

United States of America
Nuclear Regulatory Commission

Before the Secretary

In the Matter of	: Docket No.
GPU Nuclear, Inc.,	: NRC-2020-0082
Metropolitan Edison	: Three Mile Island Unit-2
Company, Jersey Central	:
Power and Light	: Direct License Transfer
Company, Pennsylvania	: No. DPR-73
Electric Company, and	:
TMI-2 Solutions, LLC	:

Three Mile Island Nuclear Generation Station Unit-2

Petition of Eric Joseph Epstein and Three Mile Island
Alert, Inc. for Leave to Intervene and for A Hearing

Eric J. Epstein, Chairman,
Three Mile island Alert, Inc.
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I. Background.

In October 2019, EnergySolutions, Inc. signed an agreement with the FirstEnergy companies GPUN, Metropolitan Edison Company, Jersey Central Power & Light Company, and Pennsylvania Electric Company (“FirstEnergy”) (1) to acquire all Three Mile Island Unit-2 (“TMI-2”) licenses and assets. Under the agreement, the facility would be transferred to a subsidiary of EnergySolutions known as TMI-2 Solutions, LLC (“TMI-2 Solutions.”)

The agreement also contemplates applications to the Nuclear Regulatory Commission, (“NRC”) and the New Jersey Board of Public Utilities (“BPU”) for approval of the transfer, followed by decommissioning of TMI-2. *See EnergySolutions Subsidiary Signs Contract to Acquire Three Mile Island Unit-2 Nuclear Power Plant*, ENERGYSOLUTIONS, <https://www.energysolutions.com>.

On November 12, 2019, TMI-2 Solutions, LLC and the aforementioned FirstEnergy companies submitted a license transfer application to the NRC (*see* ML19325C600), requesting that the NRC consent to the transfer of the Possession Only License (“POL”) No. DPR-73 for TMI-2 from the FirstEnergy companies to TMI-2 Solutions, LLC.

¹ FirstEnergy Corporation completed its Chapter 11 bankruptcy restructuring and changed its name to Energy Harbor Corp., the newly independent company announced February 27, 2020.

The independent power producer and fully integrated retail energy Company based in Akron, Ohio under the ownership of bondholders Avenue Capital Group and Nuveen Asset Management LLC after erasing about \$4 billion in debt from its books.

The NRC is considering the issuance of an order under 10 CFR 50.80 approving the direct transfer of NRC Possession-Only License No. DPR-73 for TMI-2, currently held by the FirstEnergy Companies. The transfer would be to TMI-2 Solutions, LLC. The NRC is also considering amending the possession-only license for administrative purposes to reflect the proposed transfer. The application now being considered is dated November 12, 2019, and was filed by the Applicants (ADAMS Accession No. ML19325C600).

Following approval of the proposed direct transfer of the license, TMI-2 Solutions, LLC would acquire ownership of the TMI-2 facility. TMI-2 Solutions, LLC would be responsible for the maintenance and decommissioning of the TMI-2 facility.

The NRC's regulations at 10 CFR 50.80 state that no license shall be transferred, directly or indirectly, through transfer of control of the license, unless the Commission shall give its consent in writing. The Commission will approve an application for the direct transfer of a license if the Commission determines that the proposed transferee is qualified to hold the license, and that the transfer is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission.

Before issuance of the proposed conforming amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended ("the Act"), and the Commission's regulations.

II. Standing to Intervene.

A. Legal Requirements for Standing.

A person whose interest may be affected by an NRC proceeding and who desires to participate as a party must file in writing a request for hearing or petition to intervene and a specification of the contentions that the person seeks to have litigated in the hearing. (3) The Atomic Safety and Licensing Board “will grant the request/petition if it determines that the petitioner or requestor has standing under the provisions of [10 C.F.R. § 2.309(d)] and has proposed at least one admissible contention.” (4) Under the standing requirements in 10 C.F.R. § 2.309(d)(1), a request for a hearing or a petition for leave to intervene must state:

- (i) The name, address, and telephone number of the requestor or petitioner;
- (ii) The nature of the requestor’s or petitioner’s right under the Atomic Energy Act to be made a party to the proceeding;
- (iii) The nature and extent of the requestor’s or petitioner’s property, financial, or other interest in the proceeding; and (iv) The possible effect of any decision or order that may be issued in the proceeding on the requestor’s or petitioner’s interest. (3)

2 10 C.F.R. §2.309(a); *see also* Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2239a.(1)(A) (“In any proceeding under this chapter, for the granting, suspending, revoking, or amending of any license or construction permit...the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding.”)

3 10 C.F.R. § 2.309(a).

4 10 C.F.R. § 2.309(d)(1).

Standing requirements for NRC proceedings reflect the nature of the proposed action. The Commission has recognized a “proximity presumption” for standing in certain reactor licensing proceedings, most commonly in proceedings for a construction permit, operating license, or license renewal for a nuclear power plant. (5) If the proximity presumption applies, individuals who live, (6) have a significant property interest, (7) or have frequent contacts (8) in an area within approximately 50 miles (80 kilometers) of a nuclear power reactor may establish standing without the need to make an individualized showing of injury, causation, or redressability. (9) A petitioner must provide specific details concerning its contacts with that area, and a lack of specificity or omission of supporting information is grounds to reject a claim of standing. (10)

5 *Calvert Cliffs 3 Nuclear Project, LLC* (Calvert Cliffs Nuclear Power Plant, Unit 3), CLI-09-20, 70 NRC 911, 915-916 (2009) (citing *Consumers Energy Co.* (Big Rock Point Independent Spent Fuel Storage Installation), CLI-07-19, 65 NRC 423, 426 (2007)).

6 *Fla. Power & Light Co.* (St. Lucie Nuclear Power Plant, Units 1 and 2), CLI-89-21, 30 NRC 325, 329 (1989).

7 *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 (1994).

8 *USEC, Inc.* (American Centrifuge Plant), CLI-05-11, 61 NRC 309, 314 (2005). 54 *Sequoyah Fuels Corp. and General Atomics* (Gore, Oklahoma Site), CLI-94-12, 40 NRC 64, 75 (1994).

9 *Peach Bottom*, CLI-05-26, 62 NRC at 581.

10 *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999); *PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-7, 71 NRC 133, 139 (2010).

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Before issuance of the proposed conforming amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations.

If the petitioner has not shown that the licensing action in question raises an obvious potential for offsite consequences, the presumption of proximity-based standing does not apply. (11) In these circumstances, a petitioner then has the burden of establishing standing under traditional standing rules; in other words, the petitioner must demonstrate a “concrete and particularized injury that is fairly traceable to the challenged action and is likely to be redressed by a favorable decision, where the injury is to an interest arguably within the zone of interests protected by the governing statute.” (12)

An organization may establish standing under 10 C.F.R. § 2.309(d) based on harm to its own organizational interests or based on harm to the interests of its members (representational standing). When an organization asserts representational standing, it must demonstrate that: (1) at least one of its members would otherwise have standing to sue in his or her own right; (2) the interests that the organization seeks to protect are germane to its purpose; (3) neither the claim asserted nor the relief requested requires an individual member to participate in the organization’s lawsuit; and (4) at least one of its members has authorized it to represent the member’s interests. (13)

11 *Entergy Nuclear Operations, Inc.* (Palisades Nuclear Plant), CLI-o8-19, 68 NRC 251, 269 (2008).

12 *Calvert Cliffs*, CLI-09-20, 70 NRC at 915 (citing *Cleveland Elec. Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-93-21, 38 NRC 87, 92 (1993) (quotations omitted)); see also *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 559-61 (1992) (describing framework for judicial standing).

13 See *Private Fuel Storage*, CLI-99-10, 49 NRC at 323 (citing *Hunt v. Washington State Apple Advertising Comm’n*, 432 U.S. 333, 343 (1977)).

Thus, for representational standing, the organization must demonstrate “how at least one of its members may be affected by the licensing action, must identify the member, and must show that the organization is authorized to represent that member.” (14)

B. Eric Joseph Epstein Meets Standing Requirements.

A petitioner who wishes to establish proximity-based standing must “clearly indicate where he works and lives.” (15)

Eric Joseph Epstein (“The Petitioner,” “Mr. Epstein” or “Epstein”) is a resident of Lower Paxton Township, Pennsylvania, and lives and operates a business in “close proximity,” i.e., 12 miles northeast of the Three Mile Island Nuclear Generating Station in Lower Paxton Township. Mr. Epstein lives and works at 4100 Hillsdale Road, Harrisburg, PA, 17112 , (717)-635-8615; epstein@efmr.org

Mr. Epstein has taught, worked, and raised a family in the Harrisburg area dating back to 1982. Epstein has a direct, immediate and proximate interest in the proposed applications to directly transfer the NRC Possession-Only License No. DPR-73 for TMI-2, currently held by the FirstEnergy Companies.

¹⁴ U.S. Nuclear Regulatory Commission, Three Mile Island Nuclear Station, Unit No. 2 Possession Only License, Docket No. 50-320 (Sept. 1993) (ADAMS Legacy #9405190046).

¹⁵ *White Mesa*, CLI-01-21, 54 NRC at 250; *GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-06, 51 NRC 193, 202 (2000).

Mr. Epstein has lived within twelve miles of TMI continuously since 1990, and his personal and professional obligations pierce the five mile veil around TMI on a regular basis.

Epstein's economic stake as a business owner, homeowner, and taxpayer are immediately impacted by lack of funding, incomplete and underfunding of the decommissioning fund. As Mr. Epstein demonstrated in his Contentions, decommissioning estimates have been consistently low, and totally dependent of rate payer funding. All phases of the cleanup at TMI-2 have been funded through rate payer bailouts and taxpayer subsidies. (16) Area rate payers and taxpayers can not afford another bailout, especially as the Corona virus has depleted local and state resources.

Additional radioactive releases - planned and unplanned - as well as converting TMI-2 into a permanent high-level radioactive waste site as planned by EnergySolutions, would be harmful to Mr. Epstein's health and financial interests. (17)

16 On September 20, 1995, the Pennsylvania Supreme Court reversed a lower court's decision, and allowed GPU to charge rate payers for the TMI-2 accident.

17 TMI-2's decommissioning funding was litigated in both Met Ed and Penn Elec's Restructuring Cases as well as a distribution base rate case at the Public Utility Commission. As part of the Restructuring Settlement, Met Ed and Penn Elec collected TMI-2 decommissioning expenses through the Competitive Transition Cost ("CTC") through December 31, 2010. In the 2006 distribution case, Met Ed sought an increase in the TMI-2 decommissioning expense as part of its CTC revenue requirement. The claim was made as part of a request for a specific exception to the generation rate cap. The request was denied. (Metropolitan Edison and Pennsylvania Electric Company v. Pa. PUC, No. 2404 C.D. 2003 (Pa. Cmwlt. 2006).

Mr. Epstein's connection to the community and Three Mile Island predates the Accident. He was born and raised in the area, and attended parochial and public school near the plant when it was being built. Later, he became the president of Historic B'Nai Jacob Synagogue in Middletown.

As an adult, he has monitored the cleanup, and was an active participant in the NRC's TMI Advisory Panel. He has a vested interest in making sure the TMI-2 decommissioning fund is adequate to complete a full and complete decommissioning. TMI-2 is the site of a defueling process that was brought to abrupt halt in 1993 despite public opposition as evidenced at the Nuclear Regulatory Commission's TMI Advisory Panel meetings.

Mr. Epstein has served as the Chairperson and Spokesperson for Three Mile Island Alert continuously since 1984. Mr. Epstein is the Chairman of Three Mile Island Alert, Inc., a safe-energy organization based in Harrisburg, Pennsylvania and founded in 1977. TMIA monitors Peach Bottom, Susquehanna, and Three Mile Island nuclear generating stations.

A description of the organization can be found at:

<http://www.tmia.com/about>

Epstein is also the Coordinator of the EFMR Monitoring group, a nonpartisan community based organization established in 1992. EFMR monitors radiation levels at Three Mile Island nuclear generating stations, invests in community development, and sponsors remote robotics research.

In September, 1992, GPU and the NRC agreed to a negotiated settlement on the Post-Defueling Monitored Storage (“PDMS”) of TMI-2 with TMI-Alert Chairman Eric Epstein. The Agreement stipulates GPU Nuclear will provide equipment and resources to independently monitor radioactive levels at TMI-2; \$700,000 for remote robotics research to assist in the cleanup and minimize worker exposure; and, guarantees that TMI-2 will never operate or serve as a radioactive waste repository for any radioactive waste generated off the Island.

EFMR has also undertaken educational activities relating to energy production and use in Pennsylvania, initiated advocacy actions on behalf of the safety of nuclear plant neighbors, including the evacuation of day care centers in emergency preparedness plans, and the distribution of potassium iodide pills to the general public. The group has also intervened at the Pennsylvania Public Utility Commission to protect the economic interests of Pennsylvania rate payers.

EFMR has worked with Carnegie-Mellon University, Dickinson College, Exelon, the Environmental Protection Agency, GPU Nuclear Los Alamos National Laboratories (SWOOPE Program), the Nuclear Regulatory Commission, Peach Bottom REMP Program, Pennsylvania Center for Environmental Education, and the University of Tennessee, as well as other national and international organizations.

A description of the organization can be found at:

<https://www.efmr.org>

Eric Epstein formed Rock the Capital (“RTC”) in 2005, after the illegal pay raise. RTC is a nonpartisan, good-government watchdog group. As its first major project, Rock the Capital tracked legislators who accepted the pay raise, and refused to repay the extra monies.

RTC’s current project is “Watching Pennsylvania’s Political Alphabet Soup.” Among the agencies included in the project is the Pennsylvania Turnpike Commission. Board meetings are held every two weeks on Tuesday’s at the Turnpike’s headquarters, which is located less than four miles from Three Mile Island. Mr. Epstein attends most Board meetings.

A description of the organization can be found at:

<https://www.rockthecapital.com/state/>

Eric Epstein has been a school board director for the Central Dauphin School District (“Central Dauphin” or ‘the District’) since 2013. Central Dauphin School District has 95,000 residents and 12,300 students. The school district is the 9th largest school district in the Commonwealth and is the largest of the 10 school districts located in the county. Encompassing an area of 118.2 square miles, the district is comprised of three boroughs (Dauphin, Paxtang and Penbrook) and four townships (Lower Paxton, Middle Paxton, Swatara and West Hanover). Students attend one of thirteen elementary schools, four middle schools and two high schools; and are transported from urban, suburban and rural areas.

The District is within ten miles of Three Mile Island. Board members, families, staff, residents and students live within the 10-mile zone that might be affected by a release of fission products into the environment during decommissioning.

The Emergency Planning Zone (“EPZ”) consists of an area of about ten miles in radius around the fixed nuclear facility at TMI. This area includes: Conewago Township, Derry Township, Highspire Borough, Hummelstown Borough, Londonderry Township, Lower Swatara Township, Middletown Borough, Paxtang Borough, Royalton Borough, South Hanover Township, Steelton Borough, Swatara Township and the city of Harrisburg south of I-83, Lower Paxton Township as far north as Union Deposit Road and Nyes Road, to and including Red Top Road, to the township line.

Public and nonpublic schools within the Emergency Planning Zone included in the Central Dauphin School District Response Plan are: Chambers Hill Elementary, Lawnton Elementary, Paxtang Elementary, Rutherford Elementary, South Side Elementary, Swatara Middle School, Tri-Community Elementary, Circle School, Phase Four and St. Catherine's Laboure. It is the responsibility of the Central Dauphin School District to evacuate each of these buildings to a location outside of the ten (10) mile EPZ.

In addition to transporting children from the District, Central Dauphin has responsibilities for picking up students who attend parochial and private schools in the Greater Middletown Area.

Mr. Epstein was named chairman of the Select Committee on Transportation on December 3, 2018.

Moreover, Central Dauphin School District and Penn State Harrisburg (which is located in Lower Swatara Township) have a cooperative agreement, whereby students attending the Penn State Middletown Campus, intern as student teachers in the Central Dauphin School District. The campus is three miles from Three Mile Island.

Mr. Epstein attended Central Dauphin High School. His sister was evacuated during the March 30, 1979 precautionary evacuation ordered by Governor Richard Thornburgh. The evacuation was necessary due to the release of fission products by the owners and operators of Three Mile Island. Mr. Epstein has first-hand experience of the harms associated with the fissionable releases at TMI-2 due to the malfeasance of the licensee.
(18)

As the Commission has applied this standard, an individual demonstrates an interest in a reactor licensing proceeding sufficient to establish standing by showing that his or her residence is within the geographical area that might be affected by an accidental release of fission products. This "proximity approach" presumes that the elements of standing are satisfied if an individual lives within the zone of possible harm from the source of radioactivity. *See Virginia Elec. And Power Co.*, 9 NRC 54, 56 (1979) ("close proximity [to a facility] has always been deemed to be enough, standing alone, to establish the requisite interest" to confer standing).

¹⁸ On January 13, 1990, GPU was fined \$50,000 for excessive radiation exposure to a worker.

The Commission's "rule of thumb" in reactor licensing proceedings is that "persons who reside in or frequent the area within a 50-mile radius of the facility" are presumed to have standing. *Sequoyah Fuels Corp.*, 40 NRC 64. 75 n.22 (1994); *See also, Duke Energy Corp.*, 48 NRC 381, 385 n.1 (1998).

In *Georgia Power Co.* (Vogtle Electric Generating Plant, Units 1 and 2), LBP-93-5, 37 NRC 96 (1993), *aff'd*, CLI-93-16, 38 NRC 25 (1993), the Nuclear Regulatory Commission approved standing for a petitioner living 35 miles from the plant one week per month.

In the CFC Logistics proceeding, the Atomic Safety and Licensing Board (ASL&B) "hasten[ed] to add...that the 'obvious potential' aspect of 'proximity-plus' standing is not a concept that can be applied with engineering or scientific precision..." (NRC 475, 485 (2004), p. 487.)

Mr. Epstein has established an immediate, proximate and long standing stake in the Three Mile Island community as well as a direct charge for numerous family members, staff, students, and taxpayers.

"[A] minor exposure to radiation, even one within regulatory limits, is sufficient to state an injury in fact" for standing purposes. *Duke Cogema Stone & Webster* (Savannah River Mixed Oxide Fuel Fabrication Facility), LBP-01-35, 54 NRC 403, 417 (2001), *rev'd* on other grounds, CLI-02-24, 56 N.R.C. 335 (2002) (citing *Yankee Atomic Electric Co.* (Yankee Nuclear Power Station), CLI- 96-7, 43 NRC 235, 247-48 (1996)); *see also id.* at 420 (standing inquiry does not require precision regarding probability of petitioner receiving unwanted dose of radiation). The asserted harm –

injury to the health and safety – is clearly encompassed by the health and safety interests protected by the Atomic Energy Act. *Id.* at 417; see also 42 U.S.C. § 2013.

Radiation exposures and releases are not hypothetical for those who live and work around Three Mile Island. (Exhibit A: Chronology of Problems at Three Mile Island, 1978-2020.) The issue is not if residents will be exposed to radiation, but when, where and for how long.

This proceeding is unique in that so much of the community has already been exposed to radiation releases from fission products, subsequent illegal krypton venting, and an extended evaporation of accident generated water.

As such, Mr. Epstein has been exposed to radiation consistently since 1978. These releases also occurred during refueling, and are likely to reoccur due to the flawed plan submitted by TMI-2. (See exhibits A, B, and C.) The Application and Amended PSDAR are based and bounded on inexact and outdated guestimates. Moreover, there is no dispute that GPU - through its various incarnations - has made numerous false statements to the Nuclear Regulatory Commission. (19)

19 On July 22, 1983, GPU was fined \$140,000 for submitting material false statements to the NRC in connection with the license certification of then TMI-2 Supervisor of operations who cheated on his license requalification exam IN 1979

On February 29, 1984, a plea bargain between the Department of Justice and Met Ed settled the Unit 2 leak rate falsification case. Met Ed plead guilty to one count, and no contest to six counts of an 11 count indictment.

The current amount of fuel and debris remaining is imprecise, (See Dr. Kaku's and the studies are over thirty years old. As a result, the rest of the defueling activities are likely to release additional fissionable products directly into the atmosphere.

By contrast, Mr. Epstein's estimates for remaining fuel debris were produced by one of the world's leading theoretical physicists. (Exhibit: B.)

The standing requirements for Nuclear Regulatory Commission adjudicatory proceedings derive from the Atomic Energy Act which requires the NRC to provide a hearing "upon the request of any person whose interest may be affected by the proceeding." (42 U.S.C. 2239(a)(1)(A).

Mr. Epstein also has over thirty five years of experience in publishing, researching and actively intervening before the Pennsylvania Public Utility Commission and the Nuclear Regulatory Commission on the cleanup, defueling and decommissioning of Three Miles Island. Clearly, his participation would add insight, institutional memory and perspective.

Mr. Epstein would be granted standing because his participation may reasonably be expected to assist in developing a sound record (See, 10 C.F.R. § 2.309 (e), as he has demonstrated by his participation in numerous NRC proceedings over the past thirty five years.

Pursuant to 10 C.F.R. § 2.309(f), Mr. Epstein has standing and should be granted leave to intervene because his "interest[s] may be affected by the proceeding." Those interests will not be adequately represented in this action if he is denied intervention.

In Pebble Springs, (4 NRC at 614-617. See *Infra*, § II. A.5.) the Commission also held that even if a Petitioner for intervention could not satisfy the strict judicial standing test, intervention could still be allowed as a matter of discretion.

Mr. Epstein also qualifies for the presumption of injury-in-fact for persons residing within that zone (see *Houston Lighting & Power Co. (South Texas Project, Units 1 & 2)*, LBP-79-10, 9 NRC 439, 443 (1979); *Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2)*, LBP-79-1, 9 NRC 73, 78 (1979); and *Entergy Nuclear Generation Co. & Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station)*, LBPO6-23, 64 NRC 257, 270 (2006). That presumption is well-founded here.

Mr. Epstein, as a private citizen and Chairman of TMI-Alert, has an indisputable interest in ensuring that both owners of the Three Mile Island site provide financial assurances that the site will be cleaned up to a Greenfield level.

For the above stated reasons and supporting evidence, Eric Joseph Epstein satisfies the NRC's proximity, presumption of injury-in-fact requirements, and because his participation will assist in developing a sound record.

1. Three Mile Island Alert, Inc. Has Standing to Participate in this Proceeding

The standing requirements for NRC hearings derive from the Atomic Energy Act, which requires the NRC to provide a hearing “upon the request of any person whose interest may be affected by the proceeding.” 42 U.S.C. § 2239(a)(1)(A). *See also Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), 48 N.R.C. 185, 195 (1998). In determining whether a petitioner has established the “necessary ‘interest’” under the statute, the NRC “has long looked for guidance to judicial concepts of standing.” *Id.* (Citing *Quivira Mining Co.* (Ambrosia Lake Facility, Grants, New Mexico), CLI-98-11, 48 N.R.C. 1, 5-6 (1998); *Georgia Institute of Technology* (Georgia Tech Research Reactor, Atlanta, Georgia), CLI-95-12, 42 N.R.C. 111, 115 (1995)).

Three Mile Island Alert, Inc. (“TMIA” or “TMI-Alert”) has standing to participate in this proceeding through its members, whose interests may be affected by the transfer of control of The Mile Island Unit-2’s possession only license from GPU Nuclear, Inc. , Metropolitan Edison Company, Jersey Central Power and Light Company, Pennsylvania Electric Company (“GPU” or the “licensee”) and TMI-Solutions, LLC, which is an indirect wholly owned subsidiary of Energy Solutions.

Three Mile Island Alert, Inc. meets the requirements of 10 C.F.R. § 2.309(d). TMIA is a non-profit citizens’ organization located at 315 Peffer Street, Harrisburg, Pennsylvania, 17102. Many of its members make their residences and places of occupation, operate businesses and recreate less than 10 miles from Three Mile Island in Dauphin, Lancaster, and York Counties.

Eric Joseph Epstein (“Epstein” or “Mr. Epstein”) has been the Chairman or Spokesperson of Three Miles Alert, Inc. since 1984. Mr. Epstein is charged with representing the interests of TMIA.
(<http://www.tmia.com/about>)

TMI-Alert has representational standing to intervene in this license proceeding, for several reasons. TMI-Alert’s members in this proceeding live within the 10-mile geographical zone that might be affected by a release of fission products into the environment during or after decommissioning. The plant operators have a history of illegally releasing radiation into the environment. (20)

TMIA is entitled to the presumption of injury-in-fact for persons residing within that zone (see Houston Lighting & Power Co. (South Texas Project, Units 1 & 2), LBP-79-10, 9 NRC 439, 443 (1979); Detroit Edison Co. (Enrico Fermi Atomic Power Plant, Unit 2), LBP-79-1, 9 NRC 73, 78 (1979); and Entergy Nuclear Generation Co. & Entergy Nuclear Operations, Inc. (Pilgrim Nuclear Power Station), LBPO6-23, 64 NRC 257, 270 (2006)).

20 In June-July, 1980, for 11 days, Met Ed illegally vented 43,000 curies of radioactive Krypton-85, and other radioactive gases directly into the environment without having scrubbers in place. The United States Court of Appeals for the District of Columbia ruled that the krypton venting (June-July, 1980) was illegal in a decision issued in November, 1980.

Between July 24-27, 1984 during the 159-ton reactor head lift, which was delayed due to polar crane failure, GPU vented radioactive gases into the environment despite pledges by the Company and NRC that no radioactive releases would occur. GPU was fined \$40,000 by the NRC for this violation.

That presumption is well-founded here.

The interests of TMIA and its members extend to all aspects of Three Mile Island Unit-2's radiological decommissioning, spent nuclear fuel management, and site restoration. The proposed license transfer raises significant health, past-mismanagement, safety, environmental, and financial concerns for them.

TMIA and its members will be at risk if there is a shortfall in the Decommissioning Trust Fund ("DTF") that prevents the site from being fully cleaned up and restored to the original site status. The radiological risk to their health and safety, and to their environment, if the site is not fully cleaned up, has been ongoing for 41 years. The threat of radiological contamination of land that will be released for public use, and the threat of radiological runoff into Susquehanna River and drinking water is not an experience TMIA's members should have to endure again. (21) The zone of injury for TMIA members includes Etters, Falmouth, Goldsboro, Londonderry Township, Middletown, and Royalton. Public health, safety and economic impact will result from actual/measured contamination above acceptable limits, and from the public's perceived or reasonably feared contamination, irrespective of actual readings.

21 In 1980, The Susquehanna Valley Alliance, based in Lancaster, successfully prevented GPU/Met Ed from dumping 700,000 gallons of radioactive water into the Susquehanna River.

On June 23, 1999, according to the Nuclear Regulatory Commission, "Three Mile Island, trying to rid itself of clams, recently released too much of a potentially hazardous chemical into the Susquehanna River...State regulations allow TMI to release 0.3 parts per million of Clamtrol back into the Susquehanna River. For about an hour, the plant was releasing 10,500 gallons per minute containing twice that amount."

TMI-Alert has attached the declarations of Joyce Corradi (“Corradi” and “Mrs. Corradi”) and Patricia Longenecker (“Longenecker” or “Mrs. Longenecker”) who are members of Three Mile Island Alert, and authorized TMIA through its Chairman, Eric Joseph Epstein, to represent their interests in this proceeding.

As detailed below and in the attached declarations, the members have economic, environmental, and recreational interests in the area immediately around and including Lake Fredric and Three Mile Island.

Mrs. Longenecker has an interest in visiting the site after it has been decommissioned and released for public access, as required by NRC regulations. *See* 10 C.F.R. § 50.82(b)(6). Mrs. Longenecker, founded a wreath making business, and is the proprietor of the Berry Patch Farm in Elizabethtown. The farm is also home to Josefina, a famous donkey chronicled in the book, “A Miracle Named Josefina: The Miniature Donkey Born to Be Loved.”

Mrs. Longenecker’s family has a clear and historic connection to Three Mile island. Almost 200 years ago, Patricia Longenecker's great-grandfather walked along the river past what is now Three Mile Island. Her cousins across the river "grew the best melons in the whole area," she said, because it was a flood plain — but today, high-level waste is a risk if the Dauphin County nuclear facility sees another storm as powerful as Tropical Storm Agnes in 1972.

Mrs. Corradi children and grandchildren make their homes in the Shopes Garden Neighborhood of Middletown. Her home is the site of Aunt Joyce's Daycare, and the location of her prodigious 100,000 annual Easter egg fund raiser.

Joyce Corradi, of the Concerned Mothers and Women activist group, said the NRC was supposedly watching over the people who caused the accident. "My biggest concern is that you as an entity consider strictly the health and well-being of this community when this process happens, not money or the company," she said.

Mrs. Corradi testified at a meeting relating to the cleanup of Three Mile Island Unit-1 on July 23, 2019. She told the Nuclear Regulatory Commission. "I do not see this as a pro or an anti-nuclear issue. I see it as a safety issue strictly and clearly for the health and well-being of my children, our children, people in the community."

Their interests in the area in the future would be adversely affected by an "ineffectual cleanup" of the site by Entergy's subsidiaries. *Yankee Atomic Electric Co.*, 48 N.R.C. at 208 (finding standing where "'ineffectual cleanup' of a reactor site could result in adverse health effects, loss of aesthetic enjoyment, and diminished property values").

Both members live within five miles from the plant, and have lived and worked in the community for generations. Mrs. Corradi and Mrs. Longenecker are active in their churches and local communities, and engage in environmental, familial and recreational activities on and around the countryside and near the river.

If the site is properly decommissioned, Mrs. Corradi and Mrs. Longenecker would like their families to be able to return the shoreline on the Susquehanna River that has been off limits to them for 41 years.
(22)

Both members are concerned by credible reports that officials with Three Mile Island - including Energy Harbor, First Energy, GPU Nuclear and TMI-2 Solutions - companies that own or will own Three Mile Island - have made material misrepresentations to officials of several state government agencies, and even to the NRC itself. (23)

22 Three Mile Island is part of Lake Frederic, which is 3.5 miles long with 29 miles of shoreline within the project boundary. Recreation facilities include: the Historic Canal Lock, East Shore Boat Launch, Goosehorn Island Picnic Area, Shelley Island Recreation Area, Goodling Island Picnic Area, Beshore Island Recreation Area, Battery Island Recreation Area, Cly Shore recreational lot sites, York Haven Power Plant Recreation Area, and a Canoe Portage trail.

23 On July 22, 1983 , GPU was fined \$140,000 for submitting material false statements to the NRC in connection with the license certification of then TMI-2 Supervisor of Operations who cheated on his license requalification exam in 1979. (See June 15, 1984)

On November 7, 1983 , the Department of Justice indicted Met Ed for falsifying leak rate data and destroying documents before the accident, in violation of their license, NRC regulations, and the federal criminal code.

On February 29, 1984, in a plea bargain between the Department of Justice, Met Ed settled the Unit 2 leak rate falsification case, pleading guilty to one count, and no contest to six counts of an 11 count indictment. Met Ed also agreed to pay a \$45,000 fine, and establish a \$1 million dollar interest-bearing account to be used by the Pennsylvania Emergency Management Agency. The Settlement stipulated that the fines, emergency preparedness fund, and legal cost of the prosecution, would not be paid by GPU/Met Ed rate shareholders.

Thirty years ago Mrs. Corradi spoke directly to the NRC officials and questioned them on TM-2's decommissioning plan and the impact on her neighbors. She is still looking for answers, financial assurances, and a good corporate neighbor. (24)

Neither Energy Harbor, First Energy, GPU Nuclear, or the Nuclear Regulatory Commission have conducted any outreach or scoping meetings. However, area residents have paid almost \$2.6 billion for a nuclear plant that operated for less than 90 days and was only a minor energy supplier in Central Pennsylvania to the Borough of Middletown, and a small portion of Lebanon and York Counties.

Both members are concerned that licensee's lack of accountability and integrity are part of the corporate culture that will also affect Energy Solutions and subsidiaries who are responsible for decommissioning TMI-2. (25)

24 Please refer to Programmatic Environmental Impact Statement related to decontamination and disposal of radioactive wastes resulting from March 28, 1979 accident, Three Mile Island Nuclear Station, Unit-2, Docket No. 50-320, Final Supplement Dealing with Post-Defueling Monitored Storage and Subsequent Cleanup, U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, August, 1989, A-77.

25 In September, 1980, Met Ed renamed itself GPU Nuclear in a bid to disassociate itself from itself.

On April 28, 1982, the Special Master's report found TMI managers engaged in cheating and wrongdoing; the company's response and integrity were inadequate; the company submitted "material false statements," and the company's training program was ineffective and inadequate.

As a result, they fear that the decommissioning fund may be mismanaged, and the cleanup of the site may be inadequate. As the members know, even though the decommissioning fund contains millions of dollars, these funds are not unlimited.

Further, they know that if the fund were to be mismanaged or diverted to uses other than decommissioning, as has been the precedent established at TMI-1 (26), the money may run short, in which case the site would not be fully decommissioned.

Based on the history of the site, the core melt accident that began on March 28, 1979 occurred when the plant had no decommissioning funds - by design. To date, rate payers and taxpayers have paid over \$700 million to build the plant, contributed most of the resources to the \$987 million Thornburgh bailout- plan for defueling, and contributed \$899,487,427 billion (December 3rd, 2019) to decommission a plant that operated for 90 days.

26 The U.S. Nuclear Regulatory Commission) has issued exemptions in response to an April 12, 2019, request from Exelon Generation Company, LLC (Exelon, the licensee). One exemption permits the use of the Three Mile Island Nuclear Station, Unit 1 (TMI-1) Decommissioning Trust Fund (DTF) for spent fuel management activities based on the TMI-1 post-shutdown decommissioning activities report (PSDAR) and site-specific decommissioning cost estimate (DCE). The other exemption permits the licensee to make withdrawals from the DTF for spent fuel management activities without prior notification of the NRC.

In a filing with the U.S. Nuclear Regulatory Commission, Exelon estimated it would cost \$270 million in the first four years to wind down operations and secure spent nuclear fuel, before settling into an average cost of \$10 million a year for the next decade.

None of the licensees - past or present - have contributed a dime to the construction, defueling or decommissioning of Three Mile Island Unit-2. Worse, if Energy Solutions were to take shortcuts during their initial “apple to oranges” stage of decommissioning, the condition of the site may be worse than anticipated, posing risks that neither the members nor the public would even be aware.

In fact the present condition of the reactor basement is so radioactive, that extended human entry is lethal.

The members’ concerns extend to the possibility that the site may not even be reopened in their lifetime, or that it will be reopened in a condition that is misrepresented with respect to their health and safety.

The members’ economic interests will also be negatively affected by an incomplete or improper decommissioning. They have already paid, been taxed or tithed to build and defuel the site.

That risk is also financial to the Commonwealth - there is no guarantee that Pennsylvania taxpayers, including Three Mile Island Alert and its members, will not become the payers of last resort if the Decommissioning Trust Fund falls short.

TMI-Alert has an indisputable interest in ensuring that the owner of the TMIA site provides financial assurance that the site will be fully decontaminated, decommissioned, and restored, and spent fuel properly managed, all according to applicable federal, state, and local requirements.

There is no such assurance, for the myriad reasons discussed below. If the NRC were to approve the license transfer without first resolving the Petitioners' public safety, environmental and financial concerns, that approval would result in an unacceptable risk to the environment, and would jeopardize the health, safety, welfare, and economic interests of Three Mile Island Alert and members of TMIA who live, recreate, conduct business and own property within the areas likely to be impacted by the nuclear power station.

The information in the Application itself shows that there is not sufficient money in the Decommissioning Trust Fund. The problem is exacerbated by the fact that TMI will likely remain a repository for spent nuclear fuel for an indeterminable period of time, probably many decades into the future and perhaps indefinitely, after decommissioning itself is complete.

TMI-2 successfully sued Dauphin County, and pays no real estate taxes, but insisted on, and received a refund from the community, including TMIA's members. (27)

Any abandoned or improperly managed decommissioning will leave the site unusable and will diminish all nearby property values and negate any opportunity to reuse the site per the Commonwealth of Pennsylvania "Greenfield" standards.

27 "Unit 2 was pronounced worthless by FirstEnergy in a lawsuit against Dauphin County. The deal means the plant will be exempt from property taxes after the assessment on the reactor and its contaminated site was reduced from \$16.2 million to zero...First Energy Spokesman Scott Shields said the company considers Unit 2 useless and has absolutely no plans for building on the land." (Nuclear Engineering International, April 1, 2005)

Any diminution in property value is by definition an economic injury. Moreover, if the site is not restored fully and safely, it cannot be redeveloped and the community will not benefit from tax revenues associated with the site, negatively impacting each of the declarants and all local residents. This is the scenario envisioned by the TMI-2 Solutions which explicitly stated they wanted to use the reactor site as a high-level radioactive waste repository for accident-generated fuel debris. (NRC Teleconference.)

It should be noted that Three Mile Island Alert, Inc. is not challenging any particular *method* of decommissioning, decontamination or spent fuel handing, *see Yankee Atomic*, 48 N.R.C. at 204 (handling of spent fuel outside scope of proceeding) (Idaho and PDMS: 1987). TMIA is challenging the *transfer* of the POL license to an entity that is little more than an investment vehicle for shell company.

The standing requirements for Nuclear Regulatory Commission adjudicatory proceedings derive from the Atomic Energy Act, which requires the NRC to provide a hearing "upon the request of any person whose interest may be affected by the proceeding." (42 U.S.C. 2239(a)(1)(A)).

Pursuant to 10 C.F.R. § 2.309(f), Eric Epstein and TMIA have standing and should be granted leave to intervene because Mr. Epstein, and TMIA and its members' "interest[s] may be affected by the proceeding." Those interests will not be adequately represented in this action if Mr. Epstein and TMI-Alert are denied intervention.

As such, Mr. Epstein, a Chairman of TMI-Alert and representative for Mrs. Corradi and Mrs. Longenecker, has established representational standing. The environmental, recreational, and economic injuries the members describe provide the basis for standing under the Atomic Energy Act, 33 USC § 2239(a)(1)(A); under NRC's regulations, 10 CFR § 2.309(d); and the case law. *See Yankee Atomic*, 48 N.R.C. at 208.

II. Contentions.

Epstein-1.

TMI-2 Solutions has failed to comply with 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i) because the license transfer application and the supporting PSDAR and decommissioning cost estimate impermissibly assume an annual two percent real rate of return on nuclear decommissioning trust monies. (1)

Basis.

1. Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as if fully set forth herein as well as “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station, Unit 22,” <https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20066F494>, “Three Mile Island Unit-2 Independent Spent Fuel Storage Installation Application for 10 CFR 72 Specific License Renewal, Special Nuclear Material License Number SNM-2508 (Docket- No. 72-20) and “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, Possession Only License No. DPR-73 Post-Shutdown Decommissioning Activities Report Submittal,” <https://www.nrc.gov/docs/ML1319/ML13190A366.pdf>.

¹ Two percent assumptions explicitly and repeatedly stated by GPU Nuclear and TMI-2 Solutions. On March 18, 2020, in an NRC filing, GPU Nuclear stated, “The analysis assumes a 2 percent yearly rate of return. The analysis also assumes a period of safe storage. Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station, Unit 2. Moreover, planning assumption of a period of “safe storage” is undermined by TMI-2 Solutions’ Application, submitted on November 12, 2019, which calls for an “accelerated” and “prompt” process as a means to cut costs.

2. Under section 182(a) of the Atomic Energy Act, proposed licensees must, among other things, demonstrate that they are financially qualified to hold an NRC license.
3. NRC rules require non-utility proposed licensees to show they have the financial ability to “carry out, in accordance with [NRC regulations], the activities for which the permit or license is sought.” (2)
4. As part of the necessary showing of financial qualification, proposed licensees “must provide reasonable assurance that sufficient funds will be available to decommission the facility.” (3)
5. For power reactor licensees, the necessary amount of decommissioning funding may be based on a site-specific decommissioning cost estimate. (4)
6. Under NRC regulations, a proposed licensee may elect to prepay its decommissioning obligation by segregating funds in an amount “sufficient to pay decommissioning costs *at the time permanent termination of operations is expected.*” (Emphasis added) (5)

2 10 C.F.R. § 50.33(f); *see id.* § 50.80(b)(1)(i) (requiring, with respect to license transfer proceedings, that proposed transferees comply with the financial qualification requirements set forth in 10 C.F.R. § 50.33).

3 Exelon Generation Co. (Oyster Creek Nuclear Generating Station), CLI-19-06, 2019 WL 2632851, at *3 (2019); *see* 10 C.F.R. §§ 50.33(k)(1), 50.75(b), 72.30(b)

4 *See* 10 C.F.R. § 50.75(b)(1).

5 *See also* 67 Fed. Reg. 78332, 78338 (December 24, 2002) (“[A] 2-percent credit can be used when a site-specific estimate is explicitly based on deferred dismantlement.”)

7. Under 10 C.F.R. § 50.75(e)(1)(i), “[a] licensee that has prepaid funds based on a site-specific estimate . . . may take credit for projected earnings on the prepaid decommissioning trust funds, using up to a [two] percent annual real rate of return from the projected decommissioning period, *provided that the site-specific estimate is based on a period of safe storage that is specifically described in the estimate*” (Emphasis added). (6)

8. Contrary to the regulations at 10 C.F.R. § 50.75(e)(1)(i), TMI-2 Solutions claims an earnings credit equal to a two percent annual real rate of return despite proceeding under a DECON decommissioning plan - that is, a plan that does *not* contemplate a period of safe storage. DECON is a decommissioning approach wherein “decontamination [and] dismantlement [are performed] as rapidly after reactor shutdown as possible to achieve termination of the nuclear license.” (7) SAFSTOR, by contrast, is a decommissioning alternative involving “a period of safe storage of the stabilized and defueled facility followed by final

6 In 1993 the decommissioning trust fund at TMI-2 was in its infancy. On January 18, 1994, at the NRC’s Advisory Panel meeting, GPU’s President Robert E. Long stated that the Company had \$104.7 million on hand to decommission TMI-2. GPU’s spokesperson, Mary Wells said, “We have a detailed plan in place to make sure that the money is going to be there.” By February, 1997, GPU reported in its *1997 Annual Report* that the cost to decommission TMI-2 had doubled in four years. The original \$200 million projection has been increased to \$399 million for radioactive decommissioning. An additional \$34 million will be needed for non-radiological decommissioning.

7 NRC, Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437, Supplement 1, Volume 1, pt. 7 at § 7.2.2 (November, 2002) (decommissioning methods).

decontamination [and] dismantlement and license termination.” (8)
TMI-2 Solutions’ plans to “accelerate the decommissioning schedule...” (9),
as a means to cut costs. The funds in the NDT will be sufficient to complete
Decommissioning of TMI-2 under the accelerated schedule. (Application,
November 12, 2019, p. 2.)

9. FirstEnergy’s Funding Analysis, as of December 31, 2019, listed an after
tax, Qualified Trust Balance of \$899,487,427, based on an estimated
investment rate of 2.00%. There were no funds in the Non-Qualified
Trust. GPU reported the cost to decommission TMI-2 pursuant to 10 CFR
50.75(b) and (c), and based on the site-specific study released on
December 12, 2018 was \$1,353,638,075. That leaves a funding gap of
\$454,150,648 million prior to the collapse of the financial markets. (10)

8 On August 14, 2012, GPU Nuclear, notified the NRC of the intent to
submit a PSDAR for TMI-2. The NRC notified GPU Nuclear on February
13, 2013, that the submittal was due prior to or within two years of the
cessation of operations on September 14, 1993. The letter was filed over
twenty years late on December 4, 2015. GPU Nuclear proposed a 20
year extension of Post Defueling Monitored Storage.

9 Post-Shutdown Decommissioning Activities Report, (“ PSDAR”)
Attachment 1, p. 8. In spite of a structural funding gap of over \$100
million, TMI-2 Solutions’ flawed cost estimate does not factor the erosion
of its assets, GPU’s trust funds, and does not factor a safe storage option.
“Moreover, the Purchase Agreement does not foreclose TMI-2 Solutions
from deferring active Decommissioning work, if necessary, to preserve or
grow NDT funds.” (Application, November 12, 2009, p. 11)

10 “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320,
License No. DPR-73 Decommissioning Funding Status Report for the
Three Mile Island Nuclear Station. Unit 2.” (Letter to Nuclear Regulatory
Commission from GPU Nuclear, Inc., March 18, 2020.)

10. FirstEnergy told its shareholders that as of December 31, 2019, it had \$882 million invested in external nuclear trusts. The bankrupt company pointed out that “values of these NDTs fluctuate based on market conditions.” The filing also noted Asset Retirement Obligations of \$691 million. (Annual Report 2019, FirstEnergy, p. 102.)

11. The current trust fund balances are approximately \$101 million less than the amount necessary for TMI-2 Solutions to implement an “accelerated” (11) version of DECON. However, the financial earnings and projections are based on pre-Corona virus values and the actual gap is substantially more. Accordingly, TMI-2 Solutions fails to show adequate decommissioning financial assurance as required under 10 C.F.R. § 50.75(b)(1). (12)

11 TMI-2 Solutions’ cost estimate is \$1.06 billion, or the minimum amount of decommissioning funding requirement. The proposal fails to account for certain cleanup delays, market volatility, on-site restoration and remediation of casks, debris and fuel stored at the Idaho National Engineer Labs (“INEL.”)

12 Application requesting that the Nuclear Regulatory Commission’s consent to the transfer of the Possession Only License No. DPR-73 for Three Mile Island Nuclear Station, Unit 2 from the FirstEnergy Companies to TMI-2 Solutions, November 2, 2019. The transfer is pursuant to the October 15, 2019 Asset Purchase and Sale Agreement among the Applicants enclosed with the Application.

Supporting Evidence.

1. Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as is fully set forth herein as well as “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station, Unit 2,” <https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20066F494>, “Three Mile Island Unit-2 Independent Spent Fuel Storage Installation Application for 10 CFR 72 Specific License Renewal,” Special Nuclear Material License Number SNM-2508 (Docket- No. 72-20) and “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, Possession Only License No. DPR-73 Post-Shutdown Decommissioning Activities Report Submittal,” <https://www.nrc.gov/docs/ML1319/ML13190A366.pdf>

2. The license transfer application represents that TMI-2 Solutions will “us[e] the prepayment method” at 10 C.F.R. § 50.75(e)(1)(i) to satisfy their decommissioning financial assurance obligations. (12) Both the license transfer application and Amended PSDAR make clear that TMI-2 Solutions plans to immediately decommission Three Mile Island Unit-2 by using an “accelerated and “prompt” DECON approach. (13)

13 Application November 12, 2019, p, 2 and 3, and p. 1, 2, 9, 10 and 11.

3. TMI-2 Solution alleged prepayment of their decommissioning financial assurance obligation is based on a site-specific cost estimate,; albeit generically adjusted, but that estimate is *not* “based on a period of safe storage.” The fundamental assumption of a period of “safe storage” is undermined by TMI-2 Solutions’ Application, submitted on November 12, 2019, which calls for an “accelerated” and “prompt” decommissioning as a means to cut costs.

4. The Applicants represent that license termination, site restoration, and spent fuel management costs at Three Mile Island Unit-2 are based on an expedited and unrealistic schedule. (14) The Applicants represent that the cumulative value of the Three Mile Island Unit-2 trust funds as of December 30, 2019. This guestimate which, is inexact, outdated, reckless, and fails to account for certain cleanup delays, market volatility and remediation and storage costs for core debris and fuel on site storage spent as well as fuel being managed by DOE at Idaho National Engineering Labs assurance prepayment amount be “sufficient to pay decommissioning costs at the time permanent termination of operations is expected.” (15)

14 “The cost estimates for Decommissioning provided above and in Enclosure 7 include the costs for recovery and packaging of the Debris Material. Beyond this, however, pursuant to 10 CFR 50.33(k) and 50.54(bb), funds must be set aside for long-term storage of the Debris Material. TMI-2 Solutions conservatively estimates that long-term storage of Debris Material after the completion of Phase 2 of Decommissioning, until DOE acceptance, will cost approximately \$56 million (in 2019 dollars). This includes the cost of Decommissioning the storage facility after DOE acceptance. **If necessary, at an appropriate time, TMI-2 Solutions will submit an exemption request to authorize the use of NDT funds for management of the Debris Material.**” (Application, November 12, 2009, p. 12)

5. 10 C.F.R. § 50.75(e)(1)(i) requires that the decommissioning financial Because the cash flow analysis included in TMI-2 Solutions' Amended PSDAR assumes a two percent annual real rate of return in violation of NRC rules. (16) That analysis, and thus, the Applicants' showing of decommissioning financial assurance - is deficient. To the extent the Applicants are suggesting the Commission *should* allow such an earnings credit during the DECON period, the Commission explicitly rejected that argument during the rulemaking process leading to the 2002 decommissioning rule revisions. (17)

6. Because the license transfer application does not show that adequate decommissioning funding will be available at the time of permanent shutdown, it does not comply with applicable NRC rules and may not be approved as submitted. (18)

16 Two percent assumptions have been explicitly and repeatedly stated by GPU Nuclear and TMI-2 Solutions. On March 18, 2020, in an NRC filing, GPU Nuclear stated, “The analysis assumes a 2 percent yearly rate of return. The analysis also assumes a period of safe storage.” Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station. Unit 2. The fundamental assumption of a period of “safe storage” is undermined by the Application which calls for an “accelerated” and “prompt” decommissioning as a mean to cut costs.

17 Federal Register, 78332, 78338, (December 24, 2002).

18 See, *e.g.*, 10 C.F.R. §§ 50.33(k)(1), 50.75(b)(1), 50.80(b)(1)(i), 72.30(b).

Epstein-2.

TMI-2 Solutions fails to show adequate decommissioning financial assurance and/or adequate funding for spent nuclear fuel management in violation of 10 C.F.R. §§ 50.33(f) and (k)(1), 50.40(b), 50.54(bb), 50.75(b)(1) and (e)(1)(i), 50.80(b)(1)(i), 50.82(a)(8)(vii), and 72.30(b) because the TMI-2 Solutions' Amended PSDAR and decommissioning cost estimate underestimates license termination, site restoration and spent fuel management costs.

Basis.

- 1 . Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as is fully sets forth herein as well Patrick McDonnell, Secretary of the Pennsylvania Department of Environmental Protection, Letter to Kristine L. Svinicki, Chairman of the Nuclear Regulatory Commission, "Concerns with Three Mile Island Unit 2 License Transfer," April 6, 2020.
2. Because the Applicants' decommissioning financial assurance representations are predicated on what it claims is a site-specific estimate of the costs to decommission Three Mile Island Unit-2 restore the site, and manage spent fuel in the manner set forth in its PSDAR - which is actually not a PSDAR - but a summary of previous studies by GPU and TLG - the accuracy of both the PSDAR and the accompanying cost estimate are directly relevant to the core question whether TMI-2 Solutions financially qualified to decommission Three Mile Island Unit 2 under applicable NRC rules.
3. Energy Solutions' showing of decommissioning financial assurance is deficient because TMI-2 Solutions' cost estimates are inaccurate or otherwise defective, in at least the following ways:

A. The Amended PSDAR and cost estimate fail to account for the likely existence of - and cost to remediate - additional radiological and non-radiological contamination. Because TMI-2 Solutions fails to account for these costs, they fail to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i).

B. The PSDAR and cost estimate fail to account for costs associated with repackaging spent nuclear fuel for transportation (as is required under the current DOE standard contract) or, in the event repackaging is ultimately not required, for reimbursements to DOE for packaging costs DOE has paid or will pay to licensees. (19) In fact, TMI-2 Solutions does not provide information about the long-term management plan of certain wastes referred to in the Application as Debris Material.” (20)

TMI-2 Solutions fails to carry their burden to establish adequate funding for on-site spent nuclear fuel management as required by 10 C.F.R. §§ 50.54(bb) and 50.82(a)(8)(vii)(B) and (C).

19 “The cost estimates for Decommissioning provided above and in Enclosure 7 include the costs for recovery and packaging of the Debris Material. Beyond this, however, pursuant to 10 CFR 50.33(k) and 50.54(bb), funds must be set aside for long-term storage of the Debris Material. TMI-2 Solutions’ conservatively estimates that long-term storage of Debris Material after the completion of Phase 2 of Decommissioning, until DOE acceptance will cost approximately \$56 million (in 2019 dollars). This includes the cost of Decommissioning the storage facility after DOE acceptance. If necessary, at an appropriate time, TMI-2 Solutions will submit an exemption request to authorize the use of NDT funds for management of the Debris Material.” (Application, November 12, 2009, p. 12)

20 “The PSDAR does not provide information about the long-term management of certain wastes referred to in the Application as Debris Material, p. 8.

C. The PSDAR and cost estimate fail to account for costs associated with the disposal of the mixed waste currently stored at Unit 2, rendering the cost estimate inaccurate. Because TMI-2 Solutions fails to include these costs, they fail to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i). (20)

TMI-2 Solutions fails to carry their burden to establish adequate funding for on-site spent nuclear fuel management as required by 10 C.F.R. §§ 50.54(bb) and 50.82(a)(8)(vii)(B) and (C).

D. The Amended PSDAR projects a compressed time frame for SAFSTOR; delay at this early stage of the decommissioning process could increase project costs by tens or even hundreds of millions of dollars. The Amended PSDAR and cost estimate fail to account for costs associated with the disposal of mixed waste currently stored at Unit 2, rendering the cost estimate inaccurate. (21) Because TMI-2 Solutions fails to include these costs, they fail to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i).

21 DEP Secretary asked NRC Chair, Kristine L. Svinicki, Chairman on April , 6, 2020: “ How will TMI-2 Solutions dispose of any contaminated lead shielding, which is now mixed waste, that may be present in TMI Unit 2?” (“DEP Expresses Serious Concerns About Rapid Decontamination Of Damaged Unit 2 Reactor At Three Mile Island Nuclear Plant,” April 9, 2020, <http://paenvironmentdaily.blogspot.com/2020/04/dep-expresses-serious-concerns-about.html>.)

4. For any or all of the foregoing reasons, TMI-2 Solutions cost estimate is unreasonably low. Because TMI-2 Solutions fails to include a meaningful contingency amount to address potential out-of-scope project costs, and in fact delays projections until an unidentified “appropriate time”, (Application, p.12) cost increases of the sorts described above are likely to cause a shortfall in the decommissioning, site restoration and/or spent fuel management funding. Accordingly, TMI-2 Solutions have failed to demonstrate adequate decommissioning financial assurance or adequate funding for spent fuel management as required under NRC rules.

TMI-2 Solutions’ has failed to demonstrate adequate decommissioning financial assurance or adequate funding for spent fuel management as required under NRC rules.

6. The bases for Contention Epstein-2 are further developed below:

B. Because the Amended PSDAR and cost estimate failed to account for the likely existence of and cost to remediate additional radiological and non-radiological contamination, TMI-2 Solutions failed to show financial qualification or adequate decommissioning funding assurance as required under 10 C.F.R §§ 50.33(f) and 50.75(b) and (e)(1)(i).

Basis.

7. Mr. Epstein incorporates the allegations in subparts A through E of Contention Epstein-2 as if fully set forth herein as well as “DEP Expresses Serious Concerns About Rapid Decontamination Of Damaged Unit 2 Reactor At Three Mile Island Nuclear Plant,” DEP Letter to the NRC, April 6, 2020, (Docket ID: NRC-2020-0082) “Three Mile Island Reports,” Penn State University Libraries, <https://libraries.psu.edu/about/collections/three-mile-island-2-recovery-and-decontamination/three-mile-island-reports>, Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, Possession Only License No. DPR-73 Post-Shutdown Decommissioning Activities Report Submittal, <https://www.nrc.gov/docs/ML1319/ML13190A366.pdf>.

8. In view of the long history of significant radiological and non-radiological releases at Three Mile Island Unit-2 and consistent with the plant’s “unique status” (22) as attested to by TMI-2 Solutions in their Application and Amended PSDAR, TMI-2 Solutions cost estimate unreasonably fails to account for the substantial likelihood that they will discover additional contamination once work has begun.

22 Three Mile Island Nuclear Station, Unit-2, Docket No. 50-320, Possession Only License, No. DPR-73 Revision to Post-Shutdown (Decommissioning Activities Report, December 4, 2015, p. 13.

This cost expense and subsequent delay will be attributable to TMI-2 Solutions' which has refused to conduct a site survey and relies on antiquated and questionable data culled from the Generic Environmental Impact Statement ("GEIS"), Programmatic Environmental Impact Statement ("PEIS"), (23) and boilerplate decommissioning studies . (24)

23 10 CFR 50.82(a)(4)(i) requires that the PSDAR Include "a discussion that provides the reasons for concluding that the environmental impacts associated with the site-specific decommissioning activities will be bounded by appropriate previously issued environmental impact statements ...The potential environmental impacts associated with the proposed decommissioning activities for TMI-2 were compared with similar impacts given in the PEIS related to post-accident cleanup activities resulting from the March 28, 1979 accident; and with NUREG-0586, "Generic Environmental Impact Statement on Decommissioning of Nuclear Power Facilities," dated August 1988 and Supplement 1, Volumes 1 and 2, dated November 2002 (Reference 10) (collectively known as GEIS) on decommissioning and radiological criteria for license termination. The following discussion provides the comparison. "

TMI-2 Solutions' copied and pasted previous data that was not updated but aligned with their limited decommissioning experience. TMI-2 Solutions relies on generic industry studies, and did not conduct a site inspection, site survey or an updated autopsy of TMI-2. TMI-2 Solutions' work force has limited experience tied to Big Rock Point (67 MW,) and La Crosse (50 MW). Both were boiling water reactors. Zion, which was placed in early retirement, is not comparable to TMI-2. At Zion, Energy Solutions spent down the Nuclear Decommissioning Trust, and the only accounting report was filed on June 30, 2012.

24 TMI-2's decommissioning projections have been increasing at a rapid rate as evidenced in their Annual Reports. "In February 1996, the first TMI-2 site-specific decommissioning cost analysis was developed for GPU Nuclear. That analysis was updated in 2004, 2009, 2014 and 2018 to reflect current assumptions pertaining to the disposition of the nuclear unit and relevant industry experience in undertaking decommissioning." ("Amended PSDAR," December 12, 2019, p. 9)

TMI-2 Solutions' assigns no value to out-of-scope risk in its cost estimate - but acknowledging the uncertainty of the plant's condition. (24)
The cost estimates ignores costs associated with fuel location, hot spots, flooding, staffing, overhead, and waste disposal. (25)

9. Neither the Amended PSDAR nor the accompanying cost estimate addresses the likely need for additional, expensive remediation of radiological and non-radiological hazardous substances contamination in the soils, fill, groundwater, plume pathways and Lake Fredric surrounding the plant and its properties.

TMI-2 Solutions fails to anticipate or plan for problems associated with Phase 1. "The PSDAR will not be updated for minor changes in anticipated decommissioning cost." (26)

10. Notwithstanding, Three Mile Island Unit-2's core meltdown, the lengthy history of radiological and non-radiological contamination is presently unknown. TMI-2 Solutions has not performed the rigorous site characterization - let alone a site survey - necessary to formulate an undated remedial plan.

25 "A deviation exists in terms of the variables associated with transuranic fuel and higher source terms." (Application, p. 12).

"Moreover, the Purchase Agreement does not foreclose TMI-2 Solutions from **deferring active Decommissioning work**, if necessary, to preserve or grow NDT funds." (Application, November 12, 2009, p. 11) (**Bold face type added.**)

26 Amended PSDAR, p. 9.

These costs must be established prior to the beginning of site work. Instead, TMI-2 Solutions plans to characterize site contamination *after* the licenses transfer. (27) (Please refer to Exhibit A: “Chronology of Problems at Three Mile Island, 1978-2020.”)

TMI-2 Solutions gives no indication how it will ultimately conduct such a characterization, other than to say: “at an appropriate time, TMI-2 Solutions will submit to the NRC a plan for the management of Debris Material, which will provide more information about the long-term management plan for management of Debris Material at TMI-2 until DOE acceptance.” (28)

11. In March, 1979, cooling water stopped entering the TMI 2 reactor vessel, the core melted, radioactive gases were released into the air and years later radioactive water was permitted to evaporate into the atmosphere. These events were not an accident. They were a direct response to mistakes made by the men and women of the NRC and the plant operator who failed to plan and pay attention to detail.

12. TMI-2 Solutions failure to thoroughly assess the extent of on-site contamination is exacerbated by its failure to account for out-of-scope risk. In a section of the PSDAR entitled... “Contingency,” the amount is woefully inadequate. (29)

27 Amended, PSDAR, p. 2.

28 Amended, PSADR, pp. 8-9.

29 Amended, PSDAR, p. 10,

However, to the extent it considers them, TMI-2 Solutions' cost estimate appears to assign virtually no value to costs associated with out-of-scope risks, including the likely discovery of additional radiological and non-radiological contamination.

13. TMI-2 Solutions treatment of contingency and risk undermines the validity of the cost estimate.

14. TMI-2 Solutions is unreasonably failing to account for the likelihood that it will encounter out-of-scope issues for the reactor's "unique status" including, the discovery of additional contaminants and/or contaminants in unexpected concentrations and volumes.

15. By deferring full site characterization until *after* they had prepared their cost estimate and by failing to adequately account for out-of-scope risk, TMI-2 Solutions effectively ensures that unknown contamination, once discovered, will increase the project's cost. Thus, increasing the likelihood that such costs will not be covered.

Moreover, the amount of damaged fuel removed from TMI-2 is disputed by the petitioner. (Please refer to Exhibit B: "Statement of Dr. Michio Kaku, Concerning the Disposal of TMI Waste, "August, 1993.)

16. Accordingly, the cost estimate fails to satisfy regulatory requirements. 10 C.F.R. §§ 50.33(f) and 50.75(b) and (e)(1)(i).

Supporting Evidence.

17. Mr. Epstein incorporates the following documents as fully set forth herein. The President's Commission estimated about 15 million curies of radiation were released into the atmosphere. (Exhibit C: "Chronology of Health Problems at Three Mile Island).” A review of dose assessments, conducted by Dr. Jan Beyea, (National Audubon Society; 1984) estimated that from 276 to 63,000 person-rem were delivered to the general population within 50 miles of TMI. (30) More recently, David Lochbaum of the Union of Concerned Scientists, estimated between 40 million curies and 100 million curies escaped during the accident. (31)

18. TMI-2 's long history of radiological and non-radiological releases led to significant site contamination.

19. Radioactive steam was illegally released directly into the atmosphere. (Please to Exhibit: D, "Leaks, Releases & Exposures at TMI," pp. 1-4).

20. As a result of these and other contamination events, the full extent of on-site radiological contamination has likely yet to be determined.

21 Radioactive water was released directly into the Susquehanna River. (Exhibit: D: Leaks, Releases & Exposures at TMI, pp. 1-4).

22. NRC records have documented caustic, chemical and petroleum spills. (Please refer to Exhibit: A.)

30 Beyea J. A review of dose assessments at Three Mile Island and recommendations for future research. Philadelphia PA: Three Mile Island Public Health Fund, 1984.

31 Beyea J. Three Mile Island--six years later. Nuclear Medicine 26:1345-1346 (1985).

23. NRC records have documented caustic, chemical and petroleum spills. (Please see Exhibit A.)

24. Fires at TMI-2 were well documented from 1987-2003. 33 (See Exhibit E: "Fires and Fire-Related Challenges at the Three Mile island Nuclear Generating Station." (32)

32 February 1987 : The NRC issued Violations for two fires that occurred in the Unit 2 reactor building. "According to a GPU News release, "one fire occurred when sparks from a welder's torch ignited rags, a plastic bucket and a hose inside a room used for toll decontamination. The second occurred five days later when sparks from a welder's torch ignited a canvass curtain."

February, 1988: GPU was cited by the NRC for failing to deploy a roving fire watch "when the Halon system for the cable and transformer rooms became inoperable" (*Patriot News*, May 19, 1988).

May 19, 1988 : GPU was cited again for violating fire regulations by the NRC. The Commission noted four deficiencies in the Program and added in a letter to the Company: "We are concerned that there has been a degradation in the overall control of your fire-protection program", Lee H. Bettenhauser, Chief, Reactor Division Projects

August 5, 1992: GPU "declared an event of potential public interest when the Unit-2 west cooling tower caught fire." The fire lasted for ten minutes. The Pennsylvania DER ordered GPU to remove the waffling from the TMI-2 cooling towers after the most recent fire.

On July 2, 2003, firefighters and the Pennsylvania State Police responded to the electrical fire that damaged the turbine building's switch gear room at TMI Unit 2. "Although a five-member AmerGen fire brigade also responded to the blaze, Akron, Ohio-based FirstEnergy is responsible for the operation of TMI Unit 2.

25. In addition, given the age, corrosion and embrittlement of the TMI-2 buildings, and the fact that the cement was soaked in high levels of radiation, cleanup work will be extremely hazardous.

26. Additional contamination after decommissioning begins is likely. For example, at Maine Yankee, the amount of asbestos-containing material removed for disposal was nearly triple the originally estimated amount.

27. Project cost overruns associated with the belated discovery of additional site contamination could be considerable. At Connecticut Yankee for example, the discovery of subsurface tritium and strontium-90 contamination required expensive characterization and, ultimately, remediation of affected soils and bedrock. (33) Remediation proved particularly difficult where fractures in the underlying bedrock allowed radionuclides to infiltrate deep underground.

28. Remediation is particularly difficult where fractures in the underlying bedrock may allow radionuclides to infiltrate deep underground. TMI-2 Solutions proposal does not consider karsting, limestone or shale formations.

29. Unforeseen radiological contamination at Connecticut Yankee required the excavation of an additional 1.17 million cubic feet of material, adding over \$55 million in direct costs and engendering significant delay. (34)

33 See EPRI, Connecticut Yankee Decommissioning Experience Report at 9-1 (Nov. 2006).

34 See Pacific Northwest National Laboratory (PNNL), Assessment of the Adequacy of the 10 C.F.R. § 50.75(c) Minimum Decommissioning Formula, at 4-5 (Nov. 2011) (ML13063A190).

While Connecticut Yankee's owner was able to fund an unexpected decommissioning and site restoration-related costs by obtaining a rate increase, (35) that option is unavailable at Three Mile Island Unit-2 which is out of the rate base.

30. Unless and until the Commission requires the provisioning of additional financial assurance as a condition of approving the license transfer, significant cost overruns at Indian Point could imperil the TMI-2 Solutions ability to complete the project, thus increasing the risk that Pennsylvania taxpayers will be required to shoulder the cost.

³⁵ See EPRI, Connecticut Yankee Decommissioning Experience Report at 6-1.

B. TMI-2 Solutions provide no basis for its failure to account either for costs associated with repackaging spent nuclear fuel for transport or, in the event repackaging is not required, for reimbursements to DOE of monies DOE paid or will pay to licensees for licensee packaging costs. TMI-2 Solutions therefore fails to demonstrate adequate funding for spent fuel management in violation of 10 C.F.R. §§ 50.54(bb) and 50.82(a)(8)(vii)(B) and (C).

Basis.

31 . Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as if fully set forth herein as well Patrick McDonnell, Secretary of the Pennsylvania Department of Environmental Protection, Letter to Kristine L. Svinicki, Chairman of the Nuclear Regulatory Commission, “Concerns with Three Mile Island Unit 2 License Transfer,” April 6, 2020.

32. TMI-2 Solutions fails to account for the need to repackage spent nuclear fuel into DOE-provided transportation casks in the event DOE refuses (36)to take title to the stored fuel at Three Mile Island Unit-2. (36)

36 See *New York v. Nuclear Regulatory Commn.*, 681 F.3d 471, 479 (D.C. Cir. 2012) (noting that NRC “apparently has no long-term plan [for spent nuclear fuel storage] other than hop- ing for a geologic repository” and that, “[i]f the government continues to fail in its quest to establish one, then [spent nuclear fuel] will seemingly be stored on site at nuclear plants on a permanent basis”).

37 Idaho's congressional delegation has called on the Department of Energy to take more steps to support the 1995 Settlement Agreement to remove spent nuclear fuel stored at the Idaho National Laboratory by 2035. The lawmakers said in a letter, "We encourage the Department to initiate activities needed to begin loading of spent nuclear fuel into a multi-purpose canister (MPC) at the Idaho National Laboratory using existing facilities." KIFI-TV/KIDK-TV/KXPI-TV (Idaho Falls, Idaho) (April 9, 2020.)

33 . Under the Department of Energy (“DOE”) standard contract, it is DOE’s responsibility to “arrange for, and provide, [casks] and all necessary transportation of the [spent nuclear fuel] and/or [high-level waste]” from each reactor site to a repository. (38) As the Court of Appeals for the Federal Circuit has held, “[i]t is undisputed that under the [s]standard [c]contract[], the government will not allow . . . *storage* casks . . . to be used as transportation casks.” (39)

34. Because DOE cannot currently accept spent nuclear fuel that has been placed in non-DOE storage canisters, TMI-2 Solutions unreasonably fails to make provision in its cost estimate for the eventual need to “unload the spent nuclear fuel” in storage at the Indian Point ISFSI “and reload it into suitable transportation casks provided by [DOE].” (40)

35. Conversely, in the event DOE changes the standard contract to allow it to accept spent nuclear fuel in non-DOE casks, licensees may be required to pay back monies DOE has or will pay to licensees to compensate them for their packing-for- storage costs. This category of costs, too, is unreasonably omitted from TMI-2 Solutions’ cost estimate.

38 10 C.F.R. § 961.11.

39 *See* System Fuels, Inc. v. United States, 818 F.3d 1302, 1306 (Fed. Cir. 2016) (the assumption “that the government will accept the canistered fuel as is when [it] performs [under the contract] in the future . . . is wholly unsupported”).

40 *Id.* at 1307.

36. Despite DOE’s partial breach of the standard contract, “[a]ll parties—the [utilities] and the government retain their substantive rights and obligations under the contract.” (41) The standard contract assigns to the utility the obligation to “arrange for, and provide, all preparation, packaging, required inspections, and *loading activities* necessary for the transportation of [spent nuclear fuel] and/or [high- level waste] to the DOE facility.” (42)

37. As the Court of Appeals for the Federal Circuit has upheld, utilities are responsible under the standard contract for the cost of loading spent fuel into dry casks. (43) Utilities have, however, recovered loading costs from DOE on the theory that DOE will eventually require them to reload spent fuel into DOE-provided transportation casks. (44) If DOE amends the standard contract and takes title to spent fuel in non-DOE casks, it will also be entitled to recover payments made to utilities for costs associated with packaging spent fuel for dry storage.

41 Carolina Power & Light Co. v. United States, 573 F.3d 1271, 1277 (Fed. Cir. 2009).

42 10 C.F.R. § 961.11

43 See Carolina Power & Light, 573 F.3d at 1277; see also System Fuels, 818 F.3d at 1306. 145

44 See System Fuels, 818 F.3d at 1306–07.

38. NRC regulations require that each licensee provide notice of the “program by which [it] intends to manage and provide funding for the management of all irradiated fuel at the reactor following permanent cessation of operation of the reactor until title to the fuel is transferred to the Secretary of Energy.”(45) The rules also require that each licensee “report on the status of its funding for managing irradiated fuel,” including “the projected cost of managing irradiated fuel until title to the fuel and cover the cost.” (46)

39. TMI-2 Solutions omits the costs associated with repackaging fuel debris, irradiated cement and reactor components. TMI-2 Solutions fails to account for the possibility that DOE will seek to recover costs it may allocate for packaging spent fuel. Therefore, the current proposal’s cost projections are flawed.

40. The TMI-2 Solutions also fails to establish adequate funding for spent fuel management because they omit substantial costs associated with historic problems with the NUHOMS design in place in Idaho.

41. TMI-2 Solutions also fails to account for increasing costs based on the deteriorating condition of the NUHOMS-12 storage modules. In fact, decommissioning monies have already been used to remediate the problems occurring in Idaho. (47)

45 10 C.F.R. § 50.54(bb).

46 *Id.* §§ 50.82(a)(8)(vii), (vii)(B).

47 See footnote on following page.

42. It is not unreasonable to conclude that future remediation work will occur for TMI-2's damaged fuel at INEL requiring more withdraws from the TMI-2 trust funds. GPU Nuclear and TMI-2 Solutions have made provisions for using limited decommissioning funds to repair aging, corroded and leaking casks. (48)

48 The Three Mile Island, Unit 2 ISFSI uses NUHOMS-12 horizontal storage modules ("HSMs"). The HSMs were delivered to the Idaho National Laboratory site in 1999 as precast concrete. The storage system consists of an external rectangular reinforced concrete vault (i.e., HSM) with a storage canister resting horizontally on internal rails inside the HSM.

The prefabricated modules consist of a body and a roof joined together by anchor bolts. All sections were a minimum of 0.6-meters (2-feet) thick. In 2000, the licensee noted cracks in the HSMs, and concluded that they were cosmetic and insignificant. However, in 2007, the licensee observed continued cracking, crazing and spalling as well as increased efflorescence on the HSM surfaces.

The evaluation also recommended that the licensee retain the services of a company experienced and qualified in testing and evaluating concrete to determine the degradation mechanism and make recommendations both for repairs and to prevent further degradation. Although the cracking was discussed with the storage system vendor, the licensee chose an independent vendor to perform an evaluation of the HSMs and base mat concrete in 2009.

NRC, Office of Nuclear Material Safety and Safeguards, April 16, 2013
NRC Information Notice 2013-07: Premature Degradation of Spent Fuel Storage Cask Structures and Components from Environmental Moisture.

Supporting evidence.

43. Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as is fully set forth herein as well as “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station, Unit 22,” <https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20066F494>, “Three Mile Island Unit-2 Independent Spent Fuel Storage Installation Application for 10 CFR 72 Specific License Renewal, Special Nuclear Material License Number SNM-2508 (Docket- No. 72-20) and “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, Possession Only License No. DPR-73 Post-Shutdown Decommissioning Activities Report Submittal,” <https://www.nrc.gov/docs/ML1319/ML13190A366.pdf>

44. Because TMI-2 Solutions fails to include costs associated with repackaging spent nuclear fuel, the license transfer application and supporting PSDAR appear to assume that DOE will take possession of the spent nuclear fuel at INEL and Three Mile Island Unit-2 as packaged.

45. If DOE requires that the fuel be repackaged for transport (as would be its right under the standard contract), TMI-2 Solutions would incur additional spent fuel management costs, none of which are accounted for in its cost estimate. The difficulty and expense associated with repackaging would be heightened because re- packaging would occur *after* TMI-2 Solutions had dismantled Three Mile Island Unit-2.

46. As a result, TMI-2 Solutions would be required either to transport (49) the fuel to another reactor or to construct an on-site dry transfer station. (50) The costs associated with spent fuel repackaging could total hundreds of millions of dollars. (51)

47. TMI-2 Solutions ignores the possibility that the DOE will seek to recover the monies to reimburse them for their packaging costs.

49 **Transportation:** *EnergySolutions* and its affiliates are well qualified to ship large volumes of radioactive waste, with experience using specially built gondola rail cars and large capacity trucks. (Application, p. 8).

50 TMI-2 Solutions appears to be ignorant of the GAO's findings regarding transportation problems with TMI-2 waste shipments." In March 1981 NRC issued an environmental impact statement which stated that the debris from the accident and subsequent cleanup should be removed from TMI because the site is not geologically suitable for the long-term storage of radioactive materials....According to DOE, between 20 and 40 train shipments over a 2- 12 year period will be required to transport the material to Idaho. The first shipment was made on July 20, 1986. After the second shipment, a series of reactor defueling problems, such as clogged debris containers, occurred which temporarily halted the shipments." (GAO, "Shipping Damaged Fuel from Three Mile Island to Idaho," August 1987, <https://www.gao.gov/assets/150/145542.pdf>).

51 "...TMI-2 Solutions has prepared Enclosure 7, *Schedule and Financial Information for Decommissioning*, which provides a projected schedule for Decommissioning TMI-2 by 2037 **(excluding long-term waste storage)**...At an appropriate time, TMI-2 Solutions will separately submit an updated PSDAR for review by the NRC, to be made effective upon consummation of the license transfer. The updated PSDAR will provide further detail as to the Decommissioning plans for TMI-2, (Application, p. 10).

C. Because the Amended PSDAR and cost estimate fail to include disposal costs for the mixed waste products currently congealed, embedded and hidden, they underestimate waste disposal costs; TMI-2 Solutions fail to demonstrate adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b) and (e)(1)(i).

Basis.

48. Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as is fully set forth herein as well as “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station, Unit 22,” <https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20066F494>, “Three Mile Island Unit-2 Independent Spent Fuel Storage Installation Application for 10 CFR 72 Specific License Renewal, Special Nuclear Material License Number SNM-2508 (Docket- No. 72-20) and “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, Possession Only License No. DPR-73 Post-Shutdown Decommissioning Activities Report Submittal,” <https://www.nrc.gov/docs/ML1319/ML13190A366.pdf>

49. TMI-2 Solutions unreasonably fails to advance a plan for the disposal of — or even acknowledge the existence of - mixed waste currently stored at Unit 2. The failure to account for remediation and/or disposal costs associated with these wastes renders the decommissioning cost estimate inaccurate and so the TMI-2 Solutions fails to show adequate decommissioning financial assurance as required by 10 C.F.R. §§ 50.75(b) and (e)(1)(i).

Supporting Evidence.

50. Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as if fully set forth herein as well as “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station, Unit 22,” <https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20066F494>, “Three Mile Island Unit-2 Independent Spent Fuel Storage Installation Application for 10 CFR 72 Specific License Renewal, Special Nuclear Material License Number SNM-2508 (Docket- No. 72-20), and “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, Possession Only License No. DPR-73 Post-Shutdown Decommissioning Activities Report Submittal,” <https://www.nrc.gov/docs/ML1319/ML13190A366.pdf>

51. Some of the hazardous waste generated is radiologically contaminated mixed waste.

52. DEP Secretary asked NRC Chair, Kristine L. Svinicki, Chairman on April , 6, 2020: “How will TMI-2 Solutions dispose of any contaminated lead shielding, which is now mixed waste, that may be present in TMI Unit 2?” (“DEP Expresses Serious Concerns About Rapid Decontamination Of Damaged Unit 2 Reactor At Three Mile Island Nuclear Plant,” April 9, 2020, <http://paenvironmentdaily.blogspot.com/2020/04/dep-expresses-serious-concerns-about.html>.)

53. TMI-2 Solutions fails to recognize the existence of the substantial quantity of mixed waste *already on site*.

54. Depending on the characteristics of this waste, it must be transferred to a qualified facility for compaction, isolation and/or stabilization .

55. Among the issues raised in DEP Secretary McDonnell's letter to Kristine L. Svinicki, Chairman, April 6, 2020, include:

- Are there volume and activity estimates of the Class B & C low-level radioactive waste that cannot be shipped to the EnergySolutions disposal site in Utah?
- Has the low-level radioactive waste disposal site in Texas agreed to accept the Class B & C waste?
- Is there any greater than Class C low-level radioactive waste in TMI Unit 2? If so, will that remain onsite?
- If asked by the licensee, will the NRC consider and approve very low-level radioactive waste to be disposed of in non-hazardous landfills in Pennsylvania?

56. Unless and until TMI-2 Solutions acknowledges these legacy wastes and accounts for the expense associated with their disposal, the Amended PSDAR and cost estimate under- estimate waste management-related project costs and the TMI-2 Solutions fail to carry their burden to demonstrate adequate decommissioning financial assurance.

D. TMI-2 Solutions projects an unreasonably short timeframe for the normalization process referred to as Phase 1; because unaccounted-for delays associated with these activities could increase project costs over the current estimate, the TMI-2 Solutions fails to show adequate decommissioning financial assurance as required by 10 C.F.R. §§ 50.75(b) and (e)(1)(i).

Basis.

57. Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as if fully set forth herein as well as “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station, Unit 2,” <https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20066F494>, “Three Mile Island Unit-2 Independent Spent Fuel Storage Installation Application for 10 CFR 72 Specific License Renewal, Special Nuclear Material License Number SNM-2508 (Docket- No. 72-20) and “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, Possession Only License No. DPR-73 Post-Shutdown Decommissioning Activities Report Submittal,” <https://www.nrc.gov/docs/ML1319/ML13190A366.pdf>

58. The Amended PSDAR and associated cost estimates assume that all radiological decommissioning and site restoration activities will be completed at Three Mile Island Unit-2 in 16.5 years. (52) TMI-2 Solutions time allotment is unreasonably short.

52 TMI-2 Solutions anticipates completing Decommissioning TMI- 2 and releasing the TMI-2 site (except potentially for any onsite waste storage facilities) on a faster schedule, approximately 16.5 years after the License transfer. This would be seventeen years earlier than the current schedule. Application p, 3.

59. TMI-2 Solutions' allows itself a fail safe by moving from Decon back to SAFSTOR if funding challenges emerge . (53)

60. Because the cost estimate fails to account for such cost increases, the TMI-2 Solutions have not carried their burden to show adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b) and (e)(1)(i).

61. CDI and HDI recently announced a significant delay in the decommissioning work schedule at the Pilgrim Nuclear Power Station. Based on the cost information TMI-2 Solutions' submitted, a delay at Three Mile Island Unit-2 (similar to the delay for the Pilgrim project), could increase project costs leading to a funding gap. (54)

62. TMI-2 Solutions concedes that the "schedule proposed in the Application and Amended PSDAR constitute "the foundation for developing the [decommissioning cost estimate] model and the risk model..." This claim is un- supported by TMI Solutions own cost estimate (thus constituting a failure of proof of adequate decommissioning financial assurance) and at odds with recent developments at Pilgrim.

53 Although TMI-2 Solutions will pursue an accelerated Decommissioning schedule after acquiring TMI-2, as demonstrated in Enclosure 7 the NDT will still provide sufficient funding for Decommissioning, accounting for fund growth up through 2037. Moreover, the Purchase Agreement does not foreclose TMI-2 Solutions from deferring active Decommissioning work, if necessary, to preserve or grow NDT funds. (Application, p. 11.)

54 Pilgrim License Transfer Application, encl. 2 (Request for Exemption) at E-4 (ML18320A031) (showing only a projected \$3.6 million surplus in the Pilgrim decommissioning trust fund at project completion).

Supporting Evidence.

63. Mr. Epstein incorporates the allegations in subparts A through D of Epstein-2 as if fully set forth herein as well as “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, License No. DPR-73 Decommissioning Funding Status Report for the Three Mile Island Nuclear Station, Unit 22,” <https://adamswebsearch2.nrc.gov/webSearch2/main.jsp?AccessionNumber=ML20066F494>, “Three Mile Island Unit-2 Independent Spent Fuel Storage Installation Application for 10 CFR 72 Specific License Renewal, Special Nuclear Material License Number SNM-2508 (Docket- No. 72-20) and “Three Mile Island Nuclear Station, Unit 2 Docket No. 50-320, Possession Only License No. DPR-73 Post-Shutdown Decommissioning Activities Report Submittal,” <https://www.nrc.gov/docs/ML1319/ML13190A366.pdf>

64. TMI-2 is a case study of cost overruns, delays and radiation releases directly into the environment.

65. The history of delays at other facilities decommissioned in the United States supports the conclusion that delays and cost-overruns are the norm rather than the exception during radiological decommissioning.

66. At Connecticut Yankee, where the licensee allotted one year for reactor internals and pressure vessel segmentation, what “proved to be a very challenging project” ultimately took nearly four years to complete, and resulted in significantly greater worker exposure than originally estimated.
(55)

55 PNNL, Assessment of the Adequacy of the 10 C.F.R. § 50.75(c) Minimum Decommissioning Formula, at 4-4 to 4-5, 4-9 to 4-10 (Nov. 2011) (ML13063A190).

67. At Three Mile Island Unit-2, delays experienced at a Phase 1 of the Three Mile Island Unit-2 decommissioning process could delay later-stage activities and exhaust financial assurances per terms of the proposed Application.

68. Delay generally increases project costs, including costs for project management and carrying costs including property taxes, regulatory fees, and insurance premiums. Humboldt Bay, a 63 megawatt Boiling Water reactor, is on the same scale as Big Rock Point, a 67 megawatt, Boiling Water Reactor. Big Rock Point was decommissioned by Energy Solutions. At Humboldt Bay, unforeseen expansions of the project scope led to increases in project staffing costs totaling nearly \$70 million. That amount would almost exhaust TMI-2 Solutions reserve fund.

E. The Applicant has failed to establish that the license transfer application will provide adequate decommissioning or spent fuel management funding assurance as required under 10 C.F.R. §§ 50.33(f) and (k)(1), 50.54(bb), 50.75(b)(1) and (e)(1)(i), and 72.30(b).

69. The Amended PSDAR projects an short timeframe for SAFSTOR. Delay at this early stage of the decommissioning process could substantially increase project costs. Because TMI-2 Solutions' estimate fails to account for these costs, it jeopardizes adequate decommissioning financial assurance as required under 10 C.F.R. §§ 50.75(b)(1) and (e)(1)(i).

70. TMI-2 Solutions representations of decommissioning and spent fuel management funding assurance are based on the balances supplied by GPU Nuclear for the year ending December 31, 2019.

71. In recent weeks, the global spread of the novel COVID-19s has caused substantial economic turmoil, leading to steep declines in the U.S. securities market. Heavy market losses have significantly reduced the balances in the TMI-2's trust accounts. Accordingly, the TMI-2 Solutions showing of decommissioning and spent fuel management funding assurance is inadequate.

72. TMI-2 Solutions proposes to liberalize and minimize accountability for the Nuclear Decommissioning Trust once that have been transferred.

73. Assuming, conservatively, that GPU Nuclear's trusts are invested in accordance with the stricter, more risk-averse parameters set forth in the master trust agreement ², and benchmarking portfolio performance against established market indexes, the trust funds may have decreased substantially in value since December, 2019. (56)

74. The license transfer application and supporting materials fails to account for these substantial losses.

75. Moreover EnergySolutions, the parent of TMI-2 Solutions, has likewise experienced an erosion in its financial health.

https://markets.businessinsider.com/stocks/ces_energy_solutions-stock

76. Accordingly, TMI-2 Solutions failed to establish adequate decommissioning and spent fuel management funding assurance as required under NRC rules.

77. Recent economic data indicates that trusts have declined in value. TMI-2 Solutions relies heavily on the trusts to demonstrate both financial qualification, and adequate funding assurance for radiological decommissioning and spent fuel management. GPU Nuclear's current Nuclear Decommissioning Trust funds' have materially depreciated, and are incongruent with the information provided in the Applicants' license transfer application on November 12, 2019.

⁵⁶ Amended Application, "Investment Guidelines" has the meaning set forth in Section 6.7.4.

Epstein-3.

The license transfer application and supporting materials fail to show TMI-2 Solutions is financially qualified within the meaning of 10 C.F.R. §§ 50.33(f), 50.40(b), 50.80(b), 50.82(a), and 72.30(b).

Basis.

1. Mr. Epstein incorporates the allegations in subparts A through D of Contention Epstein-2 as is fully set forth herein.
2. Under section 182(a) of the Atomic Energy Act and corresponding NRC regulations, proposed licensees must demonstrate that they are financially qualified to hold an NRC license. (56) In the present case, and based on past history, it also can not be assumed that technical skills are in place before and after the license transfer. (See, Exhibit F: “ Fitness for Duty Problems at Three Mile Island: 1978-2006.”)
3. The Commission has long recognized that “inadequate or untimely consideration of decommissioning, specifically in the areas of planning and financial assurance, could result in significant adverse health, safety, and environmental impacts.” (57)
4. Since then, in view of its statutory duty to adequately protect public health and safety and in keeping with its risk-informed regulatory approach, the Commission has developed a set of financial qualifications,

⁵⁶ See 42 U.S.C. § 2232(a); 10 C.F.R. §§ 50.33(f), 50.40(b), 50.80(b)(1)(i).

⁵⁷ General Requirements for Decommissioning Nuclear Reactors, 53 Fed. Reg. 24018, 24019 (June 27, 1988).

and decommissioning financial assurance requirements (58) designed to ensure that holders of NRC licenses possess the financial ability to manage risk associated with their decommissioning and related obligations. (59)

5. If the license transfer application is granted to the limited liability corporation, referred to as TMI-2 Solutions, then this entity will gain access to rate payer-funded decommissioning trusts.

6. In a recent order, the Commission noted that in the event of a decommissioning funding shortfall, NRC rules “require additional financial assurance to cover the estimated cost to complete the decommissioning.”) (60)

58 See NRC, Consolidated Decommissioning Guidance: Financial Assurance, Recordkeeping, and Timeliness, NUREG-1757 at 31 (Feb. 2012); *see also* Briefing on Power Reactor Decommissioning Rulemaking at 9 (March 15, 2016) (ML16078A034) (noting that NRC’s “present decommissioning rules are performance-based and risk-informed).

59 See, e.g., 10 C.F.R. §§ 50.33(f), 50.75, 72.30.

60 Exelon Generation Co. (Oyster Creek Nuclear Generating Station), CLI-19-06, 2019 WL 2632851, at *6 (2019); *see* 10 C.F.R. § 50.82(a)(8)(vi).

7. The Commission's observation only reinforces the need to ensure that proposed licensees are financially qualified *before* authorizing a license transfer or granting an exemption allowing trust reimbursement for non-decommissioning expenses. And proposed licensees' financial qualifications cannot be predicated on access to existing decommissioning trusts, as the Applicants propose here. Instead, TMI-2 Solutions must be required to demonstrate to the Commission what the license transfer application currently fails to demonstrate: that TMI-2 Solutions and its parents are healthy corporate entities with access to the financial resources necessary to procure additional financial assurance, if needed presently, not at some indeterminate point in the future when exemptions have been granted and the trusts run short of funds. (61)

8. If the license transfer application is approved, Energy Solutions will bear the total risk of decommissioning Three Mile Island Unit-2 without access to parent company financing, a revenue stream generated by operating electrical power stations, or rate payer funding. Based on the materials submitted, it is unlikely the TMI-2 Solutions would be able to comply with the NRC rules requiring that they provide additional financial assurance in the event of a projected cost overrun. There is little reason to believe banks, insurers, or other purveyors of third-party financial assurance instruments. (62) would offer such instruments at a price

61 See 10 C.F.R. § 50.33(f).

62 The NRC has shown no interest in exercising its limited authority to compel financial assurances.

accessible to limited liability entities saddled with environmental cleanup obligations in excess of their assets and with no stream of operating revenue. (63)

9. Prudent risk management requires that regulators consider who will finance the consequences of industrial activities *before* those activities result in injury to the public. (64) Financial assurance models typically assume facility owners are revenue-generating concerns, capable of setting aside funds now to offset future decommissioning and site restoration obligations. Reflecting this view, the Commission has aptly described its financial assurance requirements as “a second line of defense,” to be called upon “if the financial operations of the licensee are insufficient . . . to ensure that sufficient funds are available to carry out decommissioning.” (65)

63 Energy Harbor is not in a position to bailout out Energy Solutions after it emerged from bankruptcy. On April 4, 2019 a U.S. Bankruptcy Court ruled that FirstEnergy could not use its subsidiary’s bankruptcy filing to evade its environmental cleanup and remediation responsibilities.

64 TMI-2 experienced a loss of coolant accident on March 28, 1979. There were no decommissioning funds required by the NRC at the time of the meltdown. GPU received a \$987 million bailout to defuel the melted core. The current cost to decommission TMI-2 is totally funded by hostage rate payers who have no ownership share in TMI-2 Solutions.

65 Financial Assurance Requirements for Decommissioning Nuclear Power Reactors, 63 Fed. Reg. 50465, 50474 (September 22, 1998).

10. The transaction before the Commission is predicated on decommissioning and financial assurances in the form of rate payer-funded trusts. TMI-2 Solutions is a fictional company that exists on paper only. This a Utah based shell company, incorporated in Delaware, and specifically created investment vehicle. TMI-2 Solutions can not offer any financial guarantee based on its independent strength because it is a corporate aberration. (66)

11. TMI-2 Solutions' financial assurance is a glorified nuclear Maginot Line posing as a "second line of defense." In fact, Hostage rate payers who contributed over \$800 million to the NDT have no ownership In TMI-2 Solutions. However, the "Trustee shall distribute the entire remaining amount of the Trust, including all accrued, accumulated, and undistributed net income, to TMI-2 Solutions." (Application, 3 B at 2.6.)

66 TMI-2 Solutions is a wholly owned subsidiary of *EnergySolutions*, which in turn is a privately held company whose shares are directly owned by Rockwell Holdco, Inc. ("Rockwell").

Rockwell is 57% owned primarily by a number of affiliated passive investment funds controlled by Energy Capital Partners GP II, LP (the "Controlling Partner"): (i) Energy Capital Partners II, LP; (ii) Energy Capital Partners II-A, LP; (iii) Energy Capital Partners II-B, LP; (iv) Energy Capital Partners II-C (Direct IP), LP; and (v) Energy Capital Partners I-D, LP (collectively, the "ECP II Partnerships")...Approximately 37% of the equity in all of the ECP II Partnerships is held by Foreign Passive Investors. Approximately 28% of the equity in the TriArtisan Entities is held by Foreign Passive Investors (Application, p. 4) Foreign trustees "can make foreign investments, including investments to be maintained abroad; *provided, however*, that such authority is limited to those foreign jurisdictions in which the Trustee has selected a foreign custodian in accordance with Section 4.6 - hereof."

12. The Applicant's over reliance on trust funds to demonstrate financial qualification does not meet regulatory standards. (67)

13. As the proposed license transfer is currently structured, corporate parent Energy Solutions, while nominally an Applicant, would assume no TMI-2 Solutions related liability. The Commission has affirmatively stated that it lacks the ability to shift unmet liabilities to the corporate parent. (68) The license transfer application and supporting materials fail to either demonstrate that TMI-2 Solutions is adequately capitalized to independently satisfy their regulatory obligations. Nor has there has been a showing that TMI-2 Solutions has the independent financial ability to meet its obligations under the decommissioning operator services agreement with Energy Harbor or Exelon. (69)

14. The Commission can and should require that the Applicants provide additional forms of financial assurance other than nuclear parlor games proposed by TMI-2 Solutions,. i.e. assets, collateral or real estate.

15. In the course of a prudency review, the ASLB should determine if TMI-2 Solution is financially qualified, i.e., whether they can satisfy their financial obligations as necessary and in the dollar amounts required. The license transfer application and supporting materials provide insufficient information upon which to make such a determination.

67 See 10 C.F.R. § 50.33(f).

68 See NRC, Questions and Answers on Decommissioning Financial Assurance, SECY-11- 0133, encl. 5, at 2 (Sept. 28, 2011) (ML111940157).

69 Refer to unidentified service agreements between Exelon and FirstEnergy pp. 5, 8, 9, 13, and 1 B.

16. The license transfer application is predicated on the strength of TMI-2 Solutions' decommissioning cash flow analyses benchmarked against the projected growth of the decommissioning trusts. As discussed in Contention Epstein- 1, (70) the basis for which is incorporated as if fully set forth herein, the TMI-2 Solutions' DECON approach requires that they show full decommissioning funding *now*. Regardless, as part of its financial qualifications review and its assessment of the adequacy of the funds accumulated for decommissioning, the Commission has reserved to itself the right to review the rate of accumulation of decommissioning funds. (71) NRC rules also envision that "[a]ctual earnings on existing funds may be used to calculate future fund needs." (72) Because the Commission must determine whether TMI-2 Solutions is financially qualified to bear the risk, NRC staff should request and review historic fund valuation statements for each of the decommissioning trusts.

17. Because the actual rate of return on the trust funds will be impacted by the funds' tax treatment, NRC staff should request and review any private letter rulings obtained by the Applicants from the Internal Revenue Service. Staff should be particularly aware that the granting of an eventual exemption to allow the use of trust fund monies for non-decommissioning purposes could impact the tax rate applied to disbursements from the funds, potentially reducing the monies available to fund ongoing decommissioning and related activities.

70 See *supra*, Epstein Contention-1, ¶¶ 3–15; see also 10 C.F.R. § 50.75(e)(1)(1). 234 See 10 C.F.R. § 50.75(e)(2).

71 See 10 C.F.R. § 50.75(e)(2).

72 *Id.* § 50.75(e)(1)(i).

18. In the likely event of a cost overrun, the license transfer application fails to establish that TMI-2 Solutions will be financially healthy enough to provide additional financial assurance as required pursuant to 10 C.F.R. §§ 50.82(a)(8)(vi) and (vii). (73)

19. In recent weeks, the global spread of the novel corona virus has caused substantial economic turmoil, leading to steep declines in the U.S. securities market. Heavy market losses have likely significantly eroded the principal of the Three Mile Island Unit-2 decommissioning trusts.

20. Particularly in this period of extreme market volatility, TMI-2 Solutions' over reliance on the trust funds to show adequate financial qualification is unreasonable and fails to comply with NRC regulations.

21. The global spread of the novel corona virus has caused substantial economic turmoil, leading to steep declines in the U.S. securities market. Heavy market losses have eroded the principal of the TMI-2 trusts.

22. TMI-2 Solutions has not demonstrated that, in the likely event that decommissioning, spent fuel management, and/or site restoration costs exceed estimates, they will have the financial ability to procure additional financial assurance.

23. Mr. Epstein the "First Energy, 2019 Annual Report," TMI-2 Decommissioning Trust Fund Report, December 2019, and Chronology of Problems at Three Mile Island, 1978-2020, incorporates the following documents as if fully set forth herein.

73 *See supra* Epstein Contention-2, the bases and supporting evidence for which are incorporated as if fully set forth herein.

Supporting Evidence.

24 . Firms that lack sufficient financial resources to conduct normal day-to-day business operations are less likely to be able to cope effectively with long-term environmental obligations. Lack of adequate financial qualification contributes to an increased risk of default and eventual bankruptcy. TMI-2 Solutions has created a corporate structure designed to insulate itself from the financial risk borne by its subsidiaries, a default by Energy Solutions or TMI-2 Solutions, could leave the task of funding any remaining decommissioning, site restoration, and/or spent fuel-related obligations at TMI-2 to the tax payers of the Commonwealth of Pennsylvania. Rate payers and tax payers would be forced to contribute to another bailout of the Three Mile Island Unit-2.

25. The potential bankruptcy of a financially weak corporate entity with significant environmental liabilities poses a real risk to taxpayers. In recent bankruptcy proceedings, parent FirstEnergy Corporation, the current licensee, attempted to absolve itself of all environmental liability associated with its bankrupt subsidiary's fleet of coal and nuclear power plants. This attempt, ultimately rejected by the bankruptcy court, (74) extended even to regulatory enforcement actions. (75) In the Tronox matter, Kerr-McGee, wishing to shield itself from a stunning array of legacy environmental liabilities, created a new entity, Tronox, and saddled it with

74 See Anya Litvak, Judge Rejects FirstEnergy's Plan to Get Rid of Subsidiary's Liabilities in Bankruptcy, Pittsburgh Post-Gazette (April 4, 2019).

75 See United States supp. reply brief, *In re FirstEnergy Solutions Corp.*, Case No. 50757 (Bankr. N.D. Ohio) (March 29, 2019), at ¶ 7, n.2.

Kerr-McGee's clean-up costs. (76) Tronox, severely undercapitalized and unable to cope with its environmental liabilities, almost immediately sought bankruptcy protection.

26. TMI-2 Solutions use of special purpose limited liability entities to isolate itself from legal and financial exposure is a risk-mitigation strategy designed to avoid providing additional financial assurance or committing additional capital. This structure, insofar as it shields corporate parents and their affiliates from liability, encourages riskier behavior and induces companies to underreport liabilities. Any failure to transparently disclose all liabilities undermines the Commission's ability to effectively and adequately assess financial qualifications.

27. TMI-2 Solutions' investment guidelines for the trusts encourages broad and permissive investment guidelines which can result in increased investment risk, which can in turn limit the availability of funds when resources are needed. Moreover, the trustee, in addition to limited prohibitions, (77) is authorized to appoint and indemnify foreign custodians. (78) (Footnotes 77 and 78 are on the following page.)

28. At the time TMI-2 Solutions filed the petition, it based its financial qualification and decommissioning and spent fuel management funding assurance analyses on the Applicants' representation that the Three Mile Island Unit-2 t trusts contained approximately \$899,487,427 million as of December 31, 2019.

⁷⁶ See *In re Tronox Inc.*, 503 B.R. 293, 249–63 (Bankr. S.D.N.Y. 2013).

29. The value in the GPU Nuclear trust has significantly declined. TMI-2 Solutions relies heavily on the trusts to demonstrate both financial qualifications and adequate funding assurance for radiological decommissioning and spent fuel management. The Trusts are materially different from the information provided in the license transfer application.

77

4.3 Prohibited Investments.

The Trustee shall assure that the assets of the Trust are not invested or reinvested in the following Prohibited Investments:

(a) Any securities or other obligations of Energy Solutions, Inc. or affiliates thereof, or their successors or assigns; or

(b) Any securities or other obligations of any entity owning or operating one or more nuclear power plants; provided, however, that the foregoing restriction shall not prevent investments tied to market indices or other non-nuclear sector mutual funds; or

(c) Any investment which would contravene any Future Orders in effect at the time such investment or reinvestment is made and previously furnished to the Trustee with reference to the Trust; or,

(d) Any investment not permitted under Section 468A of the Code; *provided, however*, that the with respect to the securities and obligations prohibited under clauses (a) and (b), TMI-2 Solutions provides a list of such securities and obligations and their issuer code and/or CUSIPs.

76

4.6 Foreign Custodians

(a) The Trustee shall have the power to appoint foreign custodians as agent of- the Trustee to custody foreign securities holdings of the Trust or any investment manager account Custody of foreign investments shall be maintained with foreign custodian selected by the Trustee.

The Trustee shall have no responsibility for losses to the Trust resulting from the ads or omissions of any foreign custodian appointed by the Trustee unless due to the foreign custodian's fraud, negligence or willful misconduct.

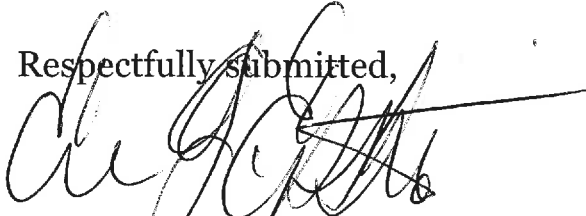
30. As the Commission has long recognized, financial qualification and decommissioning funding assurance issues “go to the very heart” of the license transfer proceeding, and so fall well within the scope of the present proceeding. (77) Either independently or in conjunction with the remaining bases in Contention Epstein-2, the erosion of the decommissioning funding assurances raise a material dispute of fact with the Applicants. The substantial erosion of trust reinforces the Epstein’s argument, set forth in Contention Epstein-3, that trust dependent TMI-2 Solutions, lacks the resources necessary to provide additional financial assurances.

77 North Atlantic Energy Serv. Corp. (Seabrook Station, Unit 1), 49 N.R.C. 201, 219(1999).⁴⁰ See 10 C.F.R. § 2.309(f)(1)(iii). ⁴¹ See *id.* §§ 2.309(f)(1)(iv), (vi).

III. Conclusion:

For the reasons stated, the Commission should grant Mr. Epstein and Three Mile Island Alert Inc.'s petition to intervene and associated request for hearing.

Respectfully submitted,



Eric Epstein, Chairman
Three Mile Island Alert, Inc.
4100 Hillsdale Road
Harrisburg, PA 17112
lechambon@comcast.net
(717)-635-8615.

Dated: April 15, 2020

Declarations.

Certification of Service List

- **Exhibit A: Chronology of Problems at Three Mile Island, 1979 -2020.**
- **Exhibit B: Statement of Dr. Michio Kaku.**
- **Exhibit C: Chronology of Health Problems at Three Mile Island.**
- **Exhibit D: Leaks, release & exposures at TMI, 1980 - 2006**
- **Exhibit E: Fires and Fire-Related Challenges at the Three Mile Island Nuclear Generating Station.**
- **Exhibit F: Fitness for Duty Problems at Three Mile Island: 1978-2006.**

1 Joyce Corradi
2 2 South Nissley Drive
3 Middletown, PA 17057
4

5 **Declaration of Membership in Three Mile Island Alert, Inc.**
6 **County of Dauphin**

7 **Before the Nuclear Regulatory Commission**

8 **- License Transfer Request -**

9 **The Transfer of Control of Three Mile Island Unit-2's**
10 **Possession Only License**
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- 14 1. I, Joyce Corradi, declare under penalty of perjury under the laws of
15 the State of Pennsylvania, that I am impacted by the above titled
16 action.
17
18 2. I further declare that the following facts are within my personal
19 knowledge unless otherwise stated, and that they are true and correct
20 to the best of my knowledge and ability.
21
22 3. I further declare that if called to testify in court in this action, I would
23 competently and truthfully testify to the truth of the statements
24 written in this Declaration.
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- 1 4. I am a member of Three Mile Island Alert, Inc., 315 Pepper Street,
2 Harrisburg, PA, 17102.
- 3 5. I live within ten miles of Three Mile Island.
- 4 6. I live within the 10-mile geographical zone that might be affected by a
5 release of fission products into the environment during or after
6 decommissioning.
- 7 7. I will be at risk if there is a shortfall in the Decommissioning Trust
8 Fund ("DTF") that prevents the site from being fully cleaned up and
9 restored to the original site status.
- 10 8. I will be at risk of radiological contamination of land that will be
11 released for public use that residents should have to endure again.
- 12 9. I will be at risk of the threat of radiological runoff into Susquehanna
13 River and if the drinking water is contaminated that is something the
14 residents should not have to endure again.
- 15 10. I am concerned by credible reports that officials with Three Mile
16 Island companies, including Energy Harbor, First Energy, GPU
17 Nuclear and TMI-2 Solutions, that own or will own Three Mile Island
18 have made material misrepresentations to officials of several state
19 government agencies, and even to the NRC itself.
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- 1 11. I will be at risk if the decommissioning fund is mismanaged causing
2 the cleanup of the site to be inadequate, which would affect the
3 community's ability to access the public area around the site due to
4 continued contamination.
5
- 6 12. I will be at risk if the fund were to be mismanaged, as has been the
7 precedent established at TMI-1, in which case the money will run
8 short, and the site cleanup costs would need be paid by local
9 taxpayers, including myself.
10
- 11 13. I will be at risk if the fund were diverted to uses other than
12 decommissioning, as has been the precedent established at TMI-1, in
13 which case the money will run short and site cleanup costs would need
14 to be paid by local taxpayers, including myself.
15
- 16 14. I have an indisputable interest in ensuring that the owner of the site
17 provides financial assurance that the site will be fully decontaminated,
18 decommissioned, and restored, all according to applicable federal,
19 state, and local requirements.
20
- 21 15. I have an indisputable interest in ensuring that the owner of the site
22 provides financial assurance that the highly radioactive spent fuel be
23 properly managed throughout the 1,000+ years that it remains highly
24 radioactive, contaminated and extremely dangerous to human life all
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1 in accordance with applicable federal, state and local requirements
2 now and in the future.

3 16. I am concerned about a diminution in property value, which is by
4 definition an economic injury that should be covered by the company
5 that is requesting this license transfer
6

7 17. I am concerned that if the site is not restored fully and safely then it
8 cannot be redeveloped and the community will not benefit from tax
9 revenues associated with the site, negatively impacting each of the
10 declarants and all local residents.
11

12 18. I authorize Three Mile Island Alert, Inc. to advocate for me in the
13 above captioned matter.
14

15 19. In October 2019, EnergySolutions, Inc. signed an agreement with the
16 FirstEnergy companies GPUN, Metropolitan Edison Company, Jersey
17 Central Power & Light Company, and Pennsylvania Electric Company
18 ("FirstEnergy") (1) to acquire all Three Mile Island Unit-2 ("TMI-2")
19 licenses and assets. Under the agreement, the facility would be
20 transferred to a subsidiary of EnergySolutions known as TMI-2
21 Solutions, LLC ("Energy Solutions"). I oppose the license transfer for
22 reasons stated in my Affidavit.
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1 I declare under penalty of perjury that the foregoing is true and correct to
2 the best of my knowledge. This Declaration was signed in
3 Dauphin County.
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9 Signed by: Joyce Corradi
10 Joyce Corradi
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12 Dated: 4/13/20
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1 Patricia Longnecker
2 2094 Turnpike Road
3 Elizabethtown, PA 17022

4
5 **Declaration of Membership in Three Mile Island Alert, Inc.**
6 **County of Dauphin**

7 **Before the Nuclear Regulatory Commission**

8 **- License Transfer Request -**

9 **The Transfer of Control of Three Mile Island Unit-2's**

10 **Possession Only License**

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13
14 1. I, Patricia Longnecker, declare under penalty of perjury under the
15 laws of the State of Pennsylvania, that I am impacted by the above
16 titled action.
17
18 2. I further declare that the following facts are within my personal
19 knowledge unless otherwise stated, and that they are true and correct
20 to the best of my knowledge and ability.
21
22 3. I further declare that if called to testify in court in this action, I would
23 competently and truthfully testify to the truth of the statements
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- 1 5. I live within ten miles of Three Mile Island.
- 2 6. I live within the 10-mile geographical zone that might be affected by a
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- 6 7. I will be at risk if there is a shortfall in the Decommissioning Trust
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community's ability to access the public area around the site due to continued contamination.

12. I will be at risk if the fund were to be mismanaged, as has been the precedent established at TMI-1, in which case the money will run short, and the site cleanup costs would need be paid by local taxpayers, including myself.
13. I will be at risk if the fund were diverted to uses other than decommissioning, as has been the precedent established at TMI-1, in which case the money will run short and site cleanup costs would need to be paid by local taxpayers, including myself.
14. I have an indisputable interest in ensuring that the owner of the site provides financial assurance that the site will be fully decontaminated, decommissioned, and restored, all according to applicable federal, state, and local requirements.
15. I have an indisputable interest in ensuring that the owner of the site provides financial assurance that the highly radioactive spent fuel be properly managed throughout the 1,000+ years that it remains highly radioactive, contaminated and extremely dangerous to human life all in accordance with applicable federal, state and local requirements now and in the future.

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1 I declare under penalty of perjury that the foregoing is true and correct to
2 the best of my knowledge. This Declaration was signed in

3 Lancaster County.
4

5
6 Patricia J. Longenecker
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9 Signed by: Patricia J Longenecker
10

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12 Dated: April 15, 2020
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