



TMI-2 Community Advisory Panel Meeting Minutes

Date: Tuesday, May 9, 2023

Time: 6:00pm – 7:30pm

Location: Virtual*, accessible via www.tmi2solutions.com

Dial In: +1 385-500-4880, Conference ID 500079013#

I. Welcome and Attendance, Steve Letavic – CAP Chairperson

- a. In Attendance (Virtual): Steve Letavic, Hannah Pell, Jim Hazen, Marie-Louise Abram, Bart Shellenhamer, Shen Kreiser, Curt Miner
- b. Absent: Joyce Corradi, Amy Burrell, Jay Ostrich, David Shoff, Scott Miller, Richard Kluskiewicz

II. Decommissioning Project Status Update, David Del Vecchio – TMI-2 Project Director

a. TMI-2 Project Update

- i. Project activities since last CAP meeting:
 1. Continued D&D preparations.
 2. Robotic surveys of the Reactor Building; pictured is the robotic dog Spot who climbed through the RB and provided an overwhelming amount of data to help characterize the radiological conditions in the building.
 3. Continuing to work closely with TMI-1 on site-wide environmental and monitoring programs as well as the E-Plan.
 4. Started modifications to Containment Atmospheric Control Envelope (CACE) -> sits outside the personnel capsule which leads into the RB, activities which will allow us to do work inside the building.
- ii. Transitioned from PDMS to active decommissioning
 1. The TMI-2 facility has been in Post-Defueling Monitored Storage (PDMS) since 1993.¹
 2. On May 3, 2023, TMI-2 transitioned into active decommissioning (DECON),² defined as a phase of nuclear reactor decommissioning in which structures, systems and components that contain radioactive contamination are removed from a site and safely disposed of at a commercially operated low-level waste disposal facility or decontaminated to a level that permits the site to be released for unrestricted use.

b. Decommissioning Project Overview

- i. Phase 1a Preparation for Decommissioning was completed upon transition from PDMS to DECON.
- ii. Phase 1b Fuel Bearing Material and Source Term Reduction (2023 – 2029)
 1. Once Source Term Reduction efforts are completed, the project will transition into Phase 2 which is “typical” reactor decommissioning and dismantlement.

¹ See “TMI-2 History” [here](#).

² EnergySolutions has prepared a public statement which is available on the TMI-2 Solutions website [here](#).



2. Goal of Phase 1b is to reduce the remaining radiological source term at TMI-2 to levels comparable to other nuclear plants at the end of operational life.
3. Phase 3 -> Fuel Bearing Material will be stored on an Independent Spent Fuel Storage Installation (ISFSI) pad and ultimately transferred to the Department of Energy.

c. Phase 1b Source Term Reduction

- i. The quantity of fuel that remains at TMI-2 is a small fraction of the initial load (about 1%).
 1. ~99% of the damaged fuel was removed and transferred to the Department of Energy during the post-accident defueling and decontamination activities.
- ii. Phase 1b activities will include:
 1. Decommissioning Support Building (DSB) Construction
 - The DSB structure will be utilized for moving waste out of the TMI-2 Reactor Building and segmenting for proper disposal.
 2. Independent Spent Fuel Storage Installation (ISFSI) Construction
 - The TMI-2 ISFSI will be constructed next to the TMI-1 ISFSI on Three Mile Island to house high-integrity storage canisters which will contain the damaged core debris.³
 3. Dose reduction and decontamination of locked high radiation areas.
 4. Packaging and transportation of Low-Level Radioactive Waste.

d. Phase 1b Timeline⁴

- i. First 5 items on the list have been initiated, including:
 1. Planning, Engineering, and Regulatory
 2. Phase 1 Long Lead Procurement
 3. Infrastructure Upgrades & Modifications
 - Infrastructure upgrades including demineralized water systems, fire protection, ventilation, and temporary power in support of the decommissioning work.
 4. Surveys, Shielding and Contamination Control
 - Installation of shielding and contamination control
 5. Rad Building Source Term Reduction⁵
 - To the maximum extent practicable, robotic and remote technologies will be used for DECON work because of the high dose rates in some areas of the TMI-2 Reactor Building basement.
- ii. Waste packaging and transport.

³ See "FAQ" here.

⁴ See Slide 8 of the meeting presentation for the Phase 1 Timeline, Table 5-1 of the TMI-2 Post-Shutdown Decommissioning Activities Report, Rev. 5 (Accession No. ML22306A051; Linked [here](#)).

⁵ Delayed start from 1/2023 to 5/2023 following approval of DECON LAR.



- iii. When we finish all of the source term reduction in Phase 1, transition into Phase 2 which would be the more “traditional” D&D.
- e. Near-Term Decommissioning Work**
 - i. Equipment Hatch is pictured on Slide 9.
 - 1. Smaller circle is the personnel capsule, larger structure is the shield, both of these will be removed, cut up and disposed of in waste containers.
 - 2. Opening will be enlarged and equipment will be moved in to the RB to support bringing waste out.
 - ii. Not pictured is the installation of a roll up door to help ensure that there is never a Reactor Building opening to the environment. Outer door would be closed if the roll up door is open, which is controlled via procedures and the Radiation Protection program.
 - iii. Removal of “furniture” -> legacy items (e.g. toolboxes) that are in the way and make it difficult to operate.
 - iv. Removal of Core Flood Tank B and TMI-2 Reactor Building Coolers.
- f. Radiation Monitoring**
 - i. Monitors are maintained to evaluate airborne radiological conditions.
 - 1. Monitors provide necessary information to evaluate environmental and air quality conditions of the plant.
 - ii. Radiological Environmental Monitoring Program (REMP)
 - 1. Conducted in the vicinity of TMI site.
 - 2. Verifies that levels of radiation are not higher than normal background.
- g. Waste Planning for DECON**
 - i. Major part of decommissioning will be the packaging, transportation, and ultimate disposal of contaminated equipment, piping concrete and soil.
 - ii. Majority of waste will be transported by railroad and bulk packages -> rail shipments aren’t scheduled to begin for several years.
 - 1. Rail upgrades will be performed to support these shipments.
 - iii. Pictured are the On-Site Storage Containers (OSSCs) temporarily stored on the Turbine Deck.
- h. Waste Planning for DECON (cont.)**
 - i. Interim Waste Storage Facility
 - 1. Interim in-plant storage area that will contain concrete storage containers and liners.
 - ii. ISFSI Construction
 - 1. Area for storage of recovered Fuel Bearing Material until Department of Energy takes possession of material.
 - 2. Will be located next to the TMI-1 ISFSI.
- i. CAP Member Questions**
 - i. Q: What can folks offsite expect to see regarding rail shipments? When are they scheduled to start, and how might these look different from normal train traffic?



- ii. A: Rail shipments wouldn't begin until the upgrades as described are done. Preferred option is to start the shipments and bridge upgrades, so 2027 timeframe. Expectations are that for folks near the site, without specific knowledge, one may not necessarily see a difference other than seeing a placard for the specific radwaste.

III. Regulatory Update, Jim Byrne & Hannah Pell, TMI-2 Regulatory Affairs

a. PDMS to DECON License Amendment Request (LAR) Status – Jim Byrne, Licensing Contractor

- i. DECON LAR was approved by the Nuclear Regulatory Commission on 31 March 2023 ([ML23051A043](#)).
 - 1. Initial request was submitted in February 2021.
 - 2. Last few years TMI-2 Solutions has been working with the NRC to address their questions (Requests for Additional Information) and concerns by providing information through supplements.
 - 3. Updated our programs and procedures to ensure licensee commitments in the Decommissioning Technical Specifications and Safety Evaluation ([ML23051A044](#)) were incorporated.
- ii. TMI-2 entered DECON on May 3, 2023.
- iii. Criticality Monitoring Exemption
 - 1. Analysis showed that there is not enough fuel left at TMI-2 to be configured in a way that could cause a criticality event.
 - 2. NRC accepted analysis and the exemption approved May 2, 2023 ([ML23026A233](#)).
 - 3. Environmental Assessment/Finding of No Significant Impact ([ML23026A348](#)).

b. Emergency Plan Status

- i. TMI Emergency Plan site-wide applies to both TMI-1 and TMI-2.
- ii. Revised to address TMI-2 in active decommissioning.
 - 1. Changed based on analysis which concluded that no potential incident at TMI-2 would result in an offsite release exceeding the threshold for an Emergency Action Level.
 - 2. TMI-2 Solutions made regulatory commitments to the NRC regarding accumulation of combustible material and hydrogen concerns such that the project would not reach threshold for an emergency action level requiring an offsite response.⁶

c. Historic and Cultural Resources – Hannah Pell, TMI-2 Licensing Engineer/CAP Secretary

- i. TMI-2 submitted a License Amendment Request on February 22, 2023 ([ML23058A064](#)).
 - 1. Requested NRC review of decommissioning activities which would impact the TMI-2 buildings previously deemed eligible for the National Register of Historic Places

⁶ See TMI-2 POL Am. 67 Decommissioning Technical Specifications 6.15.1 and 6.15.2 ([ML23051A043](#)).



2. Submitted in anticipation of the eventual and necessary demolition of the facility following Phase 1b source term reduction efforts.
 - ii. NRC initiated acceptance review of the LAR on 31 March 2023 ([ML23062A737](#)); which will include consultation under Section 106 of the National Historic Preservation Act.
 - iii. TMI-2 submitted a response ([ML23121A249](#)) to the NRC's Request for Additional Information ([ML23082A343](#)) on May 1, 2023 to support the Environmental Assessment.
- d. NRC Inspection Status – Hannah Pell, TMI-2 Licensing Engineer/CAP Secretary**
- i. NRC Inspection Activities – No violations or open issues of concern.
 1. Onsite inspections:
 - January 30 – February 2, 2023
 - March 20 – 23, 2023
 2. NRC will be moving to quarterly inspections, typical of nuclear facilities in active decommissioning.
 - ii. NRC Environmental Staff – TMI-2 Tour April 20, 2023
 1. Walkdown of non-radiological TMI-2 historic buildings to support NRC review of the LAR for historic and cultural resources.
- e. Routine Licensing Submittals – Hannah Pell, TMI-2 Licensing Engineer/CAP Secretary**
- i. Slide 19 includes information about our routine annual licensing submittals with corresponding requirements, descriptions, and the associated Accession Numbers and links.
 1. Decommissioning Trust Fund Report ([ML23094A116](#))
 2. Annual Occupational Radiation Exposure Report (2022) ([ML23102A038](#))
 3. Annual Property Insurance Notification ([ML23090A169](#))
 4. Annual Radiological Environmental Operating Report (TMI-1 Submittal) ([ML23108A082](#))
 5. Annual Radiological Effluent Release Report (TMI-1 Submittal) ([ML23108A080](#))

IV. Oversight Comments

- a. Decommissioning Nuclear Safety Review Board (DNSRB) – Bill Ostendorff, DNSRB Chair**
- i. DNSRB is onsite this week from 5/10-5/12.
 1. Board received and appreciated the briefings from the TMI-2 project team.
 2. 5/10 -> The DNSRB will have interviews on specific topics with TMI-2 project personnel followed by a site tour in the afternoon.
 - ii. Because of the unique nature of the TMI-2 site, this group has necessarily spent quite a bit of time looking at radiation surveys and Radiation Protection issues. The DNSRB has been pleased with the TMI-2 project's responsiveness to DNSRB recommendations for improvement.



- iii. The TMI-2 decommissioning is an important project, and the DNSRB appreciates the chance to interact with PADEP and the CAP.
 - iv. Steve Letavic, CAP Chairperson: The TMI-2 CAP appreciates the time and effort the DNSRB brings to the group.
- b. Pennsylvania Department of Environmental Protection (PADEP), Dwight Shearer – Director, Bureau of Radiation Protection (BRP)**
- i. The Commonwealth is greatly appreciative with the TMI-2 decommissioning progress. PADEP BRP appreciates the 5-year lookahead, and it seems there are some realistic and achievable goals reflected in the schedule.
 - ii. The PADEP BRP and TMI-2 Decommissioning Project partnership is working great. PADEP Decommissioning Branch staff are attending daily TMI-2 project meetings in the mornings and have no issues with turnaround times.
 - iii. PADEP holds routine calls with the NRC and is constantly being updated. Overall, the Commonwealth is in a good position to provide as much support and help to the decommissioning project.
 - iv. Moving forward, PADEP BRP looking forward to casks being moved off the island and to a successful decommissioning effort.
 - v. Steve Letavic, CAP Chairperson: As a resident, its welcoming and affirming to hear the spirit of cooperation between the State and other regulatory oversight.
- c. Nuclear Regulatory Commission, Amy Snyder – TMI-2 Project Manager**
- i. The NRC has undertaken numerous licensing actions, including regulatory review of the License Amendment Request (LAR) for transitioning out of PDMS to traditional decommissioning and the Criticality Monitoring Exemption request, as well as oversight activities such as the fact that the TMI-2 project has stood up their own Radiation Protection Program.
 - ii. The NRC reviewed the Emergency Plan to ensure Three Mile Island is being addressed properly as far as emergency preparedness. In sum, there has been a lot of activity over the past two years for licensing and oversight.
 - iii. NRC oversight and inspection staff are at the site frequently, almost monthly. Inspections have moved to a quarterly schedule, but the inspectors decide when they need to be at the site depending on what activities are going on.
 - iv. Licensing activities moving forward are focused on future decommissioning activities, including:
 - 1. The License Amendment Request for historic/cultural preservation which is being reviewed right now. The NRC had issued a Request for Additional Information and the licensee responded. The NRC is in the process of initiating Section 106 process.⁷
 - 2. Revision to the Post-Shutdown Decommissioning Activities Report and site-specific Decommissioning Cost Estimate.
 - 3. NRC focus will be on oversight and ensuring that the licensee is meeting regulatory commitments and obligations.

⁷ More information about the Section 106 process: <https://www.achp.gov/protecting-historic-properties/section-106-process/introduction-section-106>



- v. Steve Letavic, CAP Chair: The TMI-2 CAP really appreciates your support. TMI-2 Solutions is a key partner in this, and it is refreshing for us to see that it's such a positive relationship between them and the oversight organizations.

V. Community Advisory Panel Business, Steve Letavic – CAP Chairperson

a. Proposed Revision to CAP Charter – Hannah Pell, TMI-2 Licensing Engineer/CAP Secretary

- i. Transition into active decommissioning is a good opportunity to review the Charter and NRC Best Practices report to ensure we're aligned with lessons learned and that the Charter continues to reflect how the CAP has functioned over the past two years.

b. Summary – NRC Best Practices⁸

- i. Slide 23 provides a summary of the NRC's best practices for Community Advisory Boards for nuclear decommissioning projects.

c. NRC Best Practices – Charter Development

- i. Slide 24 summarizes some of the best practices for Community Advisory Board charter development as discussed in the NRC Best Practices Report.
- ii. Important consideration is the life cycle of the Community Advisory Board as decommissioning progresses, including funding and how operations will evolve based on site conditions and community needs.

d. CAP Charter – Proposed Revisions

- i. Slide 25 provides a list of the proposed revisions.
- ii. A draft of the proposed charter revision was distributed to CAP members on Monday, May 8, 2023, via email. CAP Chairman requested feedback from CAP members in the next two weeks (until May 23, 2023).
- iii. CAP will vote on the Charter revision at the next meeting scheduled for September 7, 2023.

e. Next CAP Meetings

- i. Thursday, September 7, 2023 – 6pm-730pm (Hybrid), location details will be forthcoming.
- ii. Thursday, January 11, 2024 – 6pm-730pm (Hybrid) – location information will be forthcoming.
- iii. All CAP meetings will continue to be virtually accessible.

VI. Community Advisory Panel Open Discussion, Steve Letavic – CAP Chairperson

- a. No CAP open discussion.

VII. Public Question and Answer Period, Steve Letavic – CAP Chairperson

a. QUESTION/COMMENT 1 from Rich Janati, PADEP

- i. Question regarding breakdown of LLRW but may be able to find the answer in the PSDAR. Will check and follow-up if needed.

⁸ U.S. Nuclear Regulatory Commission, "Best Practices for Establishment and Operations of Local Community Advisory Boards Associated with Decommissioning Activities at Nuclear Power Plants: A Report for the Senate Committee on Environment and Public Works and the House Committee on Energy and Commerce," dated 1 July 2020 ([ML20113E857](#)).



- ii. Comment about PA Low-Level Waste Advisory Committee -> LLWAC will meet on September 29. The meeting will be hybrid and there is a standing agenda item on the TMI-2 decommissioning.
 - iii. Comment about CAP Charter: Point out that there are other facilities that are ahead of TMI-2 in the process, so it could be worth checking their charters and look for lessons learned, especially where the public is very much involved.
- b. QUESTION/COMMENT 2 from Dave Allard, Retired PADEP BRP Director; Chair of the Appalachian States Low-Level Radioactive Waste Compact Commission**
- i. Comment echoing the great relationship between TMI-2 Solutions and oversight agencies; TMI-2S worked well throughout the license transfer.
 - ii. Comment acknowledging that attendance has increased significantly and giving praise to TMI-2S for getting the word out for more participation.
 - iii. Comment/question about environmental surveillance available on PADEP website -> Can PADEP give a brief overview of what the state does for environmental surveillance (e.g., air sampling and radiation monitoring) and emergency preparedness?
 1. Dwight Shearer, PADEP BRP -> PADEP has about 30-40 years of environmental data. BRP does weekly air samples, particulate and charcoal typically around each one of the operating nuclear sites. TMI-1 was also being monitored and will continue to be monitored even though TMI-1 is in SAFSTOR and TMI-2 is in active decommissioning mode. Along with weekly, there are quarterly water, vegetation, milk, produce samples that are collected and compiled into annual reports.
 2. As far as emergency response, site area emergency status, at this point there could not be a large release as far as airborne, no temperature or pressure to drive that -> if a release were to happen it would be more of a localized incident or event.
 3. Reiterated that PADEP is here to serve and protect citizens of the Commonwealth and the environment.
 - iv. No taxpayer money goes toward costs to cover environmental surveillance or emergency response efforts.
 - v. Annual reports for low-level radwaste compact commission are available on the PADEP website [linked here](#).