

**NUCLEAR DECOMMISSIONING CITIZENS ADVISORY PANEL (“NDCAP”)
Monday, September 25, 2023
Hybrid Meeting (in-person and virtual)
Meeting Minutes**

The meeting was called to order at about 6:30 pm by Ms. Pine duBois.

NDCAP MEMBERS PRESENT

- Pine duBois, Speaker of the House Appointee (Vice Chair) (in person)
- Mary Lampert, Senate President Appointee (in person)
- James Lampert, Speaker of the House Appointee (in person)
- Mary Jo Gatslick, Minority Leader of the House Appointee (in person)
- Michael Fortini, Minority Leader of the Senate Appointee (in person)
- Henrietta Cosentino, Plymouth Select Board Appointee (in person)
- David C. Nichols, Governor Baker Appointee (in person)
- Seth Pickering,¹ Department of Environmental Protection (in person)
- Jack Priest, Department of Public Health, Radiation Control Program (in person)
- Jennifer Barrelle,² Department of Public Health (virtual)
- David Noyes,³ Holtec Decommissioning International (in person)
- Mark Lawson,⁴ Holtec Decommissioning International (in person)
- Mary Waldron, Old Colony Planning Council (virtual)
- David Bryant, Massachusetts Emergency Management Agency (in person)
- Kevin Canty⁵, Plymouth Select Board Appointee (in person)

NDCAP MEMBERS NOT PRESENT

- Jonathan Goldberg, Massachusetts Department of Public Utilities

GUESTS IN ATTENDANCE

- Bruce Watson, NRC
- Paul Krohn, NRC

PREVIOUS MINUTES REVIEW & APPROVAL

Mr. Lampert indicated that several of his statements should be included in the prior meeting minutes, in relation to the reorganization of the panel.

Ms. duBois stated that several names and typos were corrected in the prior meeting minutes.

Ms. Lampert noted her prior suggestion to defer discussion of formatting of the NDCAP website to September 2023. She indicated that this discussion can be deferred to the November meeting. However, this is not a correction to the minutes.

¹ Designee of Secretary of the Executive Office of Energy and Environmental Affairs

² Designee of Secretary of the Executive Office of Health and Human Services

³ Replaced Pat O’Brien (Holtec)

⁴ For John Moylan (Holtec Site Vice President)

⁵ Replaced John Mahoney as Designee for Plymouth Selectboard

Mr. Noyes clarified that B/C waste in the prior meeting minutes should be B and C waste.

A motion was made to approve the meeting minutes as amended and seconded. The motion passed unanimously with 3 abstentions.

HOLTEC – HDI PILGRIM DECOMMISSIONING UPDATE

Mr. Noyes provided an update. In summary:

- Submission of the license termination plan is scheduled for Fall of 2024.
- In 2027, the NRC will review the license termination plan to determine if it will be approved.
- The second fire water storage tank has been demolished – a trace of asbestos was detected.
- 1 demineralized water storage tank is scheduled for demolition in the Fall of 2023.
- 2 condensate water storage tanks are also scheduled for demolition in the Fall of 2023.
- 80% of the site has been demolished to grade level.

For reactor internal segmentation:

- Cutting and Segmenting the Shroud Ring is in progress.
- Removal of the 20 jet pumps and packaging is also ongoing.
- B and C waste packaging and staging are scheduled to be completed by December 2023.

There were three violations related to security controls for non-fuel radiological material according to the 2023 First Quarter Inspection. Mr. Noyes indicated that the violations were of low safety significance and have been satisfactorily addressed.

With regard to waste management, a total of 225,652 cubic feet of radiological material and 1,789 curies of activity of radioactive material has been safely removed from the site for disposal.

Mr. Noyes discussed the evaporation process including variables that affect evaporation on the site.⁶ Mr. Noyes then explained heating of the reactor cavity and the effects.⁷

Mr. Lampert raised several questions about evaporation. Mr. Noyes explained:

- The water used on the refuel floor was not filtered or treated prior to evaporation.
- Evaporation travels through a vent in the reactor building.
- Because of all the variables, it is hard to calculate how much water will be evaporated.
- Holtec has no plan currently to conduct a large-scale evaporation of the remaining water.

Ms. duBois asked whether the water from the refuel floor gets replaced after it has been evaporated. Mr. Noyes stated that the water from the refuel floor gets replaced with water from the torus. Mr. Noyes mentioned that the water must be replaced on the refuel floor to keep operations ongoing.

⁶ Minute Markers 16:25-20:21 of video. See: [NDCAP Meeting: 9/25/23: Nuclear Decommissioning Citizens Advisory Panel #Plymouth - YouTube](#)

⁷ Minute Markers 20:21-24:02 of video. See: *Id.*

Ms. Lampert asked how the vent was monitored. Mr. Noyes explained that samples are taken once a week, then analyzed, and reported in the annual report.

Mr. Nichols asked if other radioactive nuclides (aside from gaseous tritium) were being released during evaporation. Mr. Noyes indicated that no other radioactive nuclides were released during evaporation. There are other particulate radionuclides detected due to other activities occurring on the refuel floor. There is no NRC limit on tritium but there is an allowable dose limit, and evaporation was well below that dose limit.

Mr. Nichols asked the following questions:

- Whether the heaters caused the evaporation of 100,000 gallons of water this year.
- Whether the remaining water would be gone in ten years.
- Whether Holtec intends to remove the heaters in 2024.

Mr. Noyes indicated that the use of the heaters did result in the evaporation of the 100,000 gallons of water in 2023, including the period when heaters were used. Mr. Noyes also indicated that within 10 to 15 years, the water would be completely evaporated. Lastly, Mr. Noyes stated that no decision has been made on whether the heaters would be removed for 2024; there may be an opportunity to redeploy the heaters during the winter months.

Mr. Noyes clarified that the heaters are not used throughout the entire year. The heaters were secured in June 2023 this year.

Ms. Cosentino asked Mr. Noyes to explain in detail how monitoring of the vent takes place. Mr. Noyes explained:

- the filter is changed once a week.
- The removed filter undergoes an analysis for certain radionuclides.
- The results of the analysis are part of the annual report submitted to the NRC.

Mr. Lampert asked if particulates are filtered. Mr. Noyes indicated that the particulates are captured on filter paper for purposes of rating them.

Ms. duBois asked whether dust travels up the vents. Mr. Noyes indicated that some does. A discussion ensued among Ms. duBois, Mr. Noyes, Mr. Pickering, and Mr. Priest about measuring those particulates.⁸

INTERAGENCY WORK GROUP (IWG) UPDATE

Mr. Pickering read a statement to the panel and public. In summary:

- A letter was reviewed by MassDPH and DEP about the heaters being used on site.
- The letter alleges that the use of the heaters was to reduce water volume.
- The NRC is reviewing the allegations and inspected the heaters as part of its oversight.

⁸ Minute Markers 34:01-38:08 of video. See: *Id.*

- the NRC concluded that use of the heaters was justified in the decommissioning process.
- DPH anticipates that evaporation of wastewater will be a small fraction of NRC limits.
- DPH continues to engage with Holtec if anything deviates from what is standard.
- Emissions from the heaters are not subject to MassDEP air permits thresholds.
- Holtec must contact MassDEP if it intends to conduct a large-scale evaporation.

An anonymous letter was received by MassDEP on August 22, 2023. The letter claimed that Holtec was using heaters in the reactor cavity to reduce water volume. The letter was shared with the NRC to clarify the contents and allegations made by the anonymous individual.

MassDEP and DPH reviewed an NRC inspection report from August 4 which detailed an engineering change related to the use of the heaters. The NRC determined that there was a reasonable justification for adding electric heaters as part of the decommissioning process.

Mr. Pickering also explained DPH's role in emergency response activities and ongoing environmental monitoring in areas surrounding the nuclear power plant.⁹

Mr. Lampert asked Mr. Pickering whether the statement and information presented could be included in the meeting minutes. Mr. Pickering stated that a copy would be sent to the Vice Chair for posting.

MassDEP has prepared a tentative determination denying Holtec's request for a permit modification to discharge decommissioning water. The decision was issued in accordance with the Ocean Sanctuaries Act. A public meeting was held, and the comment period has ended; over 1,000 comment letters were received by MassDEP.

Mr. Pickering indicated that there is no prescribed time for the issuance of the final determination. In accordance with the Massachusetts Administrative Procedure Act, the final determination can be appealed within 30 days of its issuance date.

Ms. Cosentino asked whether it was possible that the EPA and DPH could issue differing decisions. Mr. Pickering stated that he could not answer that question because the EPA has their own process.

Response actions under the MCP are ongoing. A Phase II Comprehensive Site Assessment is due to be submitted by April 21, 2024.

Holtec continues to conduct groundwater sampling and those results will be included in the status report submitted to MassDEP. A conceptual groundwater sampling and analysis plan was presented to MassDEP – sampling is set to take place in the Fall of 2023.

MassDEP asbestos section continues to be actively engaged in overseeing demolition activities.

MassDEP continues to evaluate Holtec's request to change their wastewater disposal system.

Mr. Pickering indicated that there were no changes to the update with MEMA.

⁹ Minute Markers 42:17-48:14 of video. See: *Id.*

Ms. duBois asked a question about a draft work plan. Mr. Pickering stated that the work plan was still under review.

Ms. Lampert asked what would occur if the state did not approve the work plan. A discussion took place among Mr. Pickering, Mr. Priest, Mr. Lampert, Ms. Lampert, and Mr. Noyes about the procedure for reviewing the work plan and their concerns.¹⁰

Mr. Nichols asked if there was a method to differentiate the types of tritium being released. Mr. Priest stated that the tritium being released is not distinguishable.

NUCLEAR REGULATORY COMMISSION (NRC) PRESENTATION

Bruce Watson and Paul Krohn introduced themselves to the panel and public. A PowerPoint presentation was given regarding the overview of 10 CFR 50.59 and its application to decommissioning. In summary:

- The NRC does not review every decision the licensee makes related to decommissioning.
- Any changes must be made consistent with the license which governs operations.

Mr. Watson explained conduct of decommissioning activities and procedures in accordance with 10 CFR 50.59.¹¹ Mr. Watson then explained tritium and tritium air releases based on plant conditions.¹²

A second PowerPoint presentation was given by Paul Krohn. In summary:

- Several liquid effluent disposal paths are allowable – methods of disposal are not regulated.
- The NRC reviews and regulates the effects of disposals.
- Evaporation is routine during plant operations.
- Holtec did not need permission in accordance with 10 CFR 50.59 to use heaters.

The chart titled; Tritium Air Releases Based on Plant Conditions was explained in further detail.¹³ In 2018, there was approximately 34.0 Curies (“Ci”) of Tritium released when the plant was operating, 7.7 Ci in 2020, 8.0 Ci in 2021, and 2.38 Ci in 2022.

Ms. Lampert expressed her concerns about organically bound tritium and its impact on aquatic life in Cape Cod Bay.

A discussion among Ms. duBois, Mr. Noyes, and individuals at the NRC took place about the next steps (‘cutting the reactor’) and those impacts.

Mr. Lampert asked what could be done to reduce evaporation as much as possible. Harry indicated that he could not answer that question but stated that the NRC focuses on objectives. Mr. Krohn stated that evaporation could be reduced by cooling water, but the process of evaporation cannot be stopped.

¹⁰ Minute Markers 57:36-1:00:44 of video. See: *Id.*

¹¹ Minute markers 1:09:43-1:16:28 of video. See: *Id.*

¹² Minute markers 1:16:28-1:21:40 of video. See: *Id.*

¹³ Minute Markers 1:34:01-1:39:54 of video. See: *Id.*

Mr. Lampert indicated that NRC guidelines mention As Low as Reasonably Achievable (“ALARA”).

Ms. duBois asked when did the half-life of Tritium begin. Mr. Krohn mentioned that decay is ongoing. Mr. Nichols asked when would all the tritium would be gone. A discussion took place about how to calculate half-lives and when the tritium may be gone.

PUBLIC COMMENTS & QUESTIONS

Art Desloges expressed his concerns about forced evaporation of the radioactive water into clean air. He then stated that the public and stakeholders should have a voice in any public process and policy that impact their health.

Doctor Barry Potvin indicated that any dose of radioactive exposure increases cancer and mutation risks. He believes that other safer alternatives exist in lieu of discharge and evaporation. Doctor Barry Potvin mentioned that the Plymouth Board of Health was holding a public forum on September 27 to discuss impacts of discharge.

Ms. Diane Turco asked Mr. Watson whether there was a safe dose of radionuclide exposure for children. Mr. Watson indicated that there was a safe and low dose for all populations according to NRC regulations and other scientific communities.

Ms. Turco read a letter from an anonymous individual about the ongoing evaporation at the site.¹⁴ Ms. Turco expressed her concerns about the evaporation and asked whether an independent investigation could take place.

Ms. Cosentino expressed her dissatisfaction with the functioning of the panel. She indicated that having an open discussion about several topics and additional agenda items would make the panel more effective.

Eric Muschino indicated that he would like the radioactive water to be shipped rather than discharged.

At this point, discussion took place with Ms. duBois and members of the public regarding the functioning of the panel. Mr. Priest made a motion to adjourn seconded by Mr. Pickering as a result of the discussion. Mr. Canty suggested that the meeting should not be adjourned. Ms. Lampert suggested that the remaining public commenters be given 3-4 minutes. Mr. Priest amended his motion to allow an opportunity for the remaining commenters.

An individual who did not identify himself stated that it was embarrassing to be a town of Plymouth resident based on the behavior of the public at this meeting. He asked the public to act like adults since that was what they were. He also shared that he received more dose than what was discussed in his previous job with the military than any of them would receive in their lifetime. He commented that if it turned out that it was cheaper to send the water off site to be disposed that was acceptable, however the behavior he observed during this meeting was a waste of his tax dollars.

¹⁴ Minute Markers 2:00:01- 2:02:58 of video. See: *Id.*

Doctor Ben Cronin read several provisions from the settlement agreement and case law from *Pacific Gas and Electric Co. v. State Energy Resources and Development Commission (1983)* and *Virigina Uranium Inc. v. Warren (2019)*. He emphasized that the state does have a role in decommissioning.

Joanne Wilson Kennan expressed her concerns about transparency and forced evaporation.

Pat Watson indicated that there should be an investigation about the forced evaporation.

After public comments, Mr. Priest indicated that panel members should send their suggestions of topics or other related materials ahead of meetings to put on the agenda. Ms. Lampert stated that this process would require circulating the draft agenda earlier to panel members. Ms. Turco suggested that materials should be provided in advance to the public. Mr. Priest stated that certain materials could be attached to the prior meeting's minutes.

ADJOURNMENT

Adjournment took place after public comments at around 9:10 p.m.