

Review of Mattawoman Certificate of Public Convenience and Necessity Amendment Request

November 1, 2020

Jenny Newland
Principal

Evan Hansen
President

Downstream Strategies
911 Greenbag Road
Morgantown, WV 26508

www.downstreamstrategies.com

**Downstream
Strategies**



Ideas that sustain.

1. INTRODUCTION

In September 2020, Mattawoman Energy requested an amendment to its Certificate of Public Convenience and Necessity (CPCN) from the Maryland Public Service Commission (PSC). The reason for the amendment was to fulfill a condition of the CPCN requiring the company to evaluate the impacts of dewatering trenches for the construction of 7.3-mile pipeline to bring natural gas to the proposed Mattawoman Energy Center power generation station. The Request for Amendment noted that the proposed pipeline construction would trigger the need for a water appropriation and use application.

The request includes a report from Trihydro Corporation, *Natural Gas Pipeline Dewatering Evaluation Report, Mattawoman Power Plant, Brandywine, Prince George's County, Maryland* (the "Trihydro report"), dated June 19, 2020, and included as Exhibit A of the Request for Amendment. On October 13, 2020 the Maryland Department of Environment approved Mattawoman's water appropriation and use request and forwarded that approval to the PSC.

Downstream Strategies, LLC was engaged to review the Amendment Request in advance of an administrative hearing of the PSC to consider Mattawoman's amendment. In this report, we identify issues not fully explained, evaluated, or supported in the Amendment Request and Trihydro report.

2. DEWATERING IMPACTS

2.1 Impacted streams are not clearly and comprehensively identified

The Request for Amendment does not clearly and comprehensively identify the streams that will be impacted by dewatering. Instead, information about the impacted streams is presented piecemeal in different parts of the report.

For example, the Trihydro report includes Figures 9A, 9B, 10A, 10B, 10C, and 10D, and these maps show the radial extent of a 0.1-foot drawdown and a 1-foot drawdown overlaid with streams and other surface features. The report does identify the watersheds that the pipeline would cross: Zekiah/Jordan Swamp watershed, Zekiah Swamp watershed, and Mattawoman watershed. And in its discussion of areas of concern, it mentions certain streams:

- "a small tributary to Mattawoman Creek" for Site E;
- "the headwaters of Mattawoman Creek" for Site F;
- "multiple stream crossings within the existing PEPCO Right of Way (ROW) within Cedarville State Forest, including two small tributaries (headwaters) of Wolf Den Branch, a tributary to Zekiah Swamp" for Site G;
- "multiple stream crossings within the existing PEPCO ROW, including the crossing of the two tributaries (headwaters) of Wolf Den Branch, a tributary to Zekiah Swamp" for Site H; and
- "a small stream (Stream 5)" for Site I.

However, the Amendment Request does not reconcile the watersheds and the streams shown on the maps and mentioned in the discussion of areas of concern.

The PSC should require that the Request for Amendment be amended to clearly and comprehensively identify the streams that will be impacted by dewatering.

2.2 The effects of dewatering on impacted streams and wetlands are not included

For streams, a drawdown means a reduction in flow, but no information is presented on the size of the impacted streams and whether the expected reduction in flow will fully dewater any stream sections or the percent reduction in flow expected from dewatering. This is an especially important omission because dewatering will impact many headwater streams.

It is also important because the dewatering will occur upstream from Tier II portions of Mattawoman Creek and Zekiah Swamp. Tier II waters have water quality that is better than the minimum requirements specified by water quality standards, and state antidegradation implementation procedures protect these waters from further degradation. Whether or not these antidegradation procedures apply to the type of permitting action considered by the PSC, the designation of these waters as Tier II waters highlights that activities impacting water quality should be reviewed with a high bar—especially when the impacted Tier II waters have no remaining assimilative capacity.

Trihydro's report concludes there will be no impacts from temporary dewatering of streams and wetlands. The report provides no scientific citations to support this conclusion, which we assume is based on the assertion that the levels of dewatering are less than seasonal variation. This assertion is based on a 2015 report submitted by Trihydro describing the impacts of dewatering for construction of the power generating station, not by outside scientific studies. Even using its unsubstantiated natural range of monthly (0 to 3 feet) and seasonal (2 to 6 feet) water-table fluctuations, estimates for drawdown levels exceed 6 feet for up to 150 feet from the trench, for trenches as short as 500 feet long. No evidence is provided that these conditions will have no impact to aquatic organisms in impacted streams.

The PSC should require that the Request for Amendment be amended to clearly identify the impact of dewatering on small, impacted streams, including the percent reduction in flow expected from dewatering and whether any streams will be fully dewatered. The PSC should also require that the Request for Amendment be amended to clearly identify the impact of dewatering on wetlands.

2.3 The timing of dewatering is not considered

The Amendment Request does not include information about the timing of drawdowns, but the timing could be critical for assessing impacts to aquatic animals and plants. In correspondence in November 2014, the Maryland Department of Natural Resources noted the presence in the project area of American brook lamprey, a Maryland threatened species. The presence of this species is not mentioned in the Amendment Request, but given its status as a species of concern, special attention should be made to protecting stream flows during the lamprey's critical breeding or overwintering periods. Loss of stream flow during breeding season of other native fish and amphibians could also have significant impacts, even over a short time period. Drawdowns in wetlands during the early spring amphibian breeding season could reduce breeding success. Dewatering during late fall when amphibian and reptiles need to burrow into wet soils to prevent freezing could negatively impact adult populations.

The PSC should require that the Request for Amendment be amended to clearly identify the timing of dewatering and how that timing may impact the American brook lamprey and other native fish, amphibians, or reptiles. The PSC should also require that the Request for Amendment be amended to prohibit dewatering during time periods when dewatering would unreasonably impact the American brook lamprey and other stream and wetland organisms.

2.4 Potential impacts to groundwater quality from the Joint Base Andrews Superfund site are not properly considered

The Amendment Request identifies a Superfund site at Joint Base Andrews:

“The Joint Base Andrews (JBA) Brandywine Defense Revitalization and Marketing Office (DRMO) federal Superfund site is located immediately north of the MEC plant site. Historically, the JBA DRMO site was contaminated with various chemicals, with most of the groundwater contamination resulting from chlorinated volatile organic compounds. As part of the interim remediation record of decision approved by the USEPA and JBA in 2005, an institutional control (IC) boundary was established based on a 500 ft distance from the greatest lateral extent of the contaminant plume. Groundwater pumping from within this IC boundary is prohibited, unless it is related to the JBA DRMO site remediation efforts”¹

It then asserts: “At its nearest point, the NG pipeline is over 2,600 ft away from the JBA DRMO site and the established IC boundary.”²

However, the institutional control is based on a 500-foot distance from the greatest lateral extent of the contaminant plume, not a 500-foot distance from Joint Base Andrews. A contaminant plume can extend for a great distance beyond the original contamination site, and the lateral extent of the plume could have expanded since the institutional control boundary was established 15 years ago.

Should the drawdown be close enough to the contaminant plume, it could extend the contaminant plume even further, contaminating additional groundwater and potentially putting human health at risk.

The PSC should require that the Request for Amendment be amended to clearly identify the lateral extent of the contaminant plume from the Superfund site at Joint Base Andrews, and to reassess the potential impact of the drawdown based on this new information.

2.5 Drawdowns associated with long sections of open trenches are not clearly addressed

Trihydro’s analysis of drawdown levels is based on open trench lengths between 100 to 750 feet, as summarized in Table 6 of its report. The report notes that “Mattawoman will open trench areas of between approximately 4,000 to 6,500 feet in length, at a given time, to complete the NG pipeline within the anticipated schedule of 240 to 260 days.” The data presented in Table 6 indicate that longer trenches result in greater drawdown, but no explanation of possible impacts for 4,000-foot-long trenches is included.

The PSC should require that the Request for Amendment be amended to address drawdowns associated with long sections of open trenches.

¹ Amendment Request, p. 13.

² Amendment Request, p. 13.

3. RETURN OF PUMPED WATER

3.1 Impacts of returned pumped water are not properly considered

The Amendment Request explains that water pumped from pipeline corridor will be filtered and discharged to nearby areas. No evaluation is included in the document of potential impacts from this return of large volumes of water to wetlands or other surface waters, or to roads, railroad tracks, or nearby properties.

The amount of water discharged per day into streams and wetlands is not broken out by stream or by wetland; instead, it is only broken out by segments divided by subwatershed. There is no discussion of construction methods or best management practices, so there is no way to judge if all water will be pumped to one location for discharge, or if discharges will be spread out across the pipeline segment.

The Trihydro report also includes no information about the size of streams or wetlands receiving the proposed discharge of pumped water or a comparison of the amount of discharge to average daily flow of these streams. No discussion is presented about how these streams will be protected from erosion from large volumes of discharge—an important omission because small streams receiving abnormally large flows could be destabilized, leading to erosion, sedimentation, and the loss of aquatic habitat. Further, no discussion is presented about the local drainage ditches into which pumped water will be released and whether these ditches are sufficiently large and engineered such that the water does not damage roads, railroad tracks, or nearby properties even before the water reaches streams or wetlands.

The PSC should require that the Request for Amendment be amended to clearly identify how, where, and in what volumes pumped water will be returned to streams and wetlands and to identify how water pumped into drainage ditches will not damage roads, railroad tracks, or nearby properties even before the water reaches streams or wetlands.

3.2 Impacts to Zekiah Swamp are not clearly described

Zekiah Swamp is a Wetland of Special State Concern (WSSC) and the largest hardwood swamp in Maryland. Like all wetland types in the United States, hardwood swamps have been reduced by clearing and draining for agriculture and other development. In Maryland, 73 percent of forested wetlands were lost to competing land uses from 1780 to 1980.³ Because of its large size and variety of forest community types, Zekiah Swamp has had special status since 1989.⁴ The entire project area falls within Maryland's Targeted Ecological Areas, areas of high ecological value representing the most ecologically valuable areas in the state.⁵

According to the Trihydro report, the headwaters of this important ecological resource will receive nearly 90,000 gallons per day of water pumped from the construction area. The Request for Amendment states that the discharge will have no impact on this ecologically sensitive area, but provides no analysis or evidence to support this claim. Best management practices in regulations governing the management of WSSCs⁶ include requirements that any activities occurring near these sensitive ecological areas manage runoff and allow no direct discharge of stormwater. Pumped water will have similar impacts as stormwater on this ecologically important wetland.

³ Forested Wetlands: Function, Benefits and the Use of Best Management Practices. 1995. U.S. Forest Service.

⁴ Forest Communities of Zekiah Swamp Nontidal Wetland of Special State Concern. 1997. Maryland Department of Natural Resources.

⁵ <https://data.imap.maryland.gov/datasets/maryland-focal-areas-targeted-ecological-areas?geometry=-76.934%2C38.635%2C-76.649%2C38.682>

⁶ COMAR 26.23.06.03 F

The PSC should require that the Request for Amendment be amended to identify how the water will be returned to Zekiah Swamp tributaries and to demonstrate that this will be accomplished in a manner that does not cause erosion or otherwise disrupt the function or value of this WSSC.

4. CUMULATIVE IMPACTS

4.1 Cumulative impacts to streams and wetlands from dewatering are not fully considered

The Amendment Request asserts that minimal if any cumulative impacts will result from dewatering because the impacts are short-term and temporary. It does not mention any cumulative impacts to waters of the State that would result from multiple disruptions to streams and wetlands in the project area.

For example, it includes no information on the length of streams that will be impacted by dewatering. The area of wetlands impacted by drawdowns is summarized in Table D3 of the Trihydro report, but a similar summary of the linear feet of streams that fall within the dewatered areas is not included. Without this information, is difficult if not impossible to understand the cumulative impacts to streams in the Mattawoman and Zekiah Swamp watersheds.

Tables 10A, 10B, 10C, and 10D show areas impacted by a 0.1-foot reduction in the water table. This reduction impacts a significant length of upper reaches of Mattawoman Creek. No discussion is made of the cumulative impacts from reductions in the water table in a single stream.

The PSC should require that the Request for Amendment be amended to clearly identify the total linear feet of streams which will be impacted by dewatering in each construction segment and for the Mattawoman Creek and Zekiah Swamp watersheds.

4.2 Cumulative impacts of dewatering and open trenching are not assessed

Open trenching is proposed across Mattawoman Creek and other streams in both the Mattawoman and Zekiah Swamp watersheds. These streams will be impacted by open trenching and dewatering, but no evaluation of the possible cumulative impacts of these activities is provided.

The PSC should require that the Request for Amendment be amended to include an assessment of impacts of dewatering combined with open trench crossings of headwater streams.