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ADD: Justin Poole, Crystal  
Smith, Sharon Bennett

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Exelon Generation Company, LLC Three Mile Island Nuclear Station, Unit 1 Post-Shutdown  
Decommissioning Activities Report

**Comment On:** NRC-2019-0142-0001

Exelon Generation Company LLC; Three Mile Island Nuclear Station Unit 1; Post-Shutdown  
Decommissioning Activities Report

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## Submitter Information

**Name:** J Wasicek

**Address:** United States,

**Email:** vista0011@outlook.com

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## General Comment

See attached file(s)

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## Attachments

TMI Unit 1 decommissioning comments Oct 9 2019

I am a resident of Harrisburg, PA, and a member of the Governor Pinchot Group of the Pennsylvania Sierra Club. My family has lived in this area in proximity to TMI since before the meltdown. I am among the community of people who must cope with the consequences of living near a radioactive waste site.

**1. Concerns:**

I have several concerns about the PSDAR decommissioning plan for TMI Unit 1.

- TMI was not intended to be a long-term storage site, and it is not appropriate to site the storage of radioactive materials on a low-elevation island in a river. The PSDAR underestimates the potential for environmental damage to the river and risk to the health of the communities that are downstream from TMI. The NRC should independently require reporting and remediation for discharges.
- Planning on the basis of a 100- year flood event is not protective in an area that has been flooded by at least three 100- year flood events-- Tropical Storm Lee, Hurricane Agnes, and the 1936 Flood. All these occurred within 100 years.
- The delay in cleaning up the waste at TMI increases the risk of exposure to the public. Longer dormancy means greater risk of incidents occurring, vulnerability to terrorism, loss of institutional memory and awareness, and potential corporate dissolution and lack of accountability 60 years from now.
- Delay in cleaning up TMI Unit 1 also delays the cleanup of TMI Unit 2 which had a meltdown in 1979.
- Siting the dry casks at the TMI parking lot is inappropriate for long term storage. It is not geologically secure.
- Exelon has an underfunded amount to pay for decommissioning. It is very possible that the costs of cleanup will be borne by taxpayers instead of the people and corporations that have profited from the operation of TMI.

**2. There are safety concerns about the water quality of the Susquehanna River, which is a source of drinking water for thousands of people.**

TMI is located on a low-elevation island in the Susquehanna River. Long ago, nuclear power plant designers were more concerned with the facility's need for easy access to water for cooling systems than with the potential for discharging radioactive materials into the air and water of the surrounding and downstream communities. The disaster at Fukushima should have changed that perspective. That incident resulted in widespread contamination of the land, air, and water surrounding the site—and spread to the ocean itself.

- a) Simple erosion controls are inadequate.

Groundwater movement at TMI Nuclear Station (TMINS) is into the Susquehanna River. (page 24 of PSDAR).

If radioactive materials are leaked into the Susquehanna River, these materials can affect thousands of people in communities downstream.

Exelon downplays the risk of discharge. It states that stormwater runoff (which sounds innocuous, but is not when it is radioactive) and accidental releases “are the most likely sources of pollutants entering surface waters”, and that erosion and sedimentation controls, pollution prevention measures, etc., “would ensure that water quality impacts from decommissioning are small and temporary.” (page 23 of PSDAR)

This is an overly confident assertion. Erosion & sedimentation controls will not be sufficient in the case of a flood, nor in the case of groundwater contamination emptying into the River. Exelon’s planning for a 100- year flood is not protective in an area that has been flooded by Tropical Storm Lee, Hurricane Agnes, and the 1936 Flood – all within 100 years.

(b) The NRC should independently require reporting and corrective action when radioactive or hazardous contaminants are released off property.

Exelon states that it will comply with applicable regulations that require reporting. In the past, legislative attempts have been made to reduce or eliminate reporting, and over the next 60 years, it is certainly possible that legislation could be passed to remove the requirement to report. **The NRC should require reporting of any off- property migration of radioactive or hazardous contaminants—to the land, air, and water. This reporting should be to the NRC and to the State environmental agency- the PA Department of Environmental Protection.**

c) While movement of radioactive materials into dry casks is overdue, it is not appropriate to plan to continue to store dry casks of radioactive materials and waste at the TMI site for a period of years. The Report states that Exelon plans to create an Independent Spent Fuel Storage Installation (ISFSI) in the parking area at TMI. **This is not a site which should be chosen for storage of radioactive material.** It is subject to flooding and it is not geologically secure.

d) Generic controls are inadequate for the unique circumstances of TMI

Exelon states that “in Section 4.3.3 in the [Generic EIS] GEIS, NRC concluded generically that for all facilities, decommissioning impacts to surface and groundwater quality would be small.” (page 24 of PSDAR). Further, Exelon said that this generic assumption should apply because there “is nothing about TMI 1’s design, location, configuration, operating history, or decommissioning plans that would alter or contradict this generic conclusion”. (page 24, PSDAR). One obvious non-generic circumstance is that there was a meltdown in the other Unit and this is the “site of America’s worst commercial nuclear disaster”. (see Maykuth, April 14, 2019).

Exelon concludes that “There are no unique aspects of the plant or the expected decommissioning techniques that would invalidate the applicability to TMI-1 of the GEIS conclusions.” (page 41, PSDAR).

**The assumption that this is a generic site is incorrect. This site has waste from a meltdown of Unit 2. Additionally, TMI is on a low-elevation island in the middle of a major drinking water source, that has experienced flooding in the past 50 years. This is not a generic situation. The NRC should require additional safety measures to protect the public, such as increased monitoring, faster removal of waste, reporting of all releases, and submission of a remedial plan to the NRC in response to discharges.**

**3. Sixty years is too long a delay in cleaning up TMI Unit 1.**

Where there are significant risks, such as the remaining hazards from the partial shutdown in 1979, the NRC should not allow a company to delay cleanup for 60 years or grant it an extension for even longer.

In a companion matter, First Energy, owner of Unit 2, made a filing with the NRC in 2013, contemplating that Exelon would run the plant until 2034, and that after that— “the companies would jointly complete decontamination and dismantlement of both reactors in less than 20 years.” (Philadelphia Inquirer, Maykuth, April 14, 2019. “Where will the nuclear waste go after Three Mile Island shuts down?”)

Thus in 2013, First Energy asserted that a cleanup of the site of both Unit reactors reasonably could occur within 20 years of that projected shut down.

Instead, Exelon plans to take 60 years to decommission the TMI Unit 1. It is not planning to move the assemblies in spent fuel pools until another three years and will delay moving radioactive materials into dry storage until December 2022. (page 8 of PSDAR). This should have been done earlier. **The NRC should require movement into dry storage on a quicker time frame.**

Under the PSDAR Exelon plans to hold the spent fuel in the ISFSI until 2034. Dry casks of radioactive materials should not be stored for this long at the TMI site, which is on an island in the river. **The NRC should order the removal of the dry storage to safer geological sites as soon as possible-- within a few years.**

The cooling towers and other large components would remain until 2075-2076 when dismantling would occur. (page 8 of PSDAR). Decontamination of the site is not contemplated until December 2078 (Page 8 of PSDAR).

The cleanup of Unit 2, the site of the partial meltdown, is linked to the cleanup of Unit 1, and continues to be delayed. “Exelon and First Energy have previously agreed to ‘synergize decommissioning efforts’ and are working together to optimize schedules.” (Nuclear Energy Insider May 22, 2019). As reported in that same article, TMI Unit 2, owned by First Energy, has been in a “monitored storage phase of the SAFSTOR process since 1993. TMI 1 and TMI 2 use separate spent fuel pool systems, located in the same building.” (Nuclear Energy Insider May 22, 2019). Exelon is contracted by FirstEnergy to “maintain the dormant [Unit 2] reactor and provide security”. (Maykuth, April 14, 2019). FirstEnergy in 2013 told the NRC that “both reactors would be decommissioned simultaneously”. (Maykuth, April 14, 2019).

Even if the TMI 2 decommissioning had been started 20 years from the previous 2034 end date for Unit 1, that joint decommissioning process for both units would have ended in 2054—24 years sooner than what Exelon is proposing now.

The delay in cleaning up the radioactive waste at TMI increases the risk of exposure to the public. Longer dormancy means greater risk of incidents occurring, vulnerability to terrorism, loss of institutional memory and awareness, and greater risk of corporate dissolution and lack of accountability.

**The NRC should consider the unique waste problems and safety risks at this site and require a faster cleanup.** Under no circumstances should further delays be granted.

#### **4. The cleanup is underfunded.**

Exelon estimates that it will take \$1.2 billion to decommission the TMI Unit 1 site. Money from power plant customers has been paid into the Decommissioning Trust Fund since 1974. As the operator who benefited from this enterprise, Exelon is supposedly responsible for paying any fund shortfall. (Maykuth, April 6, 2019). The DTF balance for TMI 1 was \$625.9 million at the end of 2016. ( Nuclear Energy Insider, May 22, 2019. )

I have great concern that the entities who profited from the operation of this site will not be held accountable for this responsibility. Can we really expect that our descendants will agree to pay debts incurred 60 or more years ago? How often do any of us concern ourselves with debts incurred by our ancestors 60-100 years ago?

In the next 60 years, it can be foreseen that corporations will dissolve, and individuals will pass away. For instance, "First Energy Solutions, an Akron company that operates FirstEnergy Corp.'s power generation plants... last year filed for bankruptcy." (Maykuth, April 14, 2019)

What happens when the corporations file for bankruptcy and the knowledgeable individuals pass away? Accountability becomes meaningless, and there will be no firsthand memory to drive continued efforts to do a responsible cleanup.

**The NRC should take steps now to require Exelon to contribute additional funds to the TMI Decommissioning Trust Fund (DTF). Additionally, the TMI DTF should be dedicated exclusively to cleanup at TMI, and for no other purpose, in order to conserve the Fund for this site.**

#### **5. Recommendations**

1. The NRC independently should require reporting and remediation of any off-property migration of radioactive or hazardous contaminants—to the land, air, and water. This reporting should be to the NRC and to the State environmental agency- the PA Department of Environmental Protection.
2. Exelon's assumption, that this is a generic site, is incorrect. This site has waste from a partial meltdown of Unit 2. Additionally, TMI is on a low-elevation island in the middle of a major drinking water source, in an area that has experienced flooding in the past 50 years. The NRC should not consider the TMI site as a generic situation to be handled under the GEIS.
3. The NRC should require additional safety measures to protect the public, such as increased monitoring, faster removal of waste, reporting of all releases, and submission of a remedial plan to the NRC in response to discharges. Public notice should be given of releases and remediation plans.
4. The NRC should require movement of spent fuel and radioactive debris into dry storage on a quicker time frame.
5. The NRC should require a geologically safer site than the ISFSI site for dry storage of radioactive materials from this site. Alternatively, the NRC should order the removal of the dry storage to safer geological sites as soon as possible--within a few years.

6. The NRC should consider the unique waste problems and safety risks at this site and require a faster cleanup.

7. Under no circumstances should further delays be granted.

8. The NRC should take steps now to require Exelon to contribute additional funds to the TMI Decommissioning Trust Fund (DTF).

9. Additionally, the TMI DTF should be dedicated exclusively to cleanup at TMI, and for no other purpose, in order to conserve the Fund for this site.