

**UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION**

**ATOMIC SAFETY AND LICENSING BOARD PANEL
BEFORE THE LICENSING BOARD**

In the Matter of)	Docket No. 50-320-LA-2
TMI-2 SOLUTIONS, LLC)	ASLBP No. 23-977-02-LA-BD01
(License Amendment Request for Three)	February 21, 2023
Mile Island Nuclear Station, Unit 2))	

**PETITIONER ERIC EPSTEIN’S
REPLY BRIEF IN SUPPORT OF
MOTION FOR LEAVE TO FILE NEW CONTENTIONS**

Pursuant to 10 C.F.R. § 2.309(c), Petitioner Eric Epstein, through undersigned counsel, respectfully submits his Reply Brief in Support of his Motion for Leave to File New Contentions based on information that was not previously available.

As set forth below, and in his Motion (Jan. 18, 2023), the Licensing Board should find that because the Susquehanna River Basin Commission (“SRBC”) issued an order, effective January 1, 2023, which limited the supply of water to Three Mile Island Nuclear Station, Unit 2 (“TMI-2”) to an “incidental” supply, and did not approve a supply of water to TMI-2 for “consumptive use,” there is no adequate supply of water to TMI-2. Because TMI-2 Solutions, LLC, submitted its License Amendment Request (“LAR”) for TMI-2 prior to the issuance of SRBC’s order, the LAR failed to consider the consumptive use restrictions on TMI-2, and the NRC staff has not addressed these significant water use restrictions.

I. Procedural Background.

This proceeding concerns the LAR (Feb. 19, 2021) by TMI-2 Solutions, LLC (“Licensee”) to amend the existing Possession Only License (“POL”) for TMI-2. The Licensee

now seeks to revise the POL and the associated Technical Specifications (“TS”) to support the transition of TMI-2 from a Post-Defueling Monitored Storage (“PDMS”) status to a “normal reactor” without the baggage from a core meltdown.¹ The Licensee supplemented its application five times, on May 5, 2021 (ML21133A264); January 7, 2022 (ML22013A177), March 23, 2022 (ML22101A079); April 7, 2022 (ML22101A077); and May 16, 2022 (ML22138A285).

On August 22, 2022, the NRC published a *Federal Register* notice describing the LAR, informing the public of the opportunity to request a hearing, and describing the NRC staff’s proposed determination that the LAR involves no significant hazards consideration.² However, the NRC used the terms “preliminarily agrees” (22) or “preliminarily concludes” (17) in its “preliminary evaluation” (3) in the *Federal Register* Notice. Similarly, the term “preliminarily” is used 42 times in the LAR for TMI-2, making clear that no final analysis has been done.

On November 3, 2022, Mr. Epstein filed a *pro se* hearing request and Petition to Intervene (“Petition”).³

On November 14, 2022, the Board issued an Initial Prehearing Order,⁴ detailing the briefing schedule and administrative matters for the proceeding.⁵

Petitioner Epstein timely filed a Motion for Leave to File New Contentions (“Motion”) on January 18, 2023, which identified two new contentions and provided additional support for

¹ Letter of Gerard van Noordennen (TMI-2 Solutions, LLC) to NRC Document Control Desk (Feb. 19, 2021), Attachment 1 (ML21057A046).

² TMI-2 Solutions, LLC, Three Mile Island, Unit No. 2, 87 *Fed. Reg.* 51,454, 51,460 (August 22, 2022) (LAR Hearing Notice).

³ See “Eric Joseph Epstein’s Petition for Leave to Intervene and Hearing Request” (Nov. 3, 2022) (ML22307A225) (Petition).

⁴ Licensing Board Memorandum and Order (Initial Prehearing Order) (Nov. 14, 2022) (unpublished) (ML22318A181) (Initial Prehearing Order).

⁵ *Id.* at 4 n.11.

his standing arguments.⁶ On January 19, 2023, the Board held argument on both standing and the contentions.

II. The Susquehanna River Basin Commission.

The Susquehanna River Basin Commission (“SRBC”) strictly regulates large-scale water use in the Basin, including for nuclear power plants. Any consumptive water use of 20,000 gallons per day (“gpd”) or more over a 30-day average from any water source in the Susquehanna River Basin is regulated by the SRBC. All consumptive water use for nuclear activities must obtain SRBC approval.

Water withdrawals of 100,000 gallons per day or more, over a 30-day average, from any source or combination of sources within the Basin are also regulated by the SRBC. All water withdrawals that supply water to a regulated consumptive use are also regulated. All water withdrawn for nuclear activities must obtain SRBC approval.

Therefore, the SRBC regulates water use at Three Mile Island. TMI Unit-1 (“TMI-1”) was shut down in September of 2019, and its permission for water use expired in October of 2021. Since the core melt accident at TMI-2, that reactor has been permanently shut down.

Based on the SRBC’s Order issued on December 15, 2022, TMI-1 no longer has access to enough water to operate a nuclear power plant. TMI-2 has no rights to withdraw water. Even if Constellation (the operator of TMI-1)⁷ elects to transfer water to TMI-2 based on the SRBC’s

⁶ Petitioner Eric Epstein’s Motion for Leave to File New Contentions (Jan. 18, 2023) (Agencywide Documents Access and Management System (ADAMS) accession no. ML23018A297).

⁷ Exelon no longer owns or operates TMI-1. On February 24, 2021, Exelon Corporation announced that it intended to transfer 100 percent ownership of its subsidiary, Exelon Generation, LLC to a newly-created subsidiary that will then be spun-off, becoming Exelon Generation’s new ultimate parent company. As a result of this transaction (the “Generation Spin Transaction”), Exelon Generation and its subsidiaries are now owned by Constellation.

restrictions, Constellation and TMI-1 are not mandated to do so, and TMI-2 Solutions has no water infrastructure of its own for storage or transport. In addition, TMI-2 has no water infrastructure or intakes, and TMI-2 Solutions would have to construct a water line or install storage tanks for a water supply. Water use at Three Mile Island is complicated by the fact that ownership is split between two separate licenses.⁸

Mr. Epstein raised concerns throughout the SRBC Proceeding. See Petitioner Eric Epstein's Declaration, at ¶¶ 2-8 (Feb. 20, 2023) (attached hereto as Exhibit 1). Mr. Epstein supported the modification in TMI's permit that added Paragraph 24 to the Order, a stipulation allowing for minimal withdrawal of groundwater from TMI-1 to TMI-2 to be capped. However, any modification to increase water use for TMI-1 or TMI-2 would require a new proceeding.

The SRBC does not monitor radioactive water discharges. Mr. Epstein cautioned the SRBC Commissioners that TMI's prior owners had attempted to dump 700,000 gallons of radioactive water into the Susquehanna River. Mr. Epstein addressed the SRBC on December 15, 2022, and asked the commissioners to negotiate a Memorandum of Understanding with the Army Corps of Engineers and the Nuclear Regulatory Commission to monitor water releases into the Susquehanna River.

On August 22, 2022, the NRC published the aforementioned *Federal Register* notice. The SRBC's decision was issued on December 15, 2022, or 31 days after the NRC required the petition to be filed in TMI-2's License Amendment Request, and almost four months after the

⁸ TMI-2 Solutions is a Limited Liability Corporation organized in Delaware, based in Utah, and a wholly owned subsidiary of *EnergySolutions*, which controls nearly \$1 billion in rate payer decommissioning funds. TriArtisan, which is a privately held equity company based in New York, owns *EnergySolutions*. TriArtisan's shares are owned by investors from outside of the nuclear industry such as Sara Lee Desserts and TGI Fridays, and 28 percent of TriArtisan is owned by foreign investors.

Federal Register notice. The water issue has been before the SRBC, but TMI-2 Solutions has steadfastly refused to participate in the SRBC proceedings. The new water use standards explicitly exclude the licensee of TMI-2 – TMI-2 Solutions – and greatly reduce the amount of water available for TMI-1, which is owned by a separate licensee, Constellation.

Under the SRBC’s Order, the following significant reductions were made in water allowances at TMI-1:

TMI, Consumptive Water Use:

Before: 19.2 mgd per monthly average.
After: 6.0 mgd per monthly average.

TMI, Surface Water Use:

Before: 122.8 mgd per monthly average.
After: 44.0 mgd per monthly average.

TMI, Groundwater Withdrawals:

Before: .255 mgd per monthly average.
After: .099 mgd per monthly average.

Should TMI-2 Solutions seek to subvert the SRBC’s Order, or illegally remove water from the river, TMI-2 Solutions would jeopardize the cleanup and be subject to sanctions. In the past, PECO, which operated the Peach Bottom Atomic Power Station, and PPL, which operated the Susquehanna Steam Electric Station, were fined by the SRBC for illegal water withdrawals. Both plants increased consumption without permission after completing Power Upgrades. Exelon paid a \$640,000 fine at Peach Bottom in December 2006, and PPL paid a \$500,000 fine at Susquehanna in September 2007.

III. Mr. Epstein Properly Addressed TMI-2’s Failure to Obtain Adequate Water for Its Clean-Up Operations, which TMI-2 and the NRC Failed to Address.

This tribunal should find that Mr. Epstein is the only party in this proceeding who has properly raised water use issues regarding the TMI-2 cleanup. The LAR, and all related

documents at the NRC, are intentionally silent on water use issues. Here, Mr. Epstein has repeatedly tried to get TMI-2 Solutions to produce a water use plan at TMI-2. However, both TMI-2 Solutions and its owner (Energy Solutions) have resolutely resisted attempts from the SRBC to quantify or produce phasing for water use cleanup.

Mr. Epstein submitted multiple information requests to the SRBC in 2020, 2021, and 2022, relating to water use at TMI-1 and TMI-2. *See* Epstein Declaration, at ¶¶ 2-8 (Exhibit 1). The information Mr. Epstein received indicated that the SRBC was continuing to study the issue, including whether and how TMI-1 could supply TMI-2. *Id.* at ¶ 7.

Mr. Epstein's active participation in the water use case is not in dispute, nor is TMI-2 Solutions active disengagement. TMI-2 Solutions has not provided information to Mr. Epstein or the SRBC. However, the water use case was fluid and marked by frequent stops and turns, and the outcome was uncertain. *See, e.g.,* SRBC to Exelon Nuclear (Mar. 11, 2021); SRBC to Exelon Nuclear (Oct. 26, 2021) (attached hereto as Exhibits 2-3). It was not until December 15, 2022, that the SRBC determined that TMI-2 Solutions had no water rights, and was dependent on Constellation for limited water use. In a remarkable turnabout, TMI-2 Solutions departed from the earlier estimate in a memo to the SRBC of 100,000 gallons, and increased the need to 500,000 gallons. Mr. Epstein determined that this inconsistency required further action on the part of both SRBC and the NRC. *See* Epstein Declaration (Ex. 1), ¶¶ 9-13, 19-20.

TMI-2 Solutions sat out the SRBC proceeding, and now brings unsubstantiated claims that they now need 500,000 gpd which is disputed in evidence.⁹ Mr. Epstein filed Right to Know Requests with the SRBC. Among the responses, as part of the Constellation application, on

⁹ The Petitioner is willing to share, with both the ASL&B and all Parties, all the data obtained through Right to Know Requests to the Susquehanna River Basin Commission.

April 29, 2021, TMI-2 Solutions told the SRBC they only needed 100,000 gpd:

As discussed, I called Dan Jordan Tuesday, and he put me in contact with Mark Cambra of Energy Solutions over at Unit 2. Mark is working on the decommissioning and demolition planning going on, right now. He said there is no current water use at Unit 2, but when they are ready, water will be provided by Unit 1's approved groundwater withdrawals via hydrants for dust suppression for building demolition and other decommissioning activities, including the need for demineralized water. **Between Units 1 and 2, they anticipate needing less than 100,000 gpd (30-day average) from Wells A, B, and C. I explained to Mark that some of the activities at Unit 2 may need to be reviewed as part of the CU component of the project, in particular with respect to revisions to the allowable CU purposes and reasonable / foreseeable need for the withdrawals and consumptive use.**

See Epstein Declaration (Ex. 1), ¶ 11 & Att. C (SRBC internal email, "TMI Unit 2" (Apr. 29, 2021) (emphasis added). Yet, TMI-2 told the NRC that it would need up to 500,000 gpd (30-day average). *Id.* at ¶ 12 (quoting TMI-2's Answer, at 9 (Feb. 13, 2023)).

However, neither the NRC or TMI-2 Solutions provided any data to Mr. Epstein substantiating the water use claims at TMI-2, or any contract with the entity which holds the water rights. The SRBC approved a plan entirely contingent on Constellation unilaterally deciding when and if it chooses to transport water to TMI-2. *See* Epstein Declaration (Ex. 1), at ¶¶ 16-20. Further, TMI-2 has no water infrastructure or transfer storage capacity. *Id.* at ¶ 17. The *ad hoc* approach to water use is similar to TMI-2 Solutions' documented history of changing its criticality predictions.

The SRBC finally approved the TMI-1 Application plan on December 15, 2022, after the initial filing deadline at the NRC expired on November 4, 2022. Constellation now has the option to provide a limited amount of water. Moreover, water use at TMI can be modified and is tempered by drought, seasonal fluctuations, and water temperature. Most importantly, TMI-2 Solutions has no water infrastructure and is dependent on the discretion of Constellation's rationed water use limits. *See* Epstein Declaration (Ex. 1), at ¶¶ 16-20.

Further, TMI-2 Solutions has no plan to dispose of any water that it uses, and is precluded from dumping the radioactive water into the Susquehanna River. Moreover, the site area is controlled and owned by Constellation. In addition, TMI-2 would need permission to construct and maintain permanent or temporary water transport and storage by Constellation, Londonderry Township, Dauphin County, and the Pennsylvania Department of Environmental Protection, as well as the Pennsylvania Fish and Boat Commission.

TMI-2 Solutions never filed an application with the SRBC, never made an appearance at the SRBC, and never participated in a SRBC hearing. *See* Epstein Declaration (Ex. 1), ¶ 17. Mr. Epstein worked diligently with the SRBC to determine the role, if any, of TMI-2 Solutions. TMI-2 Solutions did not provide any data to the SRBC that was shared with Mr. Epstein relating to water use other than the aforementioned April 29, 2021 memo.

Hence, the timing of the filing of Mr. Epstein’s contentions is driven by TMI-2 Solutions, which refused at every step of the SRBC proceedings to participate or submit verifiable data. It is striking that on December 15, 2023, when the Application was voted on, TMI-2 Solutions once again absented itself from the playing field. Here, TMI-2 Solutions is the proverbial “Flying Dutchman” (a ghost ship that never reaches any harbor) and the water use at TMI-2 has no safe harbor.

IV. CONCLUSION.

For the foregoing reasons, and as set forth in his Motion, the Licensing Board should find that Mr. Epstein has demonstrated good cause as is required for filing new late-filed contentions. The new contentions raise issues that are material to the LAR, provide adequate factual or legal support for the deficiencies in the LAR, and establish a genuine dispute relative to the LAR’s analysis, particularly whether there is sufficient water for TMI-2’s clean-up operations, an issue

that both TMI-2 Solutions and the NRC staff has not adequately examined. For these reasons, the Licensing Board should approve the Petitioner's Motion to File New Contentions in its entirety.

Dated in Washington, D.C.

February 21, 2023

Respectfully submitted,

/s/ Lynne Bernabei

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Counsel for Petitioner Eric Joseph Epstein

CERTIFICATE OF SERVICE

Pursuant to 10 C.F.R. § 2.305(c), I hereby certify that on February 21, 2023, I served a true and correct copy of the foregoing Petitioner Eric Epstein's Reply in Support of Motion for Leave to File New Contentions through the Electronic Information Exchange in the above-captioned matter.

/s/ Signed electronically by Eric Epstein

Eric Epstein
4100 Hillsdale Road
Harrisburg, PA 17112
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Exhibit 1

**Petitioner Eric Epstein's Declaration
(February 21, 2023)**

amount of water required for decommissioning.”

4. On July 19, 2021, I made another Right to Know Request to the SRBC, which resulted in the following response from Ms. Ballaron on August 19, 2021: “The Commission has conducted a search for records regarding this matter as requested. All responsive documents from this document are enclosed.”

5. On November 30, 2021, I submitted twelve (12) follow-up questions to the SRBC regarding water use at TMI.

6. On January 3, 2022, the SRBC docketed a formal proceeding for the three wells at TMI-1 (Unit 1): “Technical Review: Susquehanna River Basin Commission Docket Numbers: Three Mile Island Nuclear Station, Unit 1 - Well A - 2021-054; Three Mile Island Nuclear Station, Unit 1 - Well B - 2021-055; and, Three Mile Island Nuclear Station, Unit 1 - Well C - 2021-056.”

7. On January 3, 2022, I submitted my comments to the SRBC regarding the application for the three wells, and the SRBC, through Ms. Ballaron, responded as follows:

The situation with TMI-1 and TMI-2 is unique to the Commission, and the Commission continues to gather site-specific information and evaluate the applications before it. The Commission is seeking clarification as a part of this application process to determine how much water TMI-1 needs from both its surface water and groundwater sources, whether TMI-1’s sources will also supply TMI-2, and what the consumptive use (water loss) will be for TMI-1 and TMI-2. As such, the Commission appreciates the insights and issues you provided in Section II – Three Mile Island Nuclear Station, Unit-1 Post-Shutdown Decommissioning Activities and Water Use and Section III – Three Mile Island Unit-2: Post Defueling Monitored Storage.

See SRBC to E. Epstein, at 1 (Feb. 4, 2022) (attached hereto as Attachment A). The SRBC further noted that:

Issues #17 and #18: Note that existing water use data continues to be submitted under the current docket approval. During the application review process, Commission staff will request a number of clarifications regarding requested amounts of water use and rates of

withdrawals from all sources that recognize the unique features of TMI, including various activities and “modes” related to decommissioning for both Unit 1 and Unit 2.

Id. (Att. A) at 2.

8. On October 22, 2022, I wrote to Jason Oyler, General Counsel and Secretary to the SRBC, to renew my request to have TMI-2 Solutions identify water use needs for TMI-2. I explained that:

“...the Applicant has not received permission from the Nuclear Regulatory Commission to Amend its Possession Only License (“POL”) at Three Mile Island Unit 2. Therefore, the pace, rigor and precise amount of water required for the TMI-2 cleanup will not be determined until 2023.”

“Furthermore, the hearing filing date, which is now November 4, 2022, will create a delay in the schedule for issuing a License Amendment. In the event that additional litigation is approved by the Nuclear Regulatory Commission, this request will tack into the winter of 2023.”¹

9. Based on the inconsistencies in the unsubstantiated statements made by TMI-2 Solutions to the Nuclear Regulatory Commission (“NRC”), I contacted the SRBC on February 17, 2023 to determine (1) whether the SRBC asked and been provided with water use data from TMI-2 Solutions; (2) whether there is a contract between Constellation and TMI-2 Solutions for water use; and (3) whether there is a mechanism to transport water from Three Mile Island Unit-1 (“TMI-1”) to Three Mile Island Unit-2 (“TMI-2”).

10. I also made numerous documented data and information requests and Right to Know Requests to the SRBC relating to the TMI-1 water use application:

Re. Project Sponsor: Constellation Energy Generation, LLC. *Project Facility:* Three Mile Island Generating Station, Londonderry Township, Dauphin County, Pa.

Applications for renewal of groundwater withdrawals (30-day averages) of up to 0.099

¹ See Eric Epstein Request to the SRBC to Remove Agenda Item (10/22/22). *Re:* 3. *Project Sponsor:* Constellation Energy Generation, LLC. *Project Facility:* Three Mile Island Generating Station, Londonderry Township, Dauphin County, Pa. (attached hereto as Attachment B).

mgd from Well A, 0.099 mgd from Well B, and 0.099 mgd from Well C (Docket No. 20110610), and Commission-initiated modification of surface water and consumptive use approvals based on changes in operating status of the project and revised demand projections.

11. The only relevant document produced was from the following SRBC internal correspondence dated April 29, 2021:

“As discussed, I called Dan Jordan Tuesday, and he put me in contact with Mark Cambra of Energy Solutions over at Unit 2. Mark is working on the decommissioning and demolition planning going on, right now. He said there is no current water use at Unit 2, but when they are ready, water will be provided by Unit 1’s approved groundwater withdrawals via hydrants for dust suppression for building demolition and other decommissioning activities, including the need for demineralized water. Between Units 1 and 2, they anticipate needing less than 100,000 gpd (30-day average) from Wells A, B, and C. I explained to Mark that some of the activities at Unit 2 may need to be reviewed as part of the CU component of the project, in particular with respect to revisions to the allowable CU purposes and reasonable/foreseeable need for the withdrawals and consumptive use.”

See SRBC internal email, “TMI Unit 2” (Apr. 29, 2021) (attached hereto as Attachment C).

12. However, this estimate contradicts and undermines TMI-2 Solutions’ Answer, submitted to the NRC on February 13, 2023, on Page 9:

See SRBC Order at P 24 (stating “[t]his approval authorizes the project sponsor to supply water to the TMI 2 Solutions facility limited up to 0.020 mgd (30-day average).”). Note, “mgd” means million gallons per day and is a standard measure of water flow used in the measurement of water consumption. The quantity “0.020 mgd (30-day average)” is essentially equivalent to 600,000 gallons in 30 days. Since TMI-2 only needs an estimated 500,000 gallons to support decommissioning, TMI-2 Solutions cannot be presumed to exceed this restriction.

See TMI-2 Solutions, Answer, at 9 (Feb. 13, 2023).

13. Therefore, I contacted the Susquehanna River Basin Commission, and asked for a clarification on February 17, 2023. I asked the staff, “Did you ask questions about both units?”

The SRBC responded: “I know we asked...Asked and answered...” However, the information

was not readily accessible, and staff committed to research the request. They added that TMI-Solutions did not volunteer to provide data or information.

14. The SRBC may have had a gap in the information relay. According to the SRBC, “The timing of the request and the information may have arrived after Paula Ballaron sent you documents.” However, please note that Ms. Ballaron retired on June 30, 2022, and the data concerning water use at TMI-2 was never shared with Mr. Epstein.

15. Prior to the SRBC’s public hearing on November 3, 2022, I renewed my requests for data covering the four months after Ms. Ballaron’s retirement. On November 2, 2022, Curt Sebastian, Esquire from the SRBC responded: “Attached please find a response to your records request of October 27, 2022, titled ‘Specific data requests.’ The attached letter constitutes the Commission’s complete response to your request.” Once again, this Response did not contain water use projections for TMI-2. *See* SRBC to E. Epstein (Nov. 2, 2022) (attached hereto as Attachment D). Please note that November 4, 2022, only two days later, was the filing deadline for petitions relating to TMI-2’s proposed License Amendment Request at the Nuclear Regulatory Commission.

16. It is clear that the Controlling Agreement regarding water use at Three Mile Island is based on regulatory thresholds established by the SRBC on December 15, 2023. Water use is controlled through the SRBC docket, and TMI-2 Solutions has not come to the SRBC with a request for water use at TMI-2.

17. Based on the SRBC’s Order on December 15, 2022, TMI-1 no longer has access to enough water to operate a nuclear power plant. TMI-2 has no rights to withdraw water. In addition, TMI-2 has no water infrastructure or intakes, and would have to construct a water line or install storage tanks for a water supply.

18. I raised concerns throughout the SRBC Proceeding, and supported the modification in TMI's permit that added Paragraph 24 to the Order. This stipulation allows for a minimal withdrawal of groundwater from TMI-1 to TMI-2 to be capped. Any modification to increase water use for TMI-1 or TMI-2 would require a new proceeding. Water use is totally contingent upon Constellation's discretion.

19. The SRBC also communicated to me on February 17, 2023, that the Application gives TMI-1 ultimate authority: "Constellation can say no. Under the docket it allows them, it doesn't require them [to provide water]...Allowed not required..."

20. The SRBC also told me that it is not aware or in possession of any contract between Constellation and TMI-2 Solutions. "If we don't have agreement, it's likely it doesn't exist." The SRBC has no knowledge of how water will be stored or transported from Three Mile Island Unit-1 to Three Mile Island Unit-2.

21. I attest that this information is true, accurate, and complete and understand that any falsification, omission, or concealment of material fact may subject me or the represented organization to administrative, civil, or criminal liability.

Respectfully submitted,

Eric Epstein
4100 Hillsdale Road
Harrisburg, PA 17112
(717) 635-8615

Attachment A

**Susquehanna River Basin Commission to E. Epstein
(February 4, 2022)**



SUSQUEHANNA RIVER
BASIN COMMISSION

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NY ■ PA ■ MD ■ USA

February 4, 2022

Mr. Eric Epstein
4100 Hillsdale Road
Harrisburg, PA 17112

Re: Exelon Generation Company, LLC – TMI Unit 1 Applications:
Commission Pending Nos. 2021-054, 2021-055, and 2021-056

Dear Mr. Epstein:

This letter is in response to your submittal to the Susquehanna River Basin Commission (Commission), dated January 3, 2022, related to the applications for renewal for activities surrounding the former nuclear power plant at Three Mile Island (TMI). Accordingly, your letter will be treated as correspondence commenting on an active application before the Commission and be made part of the application file and considered as part of the Commission's review of the application.

Many of your comments present background information about TMI Units 1 and 2, including information of the historical core melt accident at TMI Unit 2 and associated cleanup, decommissioning strategies and timetables for Units 1 and 2, and uncertainty regarding financial resources.

The situation with TMI-1 and TMI-2 is unique to the Commission, and the Commission continues to gather site-specific information and evaluate the applications before it. The Commission is seeking clarification as a part of this application process to determine how much water TMI-1 needs from both its surface water and groundwater sources, whether TMI-1's sources will also supply TMI-2, and what the consumptive use (water loss) will be for TMI-1 and TMI-2. As such, the Commission appreciates the insights and issues you provided in Section II – Three Mile Island Nuclear Station, Unit-1 Post-Shutdown Decommissioning Activities and Water Use and Section III – Three Mile Island Unit-2: Post Defueling Monitored Storage.

However, as a reminder, the Commission does not regulate water quality, including thermal discharges and pollutant loads of any wastewater effluent. Information about “who will analyze and monitor water chemistry, where will effluent discharge monitors be located, who and how often will water temperatures be monitored during discharges into the Susquehanna River” is beyond the scope of the Commission's review. Water quality is regulated by other agencies and a standard condition of any Commission docket is the requirement to obtain and maintain all other needed governmental permits.

*A water resource agency serving
the Susquehanna River Watershed*

Your correspondence also contains Section IV – Concerns and Issues with the SRBC Application, which centers around the application for water withdrawals at TMI-1 by Exelon Generation Company, LLC (Exelon), as well as the potential for water use at TMI-2 for decommissioning. Issues #16 to #34 address the applications more directly, and the responses to those inquiries are below:

- Issue #16: Although the organization submitting the applications is still listed as Exelon, the name is expected to be updated/corrected during the review period. As the Commission continues to gather information and evaluate the application before it, it will also evaluate whether additional applications need to be made for TMI-2 by another project sponsor (TMI-2 Solutions, LLC). Note that dockets may be transferred in the case of ownership changes and reissued in the case of name changes or changes to corporate form that do not constitute a change in ownership. These provisions are in the regulations at 18 CFR §§ 806.3, 806.4, and 806.6.
- Issues #17 and #18: Note that existing water use data continues to be submitted under the current docket approval. During the application review process, Commission staff will request a number of clarifications regarding requested amounts of water use and rates of withdrawals from all sources that recognize the unique features of TMI, including various activities and “modes” related to decommissioning for both Unit 1 and Unit 2.
- Issues #19 and #20: The U.S. Army Corps of Engineers (USACE) serves as the Federal member of the Commission and as such, has an important role in acting on water withdrawal and water use applications before the Commission. Although the Commission does not have a Letter of Understanding (LOU) or Memorandum of Understanding (MOU) with the USACE, it does have a Memorandum of Agreement (MOA) signed in 2008 (attached) that provided for a support agreement for a study, A Preliminary Assessment of Optimizing Use of Water Storage at Curwensville and Cowanesque Lakes, PA. Please contact the USACE directly for a definition of its role related to water use at TMI and any federal applications that may be required.
- Issue #21: As part of its hydrogeologic evaluation, the Commission considers the sustainability of groundwater and surface water withdrawals, including sustainability of sources during droughts. Approved projects must be consistent with the Commission’s Comprehensive Plan.
- Issues #22, #23, and #24: The project sponsor(s) is required to provide site-specific data that establishes the amount of water needed to conduct planned activities at the project, both in aggregate to justify the requested withdrawal and also for water use needs for specific activities, as related to consumptive use. Due to the unique nature of TMI, it is reasonable to anticipate a breakdown for TMI-1 and TMI-2, as well as a discussion of likely modifications of water needs over time as decommissioning progresses.

- Issue #25: The Commission has no permit requirements related to the discharge of water from this withdrawal. The Commission coordinates with its member jurisdictions on other required permits and can take appropriate limiting actions regarding not only applications, but also on already approved projects, based on the denial of any other permits per 18 CFR § 806.21. This coordination can include drought restrictions.
- Issue #26: The Commission is not the agency that provides Clean Water Act Section 401 Water Quality Certification.
- Issue #27: There has never been an “exemption” from Commission water use regulations. Releases of stored water from Cowanesque Reservoir during drought events provide make-up water to compensate for consumptive use at the nuclear facilities at TMI. At this time, the water storage agreement remains in place.
- Issues #28, #29, #30, #31, #32, and #33: The Commission notes your requests for site-specific and updated studies for groundwater and surface water monitoring points, and environmental resource information; using the destructive phase of decommissioning as the basis for water need projections; and updated aquifer tests. The Commission’s staff of hydrologists, geologists, aquatic ecologists, and others are well-equipped to conduct a thorough review of the water issues the Commission is charged to oversee. In particular, Commission professional geologists will request sufficient information and data, either through aquifer testing or the new Alternative Hydrogeologic Evaluation process, to perform its hydrogeologic evaluation and make an informed recommendation to the Commissioners.
- Issue #34: Whether or not the project sponsor contributes funding to York Haven Power is beyond the scope of the Commission’s authority.

Thank you for your interest in the Commission and your comments on the applications before the Commission. The Commission will notify you when the applications are subject to the public hearing and any potential action at a future Commission meeting.

Sincerely,



Paula B. Ballaron, P.G.
Manager, Policy Implementation and Outreach

Attachment

cc: Todd Eaby, P.G. – Susquehanna River Basin Commission
Andrew Gavin – Susquehanna River Basin Commission
Curt Sebastian – Susquehanna River Basin Commission

Attachment B

**E. Epstein to Susquehanna River Basin Commission
(October 22, 2022)**

October 22, 2022

Jason Oyler,
General Counsel and Secretary to the Commission
Susquehanna River Basin Commission
4423 N. Front Street
Harrisburg, PA 17110

Dear Mr. Oyler:

The Susquehanna River Basin Commission (“the SRBC” or “the Commission”) conducts four quarterly business meetings a year. One month prior to a business meeting, a public hearing is held to take oral testimony on any business required to be subject of a public hearing.

The next hearing will be conducted at Commission headquarters at 4423 North Front Street, Harrisburg, Pennsylvania on November 3, 2022. On the agenda is the following item:

3. Project Sponsor: Constellation Energy Generation, LLC. Project Facility: Three Mile Island Generating Station, Londonderry Township, Dauphin County, Pa. Applications for renewal of groundwater withdrawals (30-day averages) of up to 0.099 mgd from Well A, 0.099 mgd from Well B, and 0.099 mgd from Well C (Docket No. 20110610), and Commission-initiated modification of surface water and consumptive use approvals based on changes in operating status of the project and revised demand projections.

This date collides with the filing time for the Applicant’s request for an Amendment - License Amendment Request (“LAR”) to the cleanup at TMI-2 on November 4, 2022. That timeline begins the active intervention on the proposed modification of the TMI-2 cleanup plan which directly impacts the timing of water use needs.

However, the Applicant has not received permission from the Nuclear Regulatory Commission to Amend its Possession Only License ("POL") at Three Mile Island Unit 2. Therefore, the pace, rigor and precise amount of water required for the TMI-2 cleanup will not be determined until **2023**.

Furthermore, the hearing filing date, which is now November 4, 2022, will create a delay in the schedule for issuing a License Amendment. In the event that additional litigation is approved by the Nuclear Regulatory Commission, this request will tack into the winter of 2023.

The intervener is arguing that the proposed LAR is flawed and dilutes spent fuel masses causing K-effective projections to drop to 0.95. The proposed LAR ignores site-specific fire scenarios and past cask failures based on unproved assumptions. The LAR impacts changes the decommissioning schedule and timing of water use.

The proposed amendment would would revise the POL and TS to support Phase 1b and Phase 2 decommissioning activities associated with with achieving the removal of all debris material, its transfer to dry cask storage at an Independent Spent Fuel Storage Installation or a suitable waste storage area ..." (Federal Register/Vol. 87, No. 161, p. 54154054155).

This was **not** the plan or protocol used when submitting the Application to the Susquehanna River Basin Commission. This plan is a material deviation, and should be reviewed prior to a hearing or a Commission vote. **If the LAR is approved after the hearing, please note that the Application currently before the SRBC is for a different cleanup plan.**

Adding to the existing uncertainties surrounding the cleanup, are the outstanding issues raised by the NRC regarding TMI-2 Solutions proposed LAR - Requests for Additional Information ("RAI"). Sixteen RAI's were sent to TMI-Solutions on August 23, 2022. The Applicant's Responses were delayed until September 29, 2022, and further postponed before being posted in the NRC's Document Room ("ADAMS") until October 19, 2022. Several of TMI-2 Solutions Responses contain material disputed by the Nuclear Regulatory Commission, and warrant further investigation. In addition, TMI-2 Solutions is asking to delay resolution of several outstanding issues until after the NRC approval of the proposed LAR.

I am requesting that the SRBC remove 3. Constellation Energy Generation, LLC. *Project Facility*: Three Mile Island Generating Station, Londonderry Township, Dauphin County, Pa., and place it on the agenda for the next public hearing date in 2023. The Commission conducts four quarterly business meetings a year, and there is ample time to review the Amendment prior to the next hearing and Commission vote.

Sincerely,

Eric Epstein
4100 Hillsdale Road
Harrisburg, PA 17112

Attachment C

**Susquehanna River Basin Commission, email, "TMI Unit 2"
(April 29, 2021)**

Gavin, Andrew

From: Hoffman, Jeremy
Sent: Thursday, April 29, 2021 9:49 AM
To: Gavin, Andrew
Subject: FW: TMI Unit 2

FYI

Jeremy Hoffman
Manager, Compliance

From: Hewitt, Maurita <mhewitt@srbc.net>
Sent: Thursday, April 29, 2021 9:11 AM
To: Hoffman, Jeremy <jmhoffman@srbc.net>
Subject: TMI Unit 2

Jeremy,

As discussed, I called Dan Jordan Tuesday, and he put me in contact with Mark Cambra of Energy Solutions over at Unit 2. Mark is working on the decommissioning and demolition planning going on, right now. He said there is no current water use at Unit 2, but when they are ready, water will be provided by Unit 1's approved groundwater withdrawals via hydrants for dust suppression for building demolition and other decommissioning activities, including the need for demineralized water. Between Units 1 and 2, they anticipate needing less than 100,000 gpd (30-day average) from Wells A, B, and C. I explained to Mark that some of the activities at Unit 2 may need to be reviewed as part of the CU component of the project, in particular with respect to revisions to the allowable CU purposes and reasonable/foreseeable need for the withdrawals and consumptive use. Mark had a lot of questions and wanted to relay his own thoughts to Exelon's staff, particularly regarding their current consumptive use calculation methodology and his hope that Unit 2's needs wouldn't be forgotten in whatever the renewal/modification process looks like with the Commission. He isn't sure if Unit 1 and Unit 2 could be reviewed as a single entity or if Unit 1's approval covers Unit 2's needs, since Unit 1 essentially owns and operates all the water sources and would just be conveying their water to Unit 2. I told him these were all things that Project Review would be looking at.

Let me know if you need anything else on this.

Thanks,
Maurita

Attachment D

**Susquehanna River Basin Commission to E. Epstein
(November 2, 2022)**



SUSQUEHANNA RIVER
BASIN COMMISSION

4423 N. Front Street | Harrisburg, PA 17110-1788 | 717.238.0423 | srbc.net | [@SRBCnews](https://twitter.com/SRBCnews)

NY • PA • MD • USA

November 2, 2022

Via Electronic Mail

Mr. Eric Epstein
Eric Epstein <epstein@efmr.org>

Dear Mr. Epstein:

This letter is in response to your e-mail correspondence dated October 27, 2021 labeled specific data requests. Your correspondence provides a series of questions and document requests. Each request and the Susquehanna River Basin Commission's (Commission) response is below.

Request: "Currently, the applications are administratively incomplete. SRBC has notified Exelon about a number of administrative deficiencies in the applications, including the required demand projections for total withdrawals and consumptive use. When Exelon corrects the deficiencies, the applications will be assigned for technical review. (SRBC, 11/30/21)."

a) Please identify what was "administratively incomplete", and the "corrected deficiencies."

Response: All documents that would meet this request were previously provided with the Commission's October 28, 2022 response to your October 18, 2022 request.

Request: "The commission does not regulate water quality, including thermal discharges and pollutant loads of any waster effluent." (SRBC, January 10, 2022).

b) Please identify the agencies that monitor pollutant, thermal and waste water discharges from Three Mile Island, and what if any records are shared with the SRBC.

Response: To the extent that part of this request is an interrogatory it is beyond the scope of the Commission's open records regulation at 18 CFR 801.14. Any records shared with the Commission regarding the groundwater renewal applications for TMI would be a part of the October 28, 2022 response, if they exist. No other documents exist as referenced in this request.

Request: c) In the event of a chemical or radioactive release from TMI into the Susquehanna River, if the SRBC is sidelined or unable to act, what mechanism(s) do the SRBC possess to mitigate or stop the contamination and pollution?

Response:: This request is an interrogatory and is beyond the scope of the Commission's open records regulation at 18 CFR 801.14. By way of information, the SRBC does not regulate water quality and does possess mechanisms to mitigate or stop water pollution events.

Request: "The Commission's staff of hydrologists, geologists, aquatic ecologists, and others are well equipped to conduct a thorough review of water issues the commission is charged to oversee. In particular Commission professional geologists will request sufficient information and data, either through aquifer testing or the new Alternative Hydrogeologic evaluation and make an informed recommendation to the Commission.

d) Please identify the water issues at Three Mile Island the "Commission is charged to oversee."

Response: To the extent that part of this request is an interrogatory it is beyond the scope of the Commission's open records regulation at 18 CFR 801.14. Please see the Commission's regulations at Part 806 that were provided to previous requests. The Commission regulates water withdrawals, consumptive use of water and diversions of water out of and into the Susquehanna River Basin.

Request: e) Please identify the number of "hydrologists, geologists, aquatic ecologists, and others..." on staff with the SRBC. Please identify the number of staff members with nuclear experience.

Response: This request is an interrogatory and is beyond the scope of the Commission's open records regulation at 18 CFR 801.14. The Commission's project review staff is comprised of six geologists, one geologist in training, three hydrologists, one biologist and one engineer. While it is unclear what is meant by "nuclear experience", our project review staff may generally have experience with any Commission regulated water withdrawals and uses at nuclear power plants in the Basin that are project sponsors with dockets with the Commission.

Request: f) Please provide the requested "sufficient information and data either through aquifer testing or the new Alternative Hydrogeologic evaluation..." provided to the SRBC.

Response: All documents that would meet this request were previously provided with the Commission's October 28, 2022 response to your October 18, 2022 request.

This letter constitutes the complete response to your questions and requests. Thank you for your interest in the Commission and your comments on the applications before the Commission.

Sincerely,



Curt Sebastian
Assistant Counsel and Access to Records Officer

cc: **Todd Eaby, P.G. – Susquehanna River Basin Commission**
Andrew Gavin – Susquehanna River Basin Commission
Jason Oyler, Esq. – Susquehanna River Basin Commission

Exhibit 2

**Susquehanna River Basin Commission to D. Jordan (Exelon)
(March 11, 2021)**



March 11, 2021

Mr. Daniel Jordan
Exelon Corporation/Three Mile Island Nuclear Station
Route 441 South
P.O. Box 480
Middletown, PA 17057

Re: Renewal of Docket – Exelon Generation Company, LLC;
Three Mile Island Generating Station, Unit 1;
Londonderry Township, Dauphin County, Pennsylvania;
Commission Docket No. 20110610

Dear Mr. Jordan:

Susquehanna River Basin Commission (Commission) staff is aware that on September 20, 2019, Exelon Generation Company, LLC's (Exelon's) Three Mile Island Generating Station, Unit 1 (Facility) was taken offline and ceased operating for the purpose of generating electric power. On February 18, 2021, you and several of your staff met with Commission staff to discuss continued need for the Facility's groundwater wells and Exelon's desire to seek renewal of those wells operated under Commission Docket No. 20110610 (Docket), with a renewal deadline for submission of applications by May 26, 2021. As you are well aware, the Docket also includes approval for Exelon to withdraw up to 122.800 million gallons per day (mgd) from the Facility's Susquehanna River intake, and consumptively use water from all approved sources up to 19.200 mgd for power plant operation and electric power generation.

Exelon staff indicated water withdrawal and consumptive use quantities are expected to continue to exceed Commission regulatory thresholds, but at a much lower magnitude due to cessation of power generation. **As such, recognizing the change in operations, Commission staff will review the water withdrawal and consumptive use demands, from all sources, based on the Facility's reasonable and foreseeable need to adequately address ongoing decommissioning activities.** This review will be done as part of the groundwater well renewal applications; therefore, Exelon will NOT need to submit separate applications to modify the surface water withdrawal and consumptive use at the Facility. However, if Exelon decides that it does not need to renew its groundwater wells, then applications for modification of the surface water and consumptive use approvals will be required by May 26, 2021.

If you have any questions regarding the above information, please contact Todd Eaby at (717) 238-0423, extension 1234, or via e-mail at teaby@srbc.net.

Sincerely,

Andrew J. Gavin
Deputy Executive Director

Exhibit 3

**Susquehanna River Basin Commission to D. Jordan, et al. (Exelon)
(October 26, 2021)**

From: Flynn, Brook
Sent: Tuesday, October 26, 2021 11:15 AM
To: Jordan, Daniel M:(Exelon Nuclear)
Cc: Musser, Debra J:(Exelon Nuclear); edward.pinto@ghd.com; Appleby, Michael; Miller, William
Subject: Exelon Generation Company, LLC - Three Mile Island Nuclear Station, Unit 1
Attachments: Exelon Generation Company, LLC - Three Mile Island (20110610) Docket Renewal Guidance Deadlines - Change of Operations Letter 03-11-2021.PDF; Admin Template - Instructions Update Admin Items.PDF

Mr. Jordan,

Susquehanna River Basin Commission (Commission) staff has initiated the administrative review of groundwater withdrawal applications submitted by the Exelon Generation Company, LLC (Exelon). The applications request approval to withdraw groundwater at a consecutive 30-day average of up to 0.099 million gallons per day (mgd) from Well A, up to 0.099 mgd from Well B, up to 0.099 from Well C, and up to 0.099 mgd from Wells A, B, and C combined. The applications were submitted on May 24, 2021, with public notice materials provided on October 4, 2021.

On March 11, 2021, a letter from the Commission to Exelon communicated the Commission's intent to review the project's withdrawal and consumptive use demands based on the Facility's reasonable and foreseeable need to adequately address ongoing decommissioning activities (letter attached). Accordingly, Section 1.5 of the groundwater withdrawal applications should include withdrawal and demand projections for all sources and consumptive uses for the facility. The Commission will utilize the projected demand information to modify the surface water withdrawal and consumptive use quantities while taking action on the groundwater withdrawal renewal applications. Additional information is provided in comment 3 below, and additional administrative deficiencies are also provided below:

Required Information under 18 CFR §806.14 for Contents of Application:

1. **Section 1.3: Existing and Projected Facility Water Use** - Please updated Section 1.3 to provide the facility's total existing and projected water use quantities. The quantities should be inclusive of all sources and total water usage of the project facility.
2. **Section 1.4: Requested Withdrawal Amount** – Please update Section 1.4 in each of the applications for Wells A, B, and C to indicate the appropriate rates and quantities, as applicable.
 - a. **Maximum Instantaneous Withdrawal Rate (MIWR)** - The provided MIWR multiplied by 1440 cannot be less than the requested 30-day average. However, all applications indicate MIWR of less than 69 gpm but request 0.099 mgd (30-day average). Please correct the MIWR, considering the expected run time of the pumps and/or revise the 30-day average requested quantities, as applicable.
 - b. **Maximum 24-Hour Day** - The maximum day quantity may equal but cannot be less than the requested 30-day average. Please correct the MIWR, maximum day, and 30-day average quantities, as applicable.
3. **Section 1.5: Reasonable Foreseeable Need** – Section 1.5 did not contain demand projections for the groundwater withdrawals or for the facility's total withdrawals and consumptive uses. Therefore, please submit reasonable foreseeable need support to include a detailed explanation including but not limited to:
 - a. **Current and projected demand through 2037** for all withdrawals and consumptive uses at the facility must be provided. Also, please include a brief description for how the water from each source will be used, with justification for the projected quantities.
 - b. The applications indicated a design year of 2031. Please indicate if decommissioning activities are expected to be completed by 2031. Additionally, please provide a schedule for the project that includes how withdrawals and consumptive uses are expected to change over time at the facility, and when decommissioning activities are expected to be complete.

4. Section 2.1 – Project Facility Description – Please revise the Project Facility Description to include the surface water withdrawals and the facilities consumptive use. The description should indicate how the surface water withdrawal is used, how water is currently consumptively used, and how the withdrawal and consumptive use are expected to or has changed since decommissioning activities began.
 - a. Please note, the project facility information provided here will be for public viewing via the Commission’s Water Application and Approval Viewer (WAAV), therefore please do not include any sensitive information in the description.
5. Section 2.4.1 – Evidence of Compliance with Other Member Jurisdiction Agencies - The provided response for any approved or pending federal, state, or local permits was ‘No’, however staff is aware that Exelon has existing permits for operations of the facility; therefore please update Section 2.4.1 to include any existing/approved or proposed permits, as necessary.
6. Section 5.2.1 – Natural Diversity Inventory - The Natural Diversity Inventory screening (PNDI receipt) provided with the applications for Wells A, B, and C is currently draft form. Please complete the following steps to finalize the PNDI receipt (No. 734691):
 - a. Within the Pennsylvania Natural Heritage Program’s (PNHP) Conservation Explorer, the PNDI receipt can be finalized by clicking on the **Edit Details/Finalize** button;
 - b. When finalizing the PNDI, the completed Bald Eagle Project Screening Form (submitted in with the applications) will need to be uploaded in the box provided;
 - c. The completed Bald Eagle Project Screening Form will also need to be sent to IR1_ESPenn@fws.gov to satisfy USWFS’ requirements;
 - d. Once the finalized PNDI is populated in the PNHP conservation explorer, please complete Section 7 (Project Contact Information) and 8 (Certification) of the PNDI;
 - e. Please upload the completed PNDI to Section 5.2.1 of the online applications for Wells A, B, and C.

Items 1 through 6 must be addressed within the online application process to make the application administratively complete. Please follow the steps outlined in the attached PDF document to address the administrative and preliminary technical deficiencies provided in the administrative review email. Specific details for your application may be slightly different than shown in the screen shots included in the PDF. If you are replacing a previously uploaded file, please delete the old file to avoid confusion regarding the most appropriate upload to review.

In accordance with 18 CFR §806.16, please provide requested items within 30 days (**November 23, 2021**). Until these outstanding materials are received, your application remains administratively incomplete.

When the administrative deficiencies are corrected, the application will be ready to be assigned for technical review. Should additional information be required upon further review of the project, you will be notified by Commission staff.

If you have any questions regarding the review process, or if Commission staff can assist you in any way, please contact me. I look forward to working with you on this project.

Thanks,
Brook

Brook Flynn, CFM
Hydrologist, Surface Water Project Review
Susquehanna River Basin Commission
4423 North Front Street
Harrisburg, PA 17110-1788
Phone: (717) 238-0423 ext. 1229
www.srbcn.net