



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Radiation Protection

Low-Level Waste Advisory Committee Meeting

Update on Three Mile Island Unit 1 and Unit 2

October 2, 2020

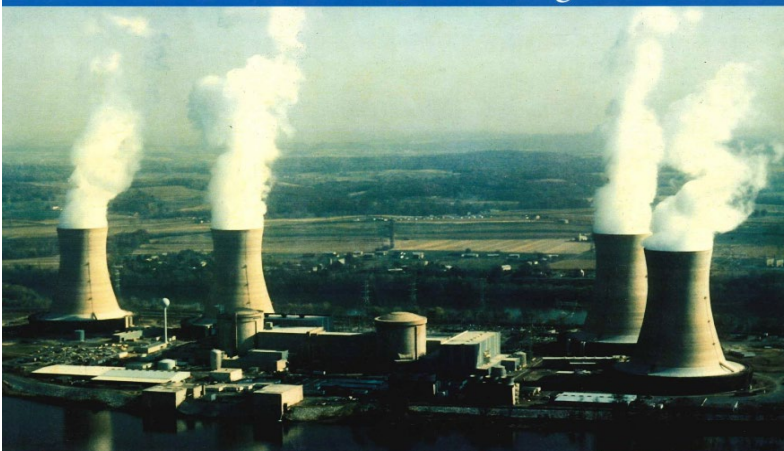
Tom Wolf, Governor

Patrick McDonnell, Secretary

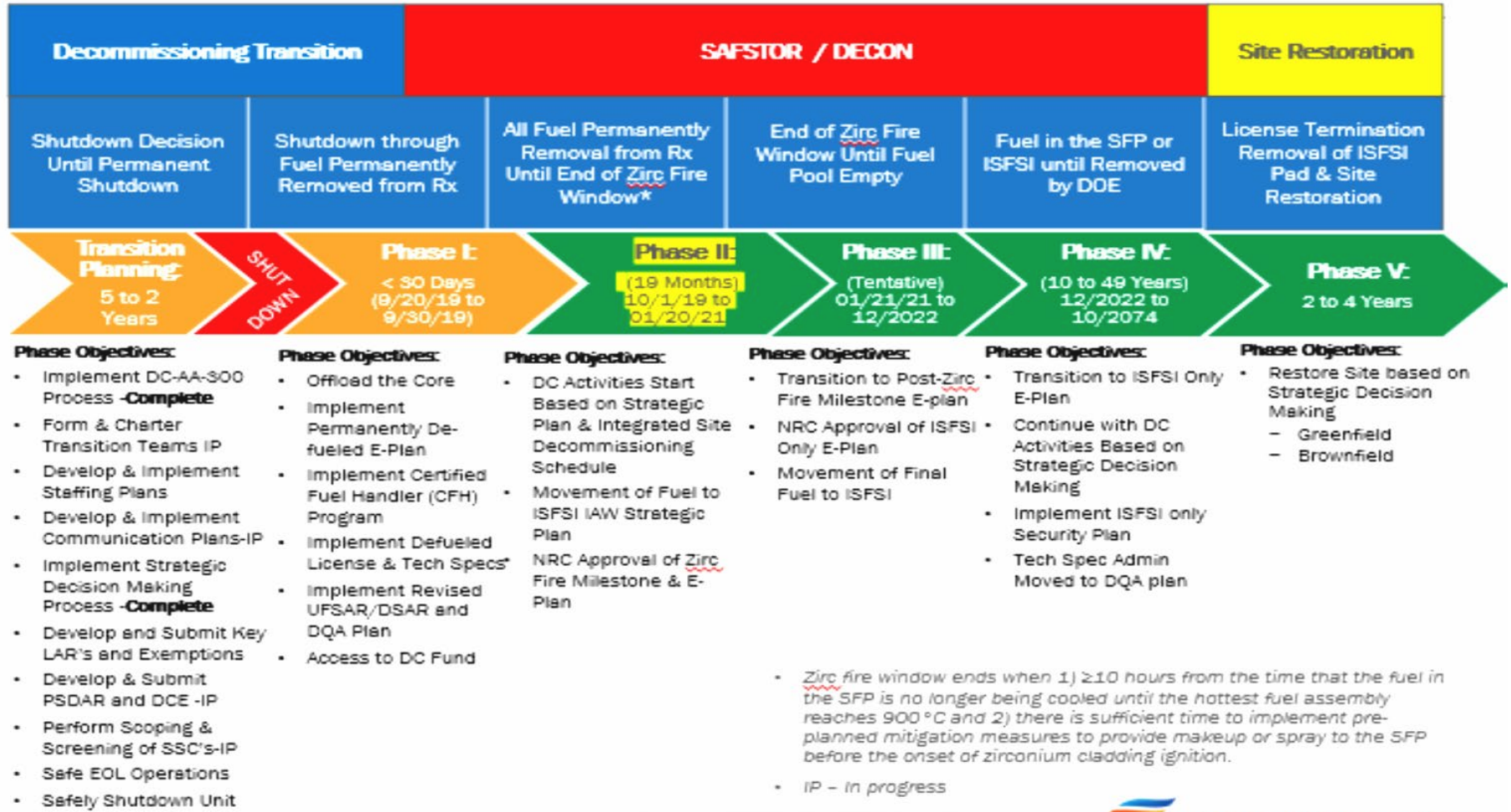
Three Mile Island Unit 1 - BACKGROUND

Plant builder:	United Engineers & Constructors
Year construction began:	1968
Total gross generation:	837 megawatts
Date Unit 1 entered commercial service:	September 1974
Operating license terms:	Initially expected to operate until 2034
Unit 1 shutdown due to Unit 2 accident:	July 1979
Plant restarted after TMI-2 recovery work”	October 1985
TMI-1 permanently ceased operations:	September 20, 2019

Three Mile Island Generating Station



TMI Unit 1 - TRANSITION to SAFSTOR



TMI Unit 1 Decommissioning Milestones

September 2019 – Entered Phase I

Plant shutdown and removal of fuel from reactor to spent fuel pool

October 2019 – Entered Phase II

Spent fuel removed from reactor until end of zirconium fire window

January 2021 – Enter Phase III

End of spent fuel zirconium fire window and change in emergency plan

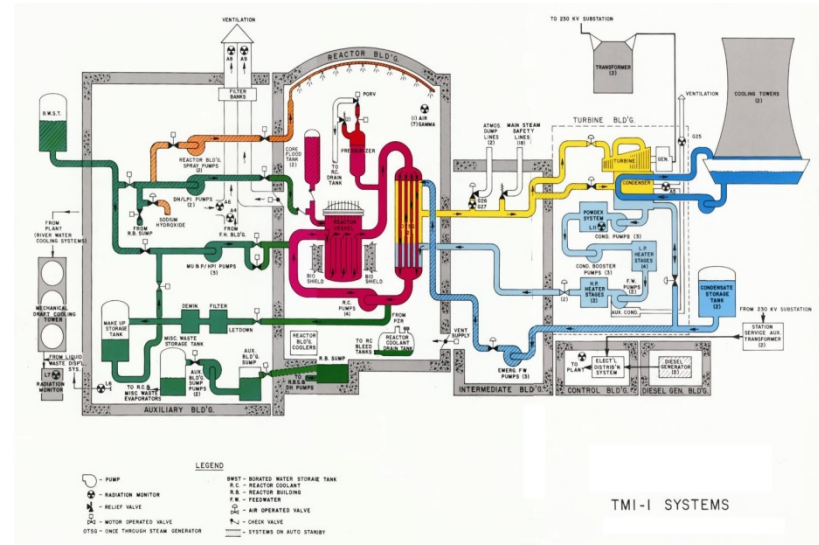
December 2022 – Enter Phase IV

Spent fuel in the ISFSI and transition to ISFSI only emergency plan

December 2022 to October 2074 – Unit remains in SAFSTOR

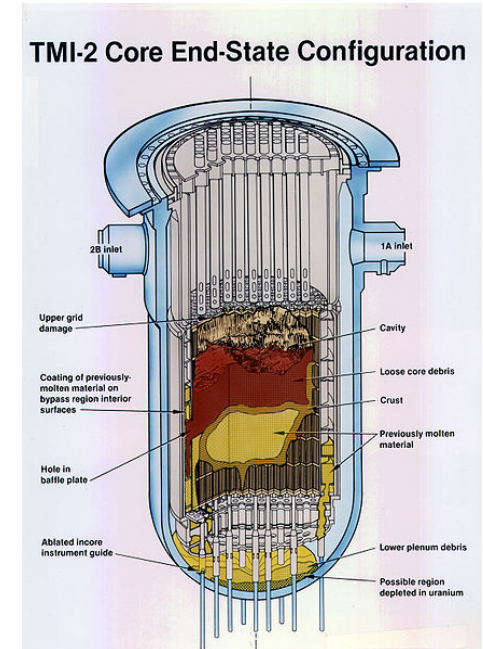
October 2074 – Enter Phase V

License termination (Removal of ISFSI pad and site restoration)



Three Mile Island Unit 2 - BACKGROUND

Date Issued Operating License:	February 1978
Date Unit entered commercial service:	December 1978
Plant shutdown due to TMI-2 accident:	March 1979
TMI-2 defueling completed*:	April 1990
NRC approval of long-term management condition termed PDMS (post-defueling monitored storage)	September 1993



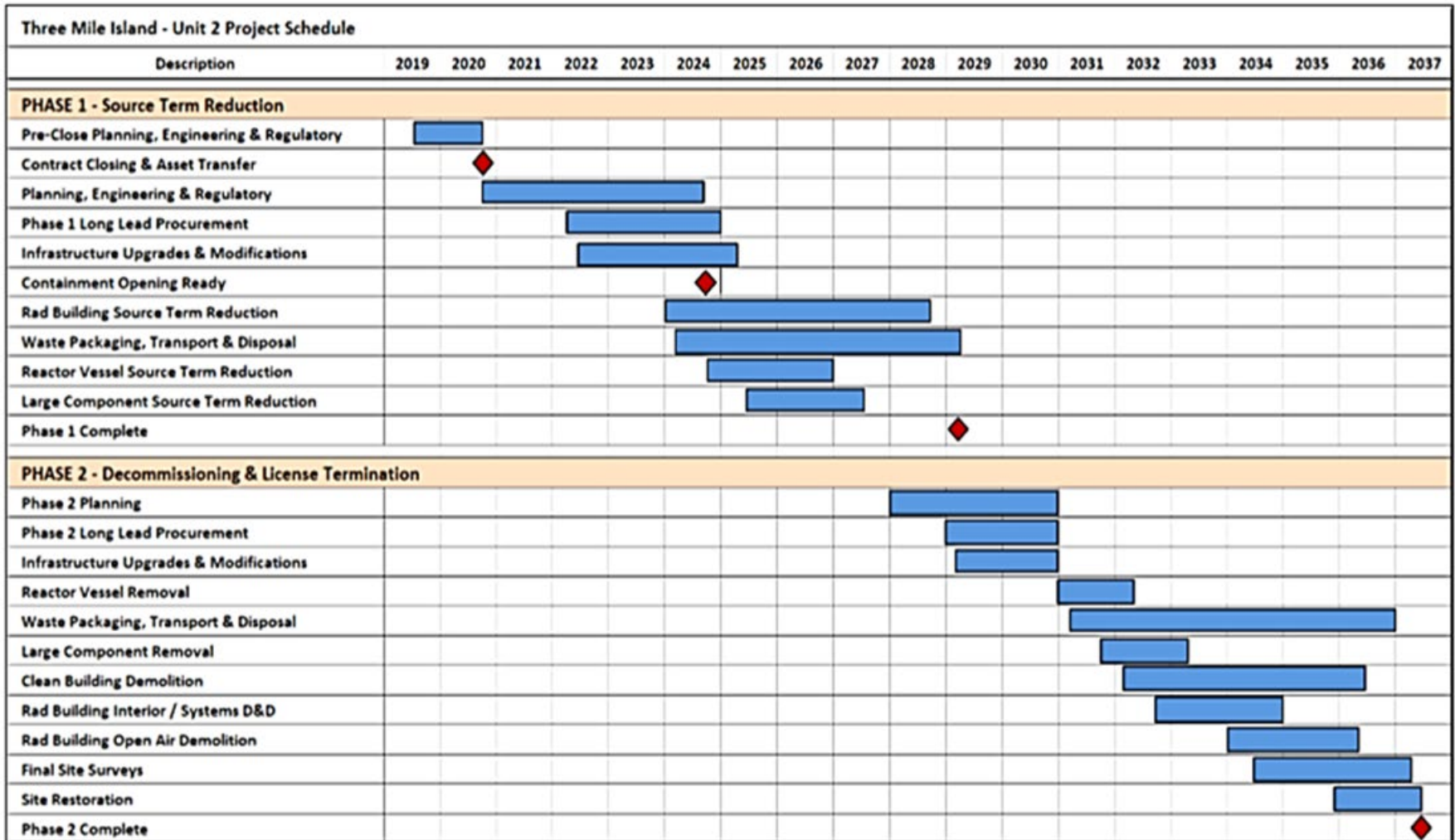
* 99% of the damaged fuel was removed and is currently in storage at Idaho National Laboratory, and the U.S. Department of Energy has taken title and possession of the fuel. There is approximately 1000 kg of fuel debris remaining in the Rx vessel and RCS

TMI Unit 2 License Transfer Application (LTA)

- On November 12, 2019, GPU Nuclear, Inc. (“GPU Nuclear”), Metropolitan Edison Company, Jersey Central Power & Light Company, and Pennsylvania Electric Company (collectively referred to as the “FirstEnergy Companies”) and TMI-2 Solutions, LLC (“TMI-2 Solutions”) submitted application to the NRC for consent of license transfer.
- TMI-2 Solutions will be responsible for developing NRC-compliant storage and/or disposal plans for any remaining Core Debris Material until Title of the material is transferred to the U.S. Department of Energy (“DOE”) for disposal. TMI-2 Solutions will assume responsibility for all licensed activities at the TMI-2 site, including responsibility under the License to complete radiological decommissioning pursuant to NRC regulations (“Decommissioning”).
- TMI-2 Solutions intends to substantially complete Decommissioning of TMI-2 and release the site by 2037, except for a potential area set aside for waste storage facilities.
- The DEP and GPU Nuclear / TMI-2 Solutions entered into an Agreement in early August 2020 regarding the application for license transfer. The NRC has not taken action to approve as of August 27th.
- See: <https://www.dep.pa.gov/Business/RadiationProtection/NuclearSafety/Pages/default.aspx>

TMI Unit 2 Decommissioning Timeline

DECOMMISSIONING PHASE ACTIVITIES*



* Does not include an assumed schedule for long-term storage of Debris Material after Phase 2 until acceptance by DOE in the early 2050 period.

Three Mile Island Units 1 & 2 - Waste Shipments 2019-2020

TMI-U1 2019

<u>Waste Class</u>	<u>Number of shipments</u>	<u>Total activity (mCi)</u>	<u>Total volume (cu.ft)</u>
A	13	6.43E+04	2,760
B	3	1.76E+05	285

TMI-1 2020 YTD

<u>Waste Class</u>	<u>Number of shipments</u>	<u>Total activity (mCi)</u>	<u>Total volume (cu. ft)</u>
A	3	10.312E+00	3,500
B	0	N/A	0

TMI-U2 CY 2019 and 2020

NO SHIPMENTS

TMI Unit 2 License Transfer - PA DEP Concerns

- Environmental and Safety Impacts
- Unknown Radiological Conditions
- Cost of Clean-up & Financial Responsibility
- Radioactive Waste Handling
- Local Decommissioning Advisory Committee
- Flooding During Cleanup



Questions?



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