" fuel that some think it is. It emits half the amount of carbon as coal, but if as little as 3.5 percent of its methane is released, it pollutes worse than coal. Also - data on methane release are scarce.

Methane Leaks are not accounted for in the NESE application documents.

- Methane leaks from compressor station + pipelines (unintentional equipment malfunctions & intentional releases from valves) are not monitored carefully, or reported. Without use of infrared camera surveying / optical gas imaging / special sensors, the real amount will likely never be known. EPA estimates a 1.4% leak rate, but a recent actual study found that the methane leak rate is 2.3%.
- A new study, [published on June 21, 2018 in the journal Science](#), puts the rate of methane emissions from domestic oil and gas operations at 2.3 percent of total production per year, which is 60 percent higher than the current estimate from the Environmental Protection Agency. That might seem like a small fraction of the total, but it represents an estimated 13 million metric tons lost each year, or enough natural gas to fuel 10 million homes. It would be worth an estimated \$2 billion. This much leaked methane would have roughly the same climate impact in the short-term as emissions from all U.S. coal-fired power plants, the authors found.

Source: R. A. Alvarez et al., *Science* 10.1126/science.aar7204 (2018 June 21). Assessment of methane emissions from the U.S. oil and gas supply chain. Accessed at: <http://science.sciencemag.org/content/early/2018/06/20/science.aar7204/tab-pdf>

- [An earlier EDF study](#) showed that a methane leak rate of greater than 3 percent would result in no immediate climate benefits from retiring coal-fired power plants in favor of natural gas power plants.

Source: Ramón A. Alvarez, Stephen W. Pacala, James J. Winebrake, William L. Chameides, and Steven P. Hamburg. Greater focus needed on methane leakage from natural gas infrastructure. *PNAS* April 24, 2012 109 (17) 6435-6440. Accessed at: <https://doi.org/10.1073/pnas.1202407109>

- A 2014 study by EDF and Google used Google's Street View mapping cars that were fitted with methane sensing technology that traveled roads to document and map methane leaks on Staten Island. This revealed one leak every mile in this exclusively National Grid distribution area. As reported by them, over one-quarter of National Grid's pipelines here were cast iron or other corrosive and leak-prone materials, and over one-half of their pipelines were 50+ years old. This study took place between January and April 2014. Accessed at: <https://www.edf.org/climate/methanemaps/city-snapshots/staten-island>
- There should be an emphasis on measuring methane emissions (not just carbon dioxide) in our state's efforts to reduce greenhouse gas.
- We are in an ozone nonattainment zone, and methane leaks contribute to ozone.

Methane leakage has been underestimated in reports by industry.

See, for example:

R. A. Alvarez et al., *Science* 10.1126/science.aar7204 (2018 June 21). Assessment of methane emissions from the U.S. oil and gas supply chain. Accessed at: <http://science.sciencemag.org/content/early/2018/06/20/science.aar7204/tab-pdf>

Voiland, A. (2016 March 8). Methane matters: Scientists work to quantify the effects of a potent greenhouse gas. Accessed at: <https://earthobservatory.nasa.gov/Features/MethaneMatters/printall.php>

Impacts of increased greenhouse gas emissions were not accounted for by any agency reviewing NESE’s application and environmental impact documents.

- NESE would significantly worsen climate change impacts in the region due to greenhouse gas emissions from drilling, producing, transporting and burning of natural gas. It is apparent from recent global and U.S. reports, listed below, that consideration of impacts from greenhouse gases is urgent.
- Recent reports have clearly shown how emissions from natural gas-fired compressors are dangerous, toxic and highly damaging to the environment and our health, and impacts from the NESE Project were not identified or independently examined by FERC as long-term or cumulative health impacts in the EISs.
- FERC acknowledged the **specific vulnerability of New York City to climate change** by listing projected changes on page 4-388 in the FEIS (1/25/19):

	By 2020	By 2050
average temperature would increase from 54 °F	to 57 °F	To 61 °F
Coastal flooding would increase by up to	1.5 percent	3.6 percent
100-year flood heights		reaching 13.8 feet
number of days per year with rainfall exceeding 2 inches would increase from 3 to	up to 5 days	Up to 4 days
Precipitation would increase	up to 10 percent	up to 13 percent
Sea level rise would increase by as much as	10 inches	30 inches

And yet, FERC refuses to connect the NESE Project to the risk of climate change even though they note, in the FEIS, that “Construction and operation emissions from the NESE Project would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources, and contribute incrementally to future climate change impacts.” FERC lists many documented impacts of climate change in the FEIS. However, in the FEIS, FERC claims that, “there is no widely accepted standard, per international, federal, or state policy, or as a matter of physical science, to determine the significance of the Project’s GHG emissions.” In other words, FERC has declined to weigh climate change in the balance when deciding whether or not to grant Williams/Transco a certificate to proceed.

FERC’s claim that there is no standard for determining a project’s greenhouse gas emissions is false. Three peer-reviewed, well-cited Integrated Assessments Models (IAMs) for determining the social cost of carbon exist. After the DEIS was released, FERC was informed about these models by a detailed report co-authored by leading environmental and legal authorities. Moreover, the report also made it clear that FERC has a legal obligation to weigh the impact of climate change under the National Environmental Policy Act (NEPA). The report stresses that the “uncertainty about the full effects of climate change raises the social cost of greenhouse gases and warrants more stringent climate policy.” There are methods for determining the impact of greenhouse gas emissions, and FERC must use them when weighing whether or not to permit a project like NESE to go forward. Indeed, in *Sierra Club v. FERC*, a recent D.C. Circuit Court affirmed that FERC *must* evaluate the impacts of greenhouse gas emission when assessing a project.

Source: FERC Accession Nos. 20180514-6016(32884460) & (32884461) by New York University School of Law’s Institute for Policy Integrity with the Environmental Defense Fund, National Resources Defense Council, Sierra Club, and the Union of Concerned Scientists.

The cost of weather/climate-related disasters is mostly borne by taxpayers and people who are directly impacted but not involved in decision-making policies about the production and transportation of carbon-intensive goods.

According to the National Oceanic and Atmospheric Administration (NOAA), economic costs in the U.S. from the 16 weather/climate-related disasters in 2017 were \$309.5 billion. This exceeded the previous record by over \$100 billion - For 2005, from Hurricanes Dennis, Katrina, Rita & William, CPI-adjusted costs to present dollars were \$219.2 billion. The number of weather/climate-related disasters in the U.S. in 2017 tied the number from 2011, but the actual isolated events in 2017 were arguably more because wildfires were counted as regional-scale, seasonal events and not as multiple isolated events.

In 2018, there were 14 weather and climate disaster events with losses exceeding \$1 billion each across the United States. These events included 1 drought event, 8 severe storm events, 2 tropical cyclone events, 1 wildfire event, and 2 winter storm events. Overall, these events resulted in the deaths of 247 people and had significant economic effects on the areas impacted. The 1980–2018 annual average is 6.2 events (CPI-adjusted); the annual average for the most recent 5 years (2014–2018) is 12.6 events (CPI-adjusted).

During 2018, the U.S. experienced an active year of billion-dollar disaster events including the 4th highest total number of events, only behind the years 2017, 2011 and 2016. In 2018, the U.S. also experienced the 4th highest total costs (\$91 billion) only behind the years 2017, 2005 and 2012.

Source: NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2019). <https://www.ncdc.noaa.gov/billions/>

Greenhouse Gas Emissions - Relevant Reports:

- October 7, 2018 - Comprehensive assessment by the Intergovernmental Panel on Climate Change (IPCC) released in Incheon, South Korea. Accessed at: <https://www.ipcc.ch/report/sr15/>

IPCC, 2018: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. In Press.

- November 23, 2018 - A new federal report finds that climate change is affecting the natural environment, agriculture, energy production and use, land and water resources, transportation, and human health and welfare across the U.S. and its territories. Accessed at: <https://nca2018.globalchange.gov/>

Volume II of the Fourth National Climate Assessment (NCA4), released Nov. 23, 2018 by the United States Global Change Research Program (USGCRP -- <http://www.globalchange.gov/about>), focuses on climate change impacts, risks and adaptations occurring in the U.S. The report contains supporting evidence from 16 national-level topic chapters (e.g., water, oceans, energy, and human health), 10 regional chapters and two chapters that focus on societal responses to climate change. NOAA is one of 13 federal agencies that contributed significantly to the Fourth National Climate Assessment. USGCRP also released the Second State of the Carbon Cycle Report (SOCCR2 --<https://carbon2018.globalchange.gov/>).

Some Other Relevant Resources & References about Greenhouse Gas Emissions:

The greenhouse gas impacts of proposed natural gas pipeline buildout in New York – PSE for Earthworks (February 2018). Accessed at: <https://www.psehealthyenergy.org/wp-content/uploads/2018/02/NY.Pipelines-1.pdf>

Ridlington, E. (Frontier Group) and Madsen, T. (Environment America Research & Policy Center). (Spring 2017) Our Health at Risk – Why are millions of Americans still breathing unhealthy air? Environment New Jersey Research & Policy Center. Accessed at: <https://environmentnewjersey.org/sites/environment/files/reports/Our%20Health%20at%20Risk%20vNJ%20web.pdf>

Shankman, S. and Horn, P. (3 October 2017) The most powerful evidence climate scientists have of global warming. Accessed at: https://insideclimatenews.org/news/03102017/infographic-ocean-heat-powerful-climate-change-evidence-global-warming?utm_source=Inside+Climate+News&utm_campaign=31b399ba86-Weekly+Newsletter&utm_medium=email&utm_term=0_29c928ffb5-31b399ba86-327817337

NATIONAL SECURITY: Long-Range Emerging Threats Facing the United States As Identified by Federal Agencies. (December 2018) GAO-19-204SP, a report to congressional committees from the US Government Accountability Office. Accessed at: <https://www.gao.gov/assets/700/695981.pdf>

NESE is not in the Public Interest.

If NESE’s Compressor Station 206 and pipeline and by the Raritan Bay are constructed, we and future generations will be subjected to risks from air and water pollution, potential explosions, and extreme weather events. Exposure to pollutants, carcinogens and poisons, and safety risks for the profits of the fossil fuel industry should not be acceptable to elected and appointed officials of New Jersey.

The NESE Project does not meet the standards for “public interest” noted in N.J.S.A. 13:9B-11, the Freshwater Wetlands Protection Act when one looks at the need to preserve natural resources; the relative extent of the public and private need for the regulated activity; the practicability of using reasonable alternative locations and methods (e.g., renewable energy sources and energy efficiency initiatives); the economic value, both public and private, of the proposed regulated activity to the general area; and the ecological value of the freshwater wetlands and probable impact on public health and fish and wildlife.

The “public interest in preservation of natural resources” would not be served by the NESE Project.

- There is no public safety & health benefit for people in New Jersey from NESE.
- The NESE Project would not deliver an energy supply to New Jersey.
- The legally guaranteed 14% rate of return on equity will make NESE profitable for Williams/Transco regardless of demand for gas, while passing much of its \$926.5 million construction price tag onto ratepayers. (see references)
- Approval of the NESE Project would ensure decades of increased greenhouse gas emissions, cancer-causing airborne emissions, and risks from aging pipelines that are supposed to be overseen by agencies that are short-staffed.
- Approval of the NESE Project without a recognition of plans of Williams/Transco to rapidly expand their infrastructure to move fracked gas from the Marcellus Shale region in Pennsylvania through New Jersey is an irresponsible action that neglects to consider (a) compound and cumulative impacts that threaten the health, safety and economic security of our State, as well as (b) increase of our long-term dependence on fossil fuels at a time when we have the commitment to transition to clean and renewable sources of energy.
- Williams/Transco expands compressor stations within a few years after they are initially built, yet they initially do not divulge their expansion plans. Thus, added environmental damages and risks are not considered when reviewing permit applications for one project at a time. Examples of the expansions of Williams/Transco’s compressor stations in New Jersey are shown below, and a log of expansions of their compressor stations in other states can be provided if requested.

Compressor Station	Town	FERC Application Date		Change in horsepower
STA 205	Lawrenceville		-	Station opened in 1981
		5-21-98	add	15,000
		6-19-01	add	Uprate 1,000
		4-9-13	add	Uprate 5,000
		12-18-14	add	Uprate 2,000
		2-18-15	add	Uprate 14,600
STA 207	Old Bridge	10-20-06	new	10,000
		4-9-13	add	5,400
		7-8-15	add	New unit: 11,000
STA 303	Roseland	12-14-11	new	25,000
		7-8-15	add	Uprate 2,500
		11-16-17	add	New unit: 33,000

- As NJDEP is considering the outstanding permit applications for the NESE Project, they recently approved another Williams/Transco project in Roseland, the Gateway Expansion Project, to add a new 33,000 horsepower compressor unit to a station where the current 27,500 horsepower compressor unit only runs during peak demand times. Though it was not specifically identified as the reason for expansion, the belief of many is that this new compressor unit is to provide gas to the proposed power plant in North Bergen, but there was no apparent consideration of the dangers of passing more gas at higher velocity through the 60 year old pipelines here as well as the fact that, at this site, Roseland experienced three 100-year floods and storms within the past 10 years. Additionally, this compressor station is next to an existing PSEG station with high-voltage, interstate transmission electrical lines whose capacity was doubled via a Susquehanna-Roseland upgrade several years ago.
- **Expansion plans** of Williams/ Transco in Pennsylvania and New Jersey should not be ignored since there is the possibility that new infrastructure will affect New Jersey via future expansions through our state as well as generate risky impact from increased compression and velocity through older pipeline in NJ that is part of this delivery system.

For example, in November 2018, Williams/Transco applied to FERC for the Leidy South Project (PF19-1) to transport 582,400 million cubic feet per day (MMcf/d) of Marcellus gas from northeast and southwest PA to “growing demand centers along the Atlantic Seaboard.” In Pennsylvania, they plan to replace 6 miles of 24” pipeline with 36” pipeline, add 3.55 miles of 42” pipeline, uprate two electric compressor units from 15,000 HP to 21,000 HP and another two from 20,000 HP to 21,000 HP, add a 31,871 HP gas-fired turbine-driven compressor unit to a station with 42,000 HP already, and add two new compressor stations – one with two 23,465 HP gas-fired turbine-driven compressor units, and the other with one 31,871 HP gas-fired turbine-driven compressor unit. Impacts to the Leidy Line that is in New Jersey should be of concern.

Williams/Transco recently opened a bidding period for a new project that they propose – Regional Energy Access. From press releases, the project would “connect Marcellus supply from points along the Transco pipeline’s Leidy Line in Luzerne County, Pa., to delivery points in Pennsylvania and New Jersey, including the Station 210 Zone 6 Pool in Mercer County, NJ, the Lower Mud Run Road interconnect in Northampton County, Pa., and along Transco’s mainline to Station 200, Marcus Hook lateral, and Trenton Woodbury lateral.”

References:

For rates of return on pipeline construction:

Phil McKenna. (2017 August 3). Pipeline payday: how builders win big, whether more gas is needed or not, Inside Climate News. Accessed at: <https://insideclimatenews.org/news/02082017/natural-gas-pipeline-boom-corporate-profitbubble-limited-demand-climate-emissions>

For National Grid’s ability to pass costs on to customers:

“National Grid Annual Report and Accounts, 2016/17 (UK). Page 176. Accessed at: <http://investors.nationalgrid.com/~media/Files/N/National-Grid-IR/reports/ara-2016-17-plc-0606-2017.pdf>

There is a Questionable Need for this Added Gas in New York.

Despite the claims of Williams/Transco and National Grid, the outlook for natural gas demand in the region simply does not warrant increasing the supply. The Northeast Supply Enhancement Project is an expensive project that nobody needs.

- Former New York State Department of Environmental Conservation (NYSDEC) Regional Director Suzanne Mattei culled data from a huge range of sources to show that National Grid's claim that this source of fracked gas is necessary to serve a growing demand is just that: a claim. Mattei shows decisively that the demand for gas to heat homes and businesses will decline over the next ten years due to energy efficiency and the availability of alternative technologies.

Source: Mattei, Suzanne and others. (2019 March) False Demand: The Case against the Williams Fracked Gas Pipeline (PDF). Accessed at: https://350.org/wp-content/uploads/2019/03/Stop_Williams_False_Demand.pdf

Williams/Transco and National Grid claim that the NESE project is necessary because NYC needs more natural gas, but there is no publicly available data that backs this up. In its application to FERC, Williams/Transco says that "National Grid has forecasted a need for additional natural gas supply to meet residential and commercial demands due to population and market growth within its service territory." However, Williams/Transco requested that the supporting market data be kept out of the public record because it contains "confidential commercial information" from National Grid. Yet, National Grid is a monopoly; it is the only supplier of natural gas for its service area with no competitors who could benefit from such information. Similarly, National Grid has said that it needs the NESE to support increasing demand, but simply asserts this with no supporting data.

NESE would deliver more than twice as much additional natural gas to New York City than it needs, even if it achieves the unlikely goal of converting all of its residential and commercial buildings' oil use to natural gas.

- According to the reports noted below, New York does not need the amount of additional natural gas planned to be delivered by the NESE Project. Adding natural gas infrastructure does not help New York or New Jersey reach their goals of higher renewable energy sources. (a, b) Even if National Grid converted all residential and commercial heating units from oil to gas, the NESE would deliver twice as much gas as would be needed.

- (a) According to ICF International's 2012 report for the NYC Mayor's Office of Long-Term Planning and Sustainability, conversion of New York City's boilers from oil to gas would require a maximum increase of National Grid's gas supply by 6%, yet the NESE Project would increase National Grid's capacity by more than 50%.

This report stated that National Grid had "pipeline capacity contracts" for approximately 622,000 dekatherms per day (Dth/d). The NESE project would add 400,000 Dth/d of capacity, *an increase of 64%*. Moreover, a Mayor's report, issued in 2013 in response to Superstorm Sandy, said that NYC's overall supply of natural gas was sufficient except on cold winter days. Since then, Con Edison's access to natural gas, which it supplies to customers in the Bronx, Manhattan, and northern Queens, was expanded by the construction of a pipeline under the Hudson, completed in late 2013, that brought 800,00 Dth/d to the west side of Manhattan, a dramatic increase in the city's natural gas supply. Additionally, National Grid received an increase of 115,000 Dth/d from Williams/Transco's New York Bay Expansion Project, put into operation on October 9, 2017 (65,000 Dth/d to the Rockaway Transfer Point and 50,000 Dth/d through the Long Island Extension to the Narrows Meter Station in Richmond County, NY) which, when added to the 2012 reported capacity contracts, indicates that NESE would *increase capacity by 54%*. The necessity of a second dramatic expansion in the form of this proposed NESE pipeline, given that there is no current shortage, seems improbable.

Sources:

(a) http://www.nyc.gov/html/om/pdf/2012/icf_natural_gas_study.pdf

(b) A stronger, more resilient New York. (2013 July 11). Accessed at:

<http://www.nyc.gov/html/sirr/html/report/report.shtml> Quote about cold days: p. 110.

(b) In comments to FERC on May 14, 2018, National Grid noted that they only need approximately a 10% increase in natural gas to cover both New York City and Long Island: “Over the next ten years, Peak Day gas demand in the National Grid NY and National Grid LI service territories is expected to grow by more than ten percent due to the continued conversion of oil-fired heating systems to run on natural gas as well as increased demand from new construction customers. Furthermore, in assessing the adequacy of its current gas supply portfolio, National Grid has identified a need for additional gas supply beginning in the 2019/2020 heating season in order to support this customer demand growth in downstate New York.” (FERC Accession No. 20180514-5995)

- **National Grid claims that it needs more access to gas because of ongoing boiler conversions from heating oil to natural gas, but this is overstated.** In the short term, New York City regulations requiring building boilers to convert from No. 6 and No. 4 heating oil to a less polluting fuel will continue to encourage conversions to natural gas. However, even if every boiler so affected were to convert to natural gas, this would only raise demand by 6% - and many of these are in Con Ed’s service area, not National Grid’s. Moreover, NYC is moving ahead with plans to mandate building retrofits to improve energy efficiency. In addition, New York State is now encouraging the conversion of fossil fuel heating systems to ground-source heat pumps, a development particularly relevant to areas with stand-alone homes and commercial buildings like much of Staten Island, Brooklyn, Queens, and Long Island. All of these factors translate into only a modest increase in demand for natural gas, if at all.
- There is no proof that converting from dirty oils to natural gas provides climate benefits, since even small amounts of methane leakage (which exists in all natural gas pipelines) erodes the benefits of switching from oil to natural gas.

Source: PSE Healthy Energy, “The Greenhouse Gas Impacts of Proposed Pipeline Buildout in New York,” Feb 2018, 28. Accessed at:

<https://earthworks.org/cms/assets/uploads/2018/02/NY-Pipelines-PSE-TECHNICAL-REPORT.pdf>

- NESE is not needed to replace the most polluting #6 fuel oil as they originally claimed. The #6 oil furnaces in NYC have already been removed as part of the NYC DEP OneNYC goals of an 80 percent reduction in greenhouse gas emissions by 2050. Accessed at: <https://www1.nyc.gov/office-of-the-mayor/news/152-16/mayor-de-blasio-dep-that-all-5-300-buildings-have-discontinued-use-most-polluting>

Companies are issuing coercive propaganda to solicit support for the NESE pipeline in New York.

The urgency of moving to a clean energy future could not be greater, and the NESE Project has no part in our clean energy future. We must ignore the propaganda of gas companies.

- Those who benefit from the current fossil fuel energy system aren't going to just quietly pack their bags and embrace renewable energy. ConEd is already [creating a manufactured gas shortage crisis in Westchester](#) to try and scare elected officials and business developers into supporting the expansion of fracked gas infrastructure.
- National Grid and Williams/Transco are already [doing the same on Long Island](#) and will be soon in New York City.

- Despite the claims of Williams/Transco and National Grid, which both have an interest in protecting their business models by keeping New Yorkers hooked on gas, New York City does not have a shortage of gas. This means that the NESE Pipeline is not needed. Williams/Transco and National Grid have failed to provide adequate evidence for any need, basing their conclusions on faulty math related to boiler conversions and customer data, and ignoring the effect on demand of increases in efficiency and renewable energy.
- Allowing a company to build a \$1 billion fracked gas pipeline to solve a problem that doesn't exist would be an abdication of regulatory responsibility. It would also create the risk of a stranded asset (an asset that is unexpectedly devalued, in this case, because the gas is no longer needed).

NESE would thwart New York's clean energy goals & efforts to address impacts of climate change.

Forces are converging that will *reduce* demand for natural gas, not increase it.

- Given clear awareness of the danger that fossil fuel extraction, transportation and use poses on severe weather-related impacts from climate change, the question that New York is currently addressing is how to transition from dirty fossil fuel to clean renewable energy sources, and New York City's plans focus on clean energy technologies including offshore wind, solar, energy efficiency and energy storage. New York City has committed to reducing greenhouse gas emissions 80% below 2005 levels by 2050, and according to a 2017 publication, *1.5 Aligning New York City with the Paris Climate Agreement* (September 2017), burning of fossil fuel in NYC for heat and hot water accounted for the City's biggest source of greenhouse gas emissions (39%).

Accessed at: <https://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/1point5-AligningNYCwithParisAgrmtFORWEB.pdf>

- Along with New York City's plans for increasing energy efficiency through building retrofits, New York State also has ambitious energy efficiency goals and well as support for more efficient ways of heating buildings. New York State also has ambitious plans for building out its solar and wind capacity, and for accelerating battery storage, which will lower demand for fracked gas as a power plant fuel. New York State has set a goal of 50% of electricity generation as coming from renewable sources by 2030.
- NESE would make it impossible to NYC to reach NYC's climate goals according to Elena Krieger & Eliza Czolowski (February 2018). The greenhouse gas impacts of proposed natural gas pipeline buildout in New York at PSE. Accessed at: <https://earthworks.org/cms/assets/uploads/2018/02/NY-Pipelines-PSE-TECHNICAL-REPORT.pdf> and at <https://www.psehealthyenergy.org/wp-content/uploads/2018/02/NY.Pipelines-1.pdf>

References:

New York State's ambitions: Governor Cuomo's State of the State address, January 3, 2018:

<https://www.governor.ny.gov/news/governor-cuomo-unveils-20th-proposal-2018-statestate-new-yorks-clean-energy-jobs-and-climate>

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New York City's climate plan:

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NINE REQUESTS FOR REVIEW OF WATER QUALITY PERMIT APPLICATIONS TO THE LAND USE DIVISION OF NJDEP

- (1)** Given a lack of boring analyses along all parts of the Madison Loop, and lacked attention to acid-producing soil areas, NJDEP should require pH testing in areas of suspected acid producing soils along with required avoidance or mitigation actions as part of permit conditions if they are issued so that the water quality, natural communities and the integrity of older and new pipeline would be protected from construction in areas with acid producing soil.
- (2)** The NJDEP should recognize that Williams/Transco determined that they need more information from additional borings along NESE's onland pipeline route, and no decision about the permit applications should be issued without first receiving and reviewing that information.
- (3)** No decision about the permit applications should be made without first receiving and reviewing current information from those in charge of the toxic sites along the Madison Loop that affirm or preclude potential impacts from NESE construction that should inform dewatering permit applications.
- (4)** No decision about the permit applications should be made without first reviewing the information from the Parlin E.I. DuPont DeNemours site pertaining to the extent of PFAS contamination as it might pertain to water quality and other permit applications.
- (5)** If permits are issued, they should include conditions that all time-of-year restrictions for threatened and endangered species are agreed upon and required.
- (6)** If permits are issued, they should include required post-construction monitoring for HABS in the workspace and surrounding areas over time as well as any necessary remediation.
- (7)** Since there was no comprehensive assessment of potential long-term effects of toxic sediment disturbance on shorelines, beachgoers, marine life or the health of shoreline communities in terms of costs to health, safety and economics, consideration should be given to requiring a long-term assessment of these aspects which would be impacted by the NESE construction, and any permits issued should include a provision for compensating harmed people, wildlife and the environment.
- (8)** If permits are issued, NJDEP should include a condition to require Williams/Transco's commitment to a comprehensive compensatory mitigation arrangement for unavoidable damages to soft-bottom benthic habitats as well as to the horseshoe crabs.
- (9)** NJDEP must ensure that all plans adhere to requirements stipulated in all pertinent NJ State regulations for this Project's water quality and other permit applications.

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REGARDING: APPLICANT: Transcontinental Gas Pipe Line Company LLC
PROJECT: Northeast Supply Enhancement (NESE) Project
DWS&G FILE NO.: 1342D Temporary Dewatering Permit – Borough of Sayreville
1343D Temporary Dewatering Permit – Old Bridge Township
NJDEP HEARING DATE: 03/18/19

Under the Federal Clean Water Act, NJDEP has the right and the duty to protect the quality of our local waters. NJDEP needs to conduct the stringent review of Transco's NESE Project that FERC failed to perform.

According to the Water Supply Management Act, N.J.S.A. 58:1A-3(e), it is my understanding that nonconsumptive use of water diverted from surface or ground waters that is returned to the surface or ground water cannot result in substantial diminution in quantity or substantial impairment of quality. I am assuming that the NJDEP would not render a decision without validating that the information upon which a decision will be based is thorough, truthful, and appropriate.

I am concerned about the potential for dewatering to further toxify the groundwater since the Madison Loop would be constructed through known contaminated sites, and the potential for groundwater recharge and mitigation of impacted groundwater did not appear to have been fully assessed or addressed to protect the health of people, wetlands and water sources in the area.

(1) Impact Assessment: Williams/Transco has not sufficiently identified permanent, temporary, and secondary/indirect impacts.

Mitigation: Williams/Transco did not adequately detail plans, which could be reviewed by the public, for mitigation of adverse impacts on ground or surface waters caused as a direct result of diversions from dewatering activities that are near or in wetlands/watercourses, near or over known areas of toxic contamination, and/or near or over areas of acid producing soil.

Contaminated Groundwater

AECOM claims that the pumping radius of influence would be 50- to 200-feet from excavation sites at a depth of 6-feet below the anticipated groundwater surface.

Given that both the E.I. DuPont DeNemours and the Global Sanitary Landfill sites are Classification Exemption Areas and Well Restricted Areas, and given the likelihood of encountering contaminated soil and/or water at these locations, there is the possibility that dewatering in these areas would exacerbate contamination. This did not seem to have been adequately addressed in the permit applications.

In their applications, I did not read any documentation about the actual known contaminated plumes (spread and depth) for the identified toxic sites within ¼ mile of the Madison Loop (except for a verbal assertion that the DuPont site's contamination is 150' bgs), and I also did not see any investigation to determine if there were more Historic Fill areas beyond those identified by NJDEP maps.

- The **NJDEP's Statewide PFAS Directive, Information Request and Notice to Insurers** (3/25/19) includes the Parlin E.I. DuPont DeNemours site, and it was noted that a recent sampling there had GenX in several monitoring wells. As I am sure you are aware, this is a site where they produced nonstick Teflon, camera film, car paint and blended fluoropolymers, and PFAS were/are found in the surrounding soil, water and

air. As noted in the NJDEP's Directive, PFAS compounds are extremely resistant to metabolic and environmental degradation (persist indefinitely in the environment), and they bioaccumulate (resulting in buildup of these toxins in living tissue). The Directive also notes that some PFAS are classified as likely carcinogens, and studies indicate that exposure may cause cancer (testicular, kidney & liver), autoimmune and endocrine disorders in adults, developmental effects during pregnancy in fetuses or to breastfed infants, and other associated human health effects including reduced vaccine response and increased cholesterol and liver enzymes. Thus, more careful review of information from EPA for this site seems to be warranted before rendering a decision on the permit applications, and NJDEP should consider all information requested in the Directive for this site (due within 21 days of receipt of the Directive) as part of the permit review process.

- When Williams/Transco did pipeline work as part of their NY Bay Expansion Project in this area, they actually encountered contaminated groundwater from the Global Sanitary Landfill between Mileposts 10.0 and 10.4. They did not address this in their current NESE Application to you or to FERC, and FERC told them to update their Materials & Waste Management Plan to anticipate encountering contaminated groundwater along the Madison Loop because they did before. Their update was noted to have been published in the May 11, 2018 supplemental information provided to FERC.
- At the Global Sanitary Landfill area, Williams/Transco noted in their 6/1/17 report to FERC that Global's contaminated area was less than 100-feet south of the Madison Loop; they expected to need to dewater here; and they did not anticipate encountering contaminated groundwater. The water table here was reported to be 4' bgs, and trenching is anticipated to be 8' bgs. The depth to contaminated groundwater at this area was not reported from a current report from those who continue with remediation activity here.
- The HDD planned for the Parkwood Village area was reported by Williams/Transco to FERC to have a maximum depth of 60' to 80' bgs, and Williams/Transco acknowledged that they would likely encounter groundwater here from the Road Department Garage Area 3-1 site.
- The HDD crossings at Cheesequake Road and Parkwood Village are in the area of known contamination from E.I. DuPont DeNemours and the Global Sanitary Landfill, and this would be approximately 75-feet bgs. The depth for the Madison Loop's new pipeline, where it would cross the existing 42-inch Lower Bay Loop C pipeline in two places in Old Bridge and two places in Sayreville, wasn't clear from publically-available information, but it was noted that there would be a vertical separation from the existing pipeline that is 4-feet bgs of 40-feet at Cheesequake Road and 50-feet at Parkwood Village. HDD construction for Cheesequake Road is proposed from MP 8.92 to MP 9.28, and HDD construction for Parkwood Village is proposed from MP 9.42 to MP 9.86.
- The spread of toxic soil and groundwater from the DuPont site is a concern here since, near Milepost 9.60, groundwater is 42' to 45' bgs, and near Milepost 9.74, groundwater was found at 55' to 71' bgs. In their 6/1/17 report to FERC, Williams/Transco acknowledged that groundwater contamination could be present in construction areas going through the DuPont site, but in their application to the NJDEP, they noted that groundwater contamination at the DuPont site is 150' bgs without providing supporting documentation that I saw. HDD construction for Parkwood Village is proposed from MP 9.43 to MP9.86.
- Historic Fill areas, mapped by NJDEP for areas over 5 acres, were identified as potential sources for groundwater contamination, but no details about exploratory testing were provided, and Williams/Transco noted that there could be more sites like this along the pipeline route that were not mapped by the NJDEP. In their supplemental submission to FERC (5/11/18), Williams/Transco noted that Historic Fill areas were at Milepost 10.24 to 10.34 in Old Bridge and at Mileposts 11.17 to 11.25 and 11.62 to 11.78 in Sayreville. They did not know the direction (upgradient or downgradient) from the proposed Madison Loop. HDD construction for the Lockwood Marina is proposed from MP 11.49 to MP 11.84, and exceptional value or high quality wetlands are at MP11.5.

Dewatering when constructing in Acid Producing Soils

Acid producing geologic materials of both the Raritan and Magothy formations would be encountered when constructing the Madison Loop and onland Raritan Bay Loop trenches and HDDs.

- For construction of the HDD segments of the Madison Loop, the NJDEP noted that Williams/Transco would not be able to segregate the acid producing from non-acid producing sediments. According to the 3/11/19 letter to FERC from Ruth Foster of the NJDEP, a notation was made that this meant that “all of the installation sediment cuttings should be considered acid producing here. All the HDD borings indicated Magothy clay at depths the HDD will transverse.” Stabilization issues were also noted as a potential concern.
- Runoff or erosion from dewatering in acid producing soil areas was not addressed in the Dewatering Permit Applications. Discharging water from acid producing soil areas to ground surfaces, from dewatering, could certainly exacerbate erosion since it is difficult for vegetation to take hold in acid producing soil.
- It is noteworthy that Williams/Transco was aware of concerns about acid soils along the route of the Madison Loop from their Application (7/8/15) and Environmental Assessment (4/4/16) for the New York Bay Expansion Project, CP15-527, but the following were not noted in their Applications to FERC or NJDEP for the NESE Project.

*In their Application for CP15-527, Williams/Transco wrote the following in Section **7.4.6 Acid Producing Soils** -*

The geologic units in the New Jersey Coastal Plain province which are capable of producing acid conditions in the soil included the Raritan, Magothy, Merchantville, Woodbury, Englishtown, Marshalltown, Navesink, Red Bank and Kirkwood Formations. The Project area for Station 207, the Morgan M&R Station, and the LNYB Replacements are located on the Magothy formation, an acid producing soil (NJGS, 2009).

Prior to ground breaking in the Project areas, pH testing will be needed to determine if acid producing soils are present and if so, to define the limits of acid soils in the excavation areas. Because of the ability of acid producing soils to impact water quality and alter natural communities, additional mitigation measures may be required, including topsoil dressing and extensive liming. In addition, a 150-foot riparian zone is required on any segment of water flowing through an area that contains acid producing soils. Should pre-construction testing confirm the presence of acid-producing soils this state regulated buffer will be implemented; however, if not present, Transco will coordinate with the New Jersey Department of Environmental Protection (NJDEP) to determine if the standard 50-foot buffer can be implemented at the one stream crossing and the adjacent intermittent drainages situated onsite.

*In the Environmental Assessment for CP15-527, FERC wrote in **2.2 Acid-Producing Soils (pg. 15)** -* The Project area for Compressor Station 207, the Morgan M&R Station, and the LNYB Replacements are located on the Magothy formation, an acid-producing soil (NJGS, 2009). Prior to construction in the Project area, Transco would conduct pH testing to determine the location of acid-producing soils. Because of the ability of acid producing soils to impact water quality, alter natural communities, and impact the facilities, if acid-producing conditions are encountered Transco may employ mitigations measures including topsoil dressing and extensive liming.

A review of documents for the CP15-527 Project on the FERC docket, did not show anything to indicate that Williams/Transco actually completed pH testing.

Hydrology

Any modification to wetland areas has the potential to modify groundwater flow paths and thus modify the discharge that currently drives the hydrology of the wetlands. Upland construction-related discharge changes at Mileposts 10.6-10.9 could push beyond the limits of the wetlands system, and dewatering the coastal wetland at Milepost 11.48 will exacerbate compaction and put tidal wetlands at risk.

(2) Soil Borings provided for Dewatering Permit Applications:

Data about and from borings along the Madison Loop raise concerns that complete information about impacts to/from wetlands, watercourses, and acid producing soils was not provided, and the impacts on soils and wetlands/watercourses from dewatering was not thoroughly considered.

I am also concerned that you have not been provided with adequate information about the geology, soils and contaminants from the reports generated from borings in the area.

- In their application, AECOM noted that borings were not completed along all sections of the Madison and Raritan Bay Loops. Most borings were completed to provide information to Laney about possible HDD construction.
- AECOM noted that they did not complete hydrometer testing or permeability testing as part of their study of borings, and they relied solely on soil classifications for calculations. This was done even though they also acknowledged that the aquifer thickness contributing to the dewatering flow is generally unknown, and the anticipated soil conditions in the area are heterogeneous. Even recognizing this, they used average permeability coefficients from the separate soil classifications.
- No borings or reports from borings done for this Project or from prior projects in the area of the Madison Loop were provided as part of the NESE applications to NJDEP from MP 8.57-8.9, 9.11-9.27, and 9.29-9.59 where it was documented that construction would encounter wetlands and watercourses. Additionally, concerns about contamination from the Road Depot Garage Area 3-1 at MP 9.5 and from the E.I. DuPont DeNemours & Co. site at MP 9.21 and 9.32 were not addressed with analyses of borings in these areas.
- Borings B-1 and B-2 were said to have been completed at MP 10.5 and 10.6 by AECOM on April 26, 2016. Documents to NJDEP for the NESE Project indicated that borings B-1 and B-2 were completed by AECOM for the New York Bay Expansion Project's 42" pipeline replacements, to be constructed 25-feet from the existing 42" pipeline between MP 10.00-10.22, 10.30-10.30, and 10.38-10.42. However, no boring logs or lab results for these were provided for the NESE Project to NJDEP or FERC or in FERC documents for the New York Bay Expansion Project. Furthermore, confusion about the lack of data from the 4/26/16 borings B-1 and B-1 arose from logs from other B-1 and B-2 borings, listed as having been completed for a 2005 report from URS for Williams/Transco's Morgan Replacement – Crossway Creek crossing by the Marina, which were provided in documents to FERC and NJDEP for the NESE Project.
- No borings or reports from borings done for this Project or from prior projects in the area of the Madison Loop were provided as part of the NESE applications to NJDEP from MP 10.07-11.17, 11.29-11.79, and 11.81-12.00. Again, these areas cover wetlands and watercourses, with two areas noted to be exceptional value or high quality wetlands (MP 10.7 and 10.9), and the pipeline construction would cross areas of identified contamination such as from the Global Sanitary Landfill (MP 10.13-10.38), E.I. DuPont DeNemours & Co. site (MP10.05-10.31) and the identified Historic Landfills at Mileposts 10.17, 10.65-10.68 and 10.77.

- **Acknowledgement that More Data from Borings is needed:** On February 5, 2019, Williams/Transco applied to the NJDEP's Land Use for permits to complete more geotechnical borings along the Madison Loop in PI No. 1219-04-0001.3; Activity No. CZM190001.

The NJDEP should recognize that Williams/Transco determined that they need more information from additional borings along NESE's onland pipeline route, and I would expect that no decision about the permit applications would be issued without first receiving and reviewing that information.

(3) No Dewatering Application for the Compressor Station 206 Site

I am also concerned because there was no application to your Division for a temporary dewatering and/or short-term water use permit for the Compressor Station 206 site where they plan to install two 700-foot long, 48-inch diameter connecting pipes in wetlands, a 4-foot deep concrete foundation for the 50-foot x 11.8-foot (583 ft²) compressor unit building where they expect a maximum excavation depth of 15-feet for this building (noted in the 6-30-17 answer to FERC's Data Request of 5-11-17), a 3,360-foot long access road where water and electric utility lines would be under the road that also would have culverts to address crossing of wetlands, two retention basins, an infiltration basin, and other buildings/structures (with an additional total area of 22,969 ft² of impervious surface). These figures, from Geosyntec's report posted to FERC on 6-1-17, were provided by Williams for a study to assess impact only on the compressor building from the regular dynamite blasting at Trap Rock Quarry.

Of note – The FEIS by FERC lists the tie-in, suction/discharge pipeline length to be 852-feet.

Hydrostatic testing of these pipelines is required, and in the FEIS, FERC listed a volume of 600,000 gallons and a discharge rate of 2,000 gallons per minute for hydrostatic testing here. Certainly that requires a short-term water use or temporary dewatering permit that was not requested, and the requests from NJDEP for this appear to have been ignored by Williams/Transco and their contracted agency, AECOM.

Data from the plans for the current infiltration and retention basins revealed that groundwater was encountered here at depths as little as 2.5-feet. Looking at the soil types where they plan to install pipeline, the depth to the top of the water table was noted to be 0 to 30-inches.

Additionally, there did not appear to be any accounting for measures to avoid the existing Sunoco pipeline that is in the area where they plan to install tie-in and suction/discharge pipelines.

Allowing Williams/Transco to consider providing you with notification of needed dewatering activities at the Compressor Station 206 site thirty (30) days before the activity would not allow the NJDEP to truly assess the data about the site or the potential hazards from such dewatering activity. Thus, I request that you require submission from Williams/Transco of current and complete relevant documentation along with an application for a temporary dewatering and/or short-term water use permit for the Compressor Station 206 site before final decisions are rendered for their applications for the NESE Project.

(4) Habitat for Threatened/Endangered Species and Construction Timing Restrictions

NESE's proposed pipeline contains habitat for the State threatened osprey and black-crowned night heron as well as for the State endangered bald eagle. Applications for dewatering did not address likely timing restrictions for this. In Ruth Foster's 3/11/19 letter to FERC, she noted that dewatering activity cannot take place from January 1 to July 31 within foraging habitats for bald eagles. She also noted that no work on the pipeline is permitted between April 1 and August 15 in regulated habitat areas of the osprey and black-crowned night heron. Thus, any dewatering permits should stipulate these timing restrictions.

Foraging habitats for these birds were listed for the following areas along the Madison Loop:

	Mileposts
State endangered bald eagle	10.10, 10.45, 10.64-10.70, 10.88, 11.44-11.63, 11.65, 11.77, 11.84
State threatened osprey	11.55
State threatened black-crowned night heron	11.55-11.58, 11.65-11.73, 11.76, 11.84

(5) Safety Concerns

Given the safety record of Williams/Transco, I doubt that it would be wise to rely on them to ensure that their contractors will follow their Unanticipated Discovery of Contamination Plan, and I urge you to add some oversight for the dewatering activities as part of the permit consideration. Additionally, I am concerned that Williams/Transco would choose a carrier to transport any contaminated soil/water offsite without the NJDEP needing to have additional approval. I urge you to consider adding a level of protective oversight and assume responsibility for approving their choice of carrier and disposal site.

Though safety is not an issue being considered as part of your review of dewatering permit applications, it should be noted that any reliance on Williams/Transco to follow Best Practices might be naïve and lead to environmental harms. For example:

- The PADEP issued notices of violation to Williams/Transco in 2018 for not following their Erosion & Sediment Control Plan and Best Practices and, while investigating unauthorized discharge of sediment into wetlands, the PADEP saw them using HDD construction that was not authorized.
- Also in construction of the Atlantic Sunrise in PA, Williams/Transco removed a stormwater basin over the objection of the township and, following a heavy rain event, a mobile home community flooded even though they did not flood in earlier years after events like Tropical Storms Lee & Agnes when the basin was intact.

Considering the identified issues with the design of the infiltration basin at the Compressor Station 206 site, lack of examination of erosion possibility from constructing through acid producing soil along the Madison and Raritan Bay Loops, and a lack of consideration of the immediate and long-term impacts from all of NESE’s pipeline construction – especially discharging acid-forming soil waters onto nearby lands, the applications for dewatering permits for the NESE Project do not meet the **Goals of the Stormwater Management Act Rules** for stormwater management planning found at N.J.A.C. 7:8-2.2(a)

10. Reduce flood damage, including damage to life and property;
11. Minimize, to the extent practical, any increase in stormwater runoff from any new development;
12. Reduce soil erosion from any development or construction project;
13. Assure the adequacy of existing and proposed culverts and bridges, and other instream structures;
14. Maintain groundwater recharge;
15. Prevent, to the greatest extent feasible, an increase in nonpoint pollution;
16. Maintain the integrity of stream channels for their biological functions, as well as for drainage;
17. Minimize pollutants in stormwater runoff from new and existing development in order to restore, enhance and maintain the chemical, physical, and biological integrity of the waters of the State, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial and other uses of water; and
18. Protect public safety through the proper design and operation of stormwater management basins.

Summary of Requests:

Given a lack of boring analyses along all parts of the Madison Loop and Williams/Transco's recent application to complete more borings; concerns about harming soils/water areas by dewatering from construction in acid forming soils; incomplete documentation about the depth and spread of contaminated groundwater plumes; no dewatering application for the Compressor Station 206 site; a recent NJDEP request for more information pertaining to contamination at the E.I. DuPont DeNemours & Co. site; and current lack of agreement to adhere to time-of-year restrictions for threatened or endangered species, I request that:

- (1)** NJDEP require pH testing in areas of suspected acid producing soils, along with required avoidance or mitigation actions to be approved by NJDEP, as part of permit conditions if they are issued so that the water quality, natural communities and the integrity of older and new pipeline would be protected from construction in areas with acid producing soil.
- (2)** No decision about the permit applications would be issued without first receiving and reviewing information from the additional borings requested to be completed along the Madison Loop.
- (3)** No decision about the permit applications would be made without first receiving and reviewing current information from those in charge of the toxic sites along the Madison Loop that affirm or preclude potential impacts from NESE construction that should inform dewatering permit applications.
- (4)** NJDEP require Williams/Transco to submit current and complete relevant documentation along with an application for a temporary dewatering and/or short-term water use permit for the Compressor Station 206 site before final decisions are rendered for their applications for the NESE Project.
- (5)** Any dewatering permits should stipulate time-of-year restrictions for threatened or endangered species.
- (6)** No decision about the permit applications would be made without first reviewing the information from the Parlin E.I. DuPont DeNemours site showing the extent of PFAS contamination as it might pertain to dewatering.