

DATE: October 20, 2019

TO: Eastern Environmental Law Center

FROM: Jack Szczepanski, Ph.D.

RE: Analysis of Transco's Responses to Public Comments on Its Waterfront Development Individual Permits (In-Water & Upland) and Coastal Wetlands Individual Permit applications for the Proposed Northeast Supply Enhancement ("NESE") Project (Program Interest #: 0000-01-1001.3; Activity #: LUP 190002)

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## I. Overview

Transco submitted to the New Jersey Department of Environmental Protection ("DEP") responses (dated September 9, 2019) to public comments on the above-referenced permit applications. In particular, this submission contained a "comment/response matrix" as Attachment A, which included Transco's responses to public comments on the NESE Project's potential offshore water impacts.

Based upon my review, it appears that most of Transco's responses are merely references to its previous submissions to DEP and simply assert that what Transco already submitted is sufficient -- without providing additional supporting information that refutes the comments. Moreover, the inconsistencies and flawed conclusions in Transco's responses raise doubts about the quality of the data and information it is using. The regulated offshore activities proposed by Transco will still have an overall negative impact to designated uses and aquatic life and are still in violation of not only N.J.A.C. 7:9B, but also N.J.A.C. 7:7-9.36 and 7:7-9.37 (as previously detailed in Princeton Hydro's May 2, 2019 Report on Transco's NESE NJDEP Permit Applications).

The following analysis discusses in more detail specific instances in which Transco's responses are insufficient and faulty.

## II. Analysis

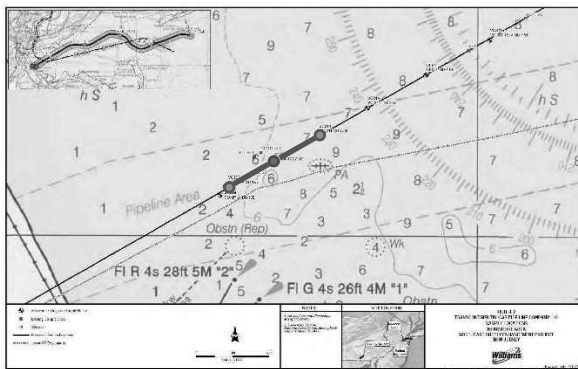
### A. Response #23 ("Contaminant Transport Modeling Results and BMPs")

Transco claims that "through use of these BMPs [Best Management Practices], contaminants introduced into the water column during construction will not have an adverse impact on water quality." The BMPs that Transco has committed to implementing are said to be listed in Appendix F of the June 2019 Waterfront Development permit application. However, the list of BMPs to be used includes practices that have already been proposed, such as the use of a clamshell bucket and slow dredging rate, and have been shown to be insufficient.

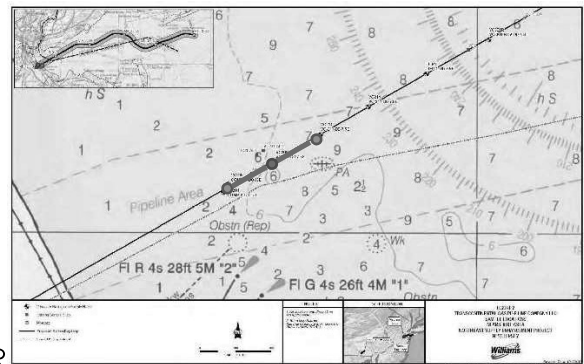
Specifically, these BMPs and the modeling have various deficiencies. "Adjustment of dredging rate as necessary to meet water quality standards," as it is specifically listed in the Transco June 28, 2019 Supplement to Request for [permits] and Response to Deficiency

Letter to NJDEP DLUR, is a reactionary measure and there is no assurance that rate reduction will happen prior to disturbing contaminated sediment. In addition, Transco provides no explanation of how sediment contaminant levels will be monitored during trench construction to detect contaminant concentrations that would exceed water quality standards (as discussed below under Section II.E). And only 6 locations were modeled that had contaminants. These cannot be the only locations along the route that have contaminated sediments; there is, however, no testing to show the content of the areas (1) in between these 6 points and (2) between these 6 points and uncontaminated sediments. The second item concerns the uncertainty as to the extent of contamination between the uncontaminated sites and the adjacent contaminated site. For example, does the extent of contamination begin at the first recorded contaminated sediment site (VC208, Appendix F-5)? Or is there contaminated sediment immediately adjacent to where uncontaminated sites VC206 and VC211 were tested? Figures 1 and 2 below demonstrate this uncertainty respectively, with blue representing clean sediment and red representing contaminated sediment.

**Figure 1**



**Figure 2**



OR

The extent of this contaminated sediment along the proposed route could have significant consequences for the results of the model in that contaminated sediment concentrations and resulting distribution through dredging could be higher than predicted. Transco could have done more sediment testing to confirm the accuracy of their model.

## **B. Response # 25 (“Impacts to Horseshoe Crab”)**

Transco appears to minimize the Project's potential impacts to horseshoe crabs by noting that they are “relatively mobile and would likely temporarily vacate turbid areas.” It is true that horseshoe crabs do burrow into sandy substrates, so turbidity alone is not likely to cause them discomfort. But the presence of disturbed toxic sediment would likely negatively impact horseshoe crab populations. Thus, given that Transco's bioaccumulation study did not include results for horseshoe crabs, DEP cannot conclude that there will not be significant impacts to this species due to contaminated sediments.

### C. Response # 28 ("Contaminated Sediment in Raritan Bay")

- Transco states that it "considered bioaccumulation" in its Appendix I and cites modeling that "suggest that the entrainment and redeposition of even the most contaminated sediments along the route will not adversely affect local biota or food webs." This modeling, however, only describes effects to the hard clam and sandworm. Bioaccumulation occurs throughout the food web and is magnified in higher trophic level organisms (i.e. higher up the food chain) – a process known as "biomagnification." Clams and worms are lower level consumers on the food chain and thus are not representative of the full scope of bioaccumulation effects. Transco's modeling would need to include commercial and recreational fish (as well as other species) before it could be considered a comprehensive assessment of bioaccumulation effects.
- Transco states that "Results of Transco's contaminant dispersion modeling indicate that the contaminant levels in the water column associated with Project construction would not exceed the applicable chronic or acute toxicity criteria presented at N.J.A.C. 7:9B ["Surface Water Quality Standards"] for saline waters outside a 500-foot mixing zone. It is reasonable to expect modeling of sediments with lower (ER-L) concentrations would also indicate compliance with the applicable chronic and acute toxicity criteria outside a 500-foot mixing zone." But that's not how these ER-level thresholds work. Transco appears to be stating that it was asked to model lower levels of contaminants, but this is not the case. Princeton Hydro's point is that Transco's model results should be subject to more stringent standards -- not that Transco should model lower concentrations.

Results of modeling for sediment contaminants does not depend on state-determined thresholds; it depends on environmental factors like water currents and chemical properties. The concentrations will be the same despite whichever ER-level is used to determine if the resulting concentrations will have an adverse ecological impact. Using ER-L to evaluate sediment toxin concentrations means that they cannot exceed the lower threshold concentration; there could be areas with concentrations that negatively impact between 10-50% of species that would cause Transco to be out of compliance if ER-L was used as the threshold.

Further, Transco does not address compounding effects of multiple contaminants, which Princeton Hydro raised in our August 23, 2019 Report (pg. 30). The ER-M thresholds used in the modeling are each for a single chemical contaminant's effects; organisms will likely be more sensitive to lower concentrations of multiple toxin exposure at one time. In actuality, organisms will be exposed to more than one contaminant at the same time and therefore be more impacted by a smaller concentration of each toxin. As an example, a healthy human with a broken leg is likely to heal and regain use of its leg much faster than a human with a broken leg,

cholera, mercury poisoning, and mononucleosis. Compounding effects of multiple contaminants are not addressed and will have a significant adverse ecological impact.

- Transco states that "sediment with higher contaminant levels will be mixed with adjacent less-contaminated material." But Transco does not explain how it can know for certain that the sediment adjacent to the sediment they found contaminated is less contaminated. Transco only took samples from sediment along the route and -- if these samples are "reasonably representative" of the sediment characteristics in the area along the route, as claimed in Transco's response -- then it would be likely that the adjacent areas would have similar levels of contamination as those areas along the route rather than be less-contaminated. In fact, 83% of Transco's samples that had contaminants exhibited exceedances -- making it more likely than not that the adjacent areas would also have contaminant exceedances.

Princeton Hydro maintains that the use of six (6) points along a two (2) mile section along the proposed route (the only alternative that was sampled and modeled) is not sufficient to be able to make sweeping generalizations about the condition of the route (see August 23, 2019 Report, pg. 29). But, if this was sufficient for the DEP-approved Sediment Sampling and Analysis Plan (SSAP), that lends more credibility to the problem (discussed above) that more of the areas adjacent to the sites that exhibited contaminant concentration exceedances would also exhibit such contamination exceedances. Thus, Transco contradicts its own claims within this single response. The following analogy illustrates this issue. During a 6-mile running race, a runner's speed could be measured at each mile and extrapolated to give a pace for the entire 6-mile distance to determine the runner's final finishing time. This would, however, result in a very different measurement for the racer's time if the individual sprinted at each measuring point and walked in between those points than if the runner had a consistent pace throughout the race. So too is the uncertainty, in Transco's submission, of contaminant concentrations and, consequently, the threshold exceedances along the stretch of the proposed route at which contaminants were found at only 6 points. The concentration of contaminants in between these point remains unknown and could have been tested for greater accuracy and to the benefit of the precision of the contaminant modeling.

- Finally, Transco claims that "contaminated dredged material would be removed and backfill will consist of clean, sandy material, thereby reducing overall sediment contamination in Raritan Bay." It is probably technically accurate that the "backfill will consist of clean, sandy material." But this is not an instantaneous process -- in a static environment -- of removing contaminated material and refilling with clean material (like surgeons removing a tumor from the body). Rather, during the course of this process under water on the seabed, other contaminated sediment within trench will very likely be exposed to the aquatic environment before the clean

material can be inserted, thus casting doubt on Transco's claim that "overall sediment contamination in Raritan Bay" would be reduced.

#### **D. Response # 30 ("Alternatives Analysis")**

In its justification for its alternative analysis regarding the Raritan Bay Loop, Transco explains its rationale for not choosing an onshore alternative route. There is no mention, however, of its evaluation of its other offshore alternatives. As Princeton Hydro has noted previously, Transco's evaluation of its other offshore alternatives was highly flawed (see June 2018 Report, pp. 36-37). In particular, sediment testing could have been done to determine whether there was an offshore route with less negative impact with respect to disturbance of sediment contaminants.

#### **E. Response # 33 ("Construction Schedule")**

While Transco's intention of slowing the rate of production to decrease the resuspension of contaminants into the water column is understood, the fact remains that there will not be sediment analysis to identify the presence of these toxins occurring at each site in real time during construction. Therefore, the pipeline production rate as a whole cannot exceed 4,800ft<sup>3</sup>/hr in order to ensure that no contamination by polychlorinated biphenyls (PCBs) in areas that have not been tested occurs. Based on the currently proposed timeline and the schedule cited in Transco's response (from FERC's January 25, 2019 FEIS), however, Transco cannot guarantee to maintain such a safe excavation rate. This response does not clearly indicate that the conservative production rate will be maintained. Most significantly, the modeling results (i.e. Appendix F-5 -- Contaminant Transport Modeling Results for New Jersey Waters) that do indicate the appropriate conservative production rate were reported in Transco's June 2019 Waterfront Development permit application -- 6 months after the FEIS, which Transco cites for its timeline. At the time of the FEIS, the production rate that had been modeled for was 11,250 ft<sup>3</sup>/hr. This is based on the sediment transport model, which was shown to be flawed.

Thank you.

Sincerely,



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