

18 August 2014

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
Before the Atomic Safety and Licensing Board

In the Matter of:)	Docket No. 50-341
DTE Electric Company)	NRC-2014-0109
Fermi 2 Nuclear Reactor License NPF-43		
Extension Application for 20 years		

CITIZENS' RESISTANCE AT FERMI 2 (CRAFT)
PETITION FOR LEAVE TO INTERVENE AND REQUEST FOR A PUBLIC HEARING
UPON DTE ELECTRIC'S REQUEST OF 20-YEAR LICENSE EXTENSION FOR THE
ENRICO FERMI 2 NUCLEAR REACTOR

Now comes Citizens' Resistance At Fermi 2 (hereafter, CRAFT) to make their REQUEST FOR PUBLIC HEARING AND PETITION FOR LEAVE TO INTERVENE in the above captioned matter, pursuant to the Federal Register of 18 June 2014 (pages 34787-34790), "License renewal application; opportunity to request a hearing and to petition for leave to intervene," and in accordance with the provisions of 10 CFR § 2.174 and § 2.309.

In support of the Request for Hearing and Petition to Intervene, said Petitioner as Intervener further states as follows:

CRAFT is a grassroots organization based in Redford, Michigan that publishes a monthly newsletter to keep the general public informed about Fermi 2. The 18 attached affidavits are individual CRAFT members who reside, work, and recreate within the fifty (50) mile radius of the Fermi 2 nuclear reactor. CRAFT is providing the declarations of its members, for which CRAFT seeks to intervene to protect their interest.

The central office of CRAFT is located at 17397 Five Points Street, Redford, Michigan 48240, telephone 313-766-4311. Additionally, Jessie Pauline Collins seeks to represent CRAFT pro se, and other interveners in this proceeding.

1. These individuals live within a 50-mile radius of the Fermi 2 nuclear power plant, and have presumptive standing by virtue of their proximity to the Enrico Fermi Unit 2 reactor. *Diablo Canyon, supra*, 56 NRC at 426-427, citing *Florida Power & Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), LBP-01-6, 53 NRC 138, 146, *aff'd*, CLI-01-17, 54 NRC 3 (2001). In *Diablo Canyon*, the licensing board noted that petitioners who live within 50 miles of a proposed nuclear power plant are presumed to have standing in reactor construction permit and operating license cases, because there is an “obvious potential for offsite consequences” within that distance. *Id.* DTE Electric now seeks an operating license extension for Fermi 2, and the same standing concepts apply.

CRAFT also submits 32 affidavits for individual members of affected Indian tribes whose tribal governments have not filed to intervene. These tribes are listed by the NRC as having treaty rights to hunt, fish, and gather foods in the Lake Erie Western Basin. These tribal members also request CRAFT to represent them.

2. The Petitioners hereby request to be made a party to the proceedings because continued operation of the Fermi 2 nuclear reactor continues to present a tangible and particular harm to the health and well-being of members living within 50 miles of the site. Pursuant to 10 CFR § 2.309, a request for hearing or petition for leave to intervene must address (1) the nature of the petitioner’s right under the Atomic Energy Act to be made a party to the proceedings, (2) the nature and extent of the petitioner’s property, financial, or other interest in the proceedings, and (3) the possible effect of any order that may be entered in the proceeding on the petitioner’s interest. In determining whether a petitioner has sufficient interest to intervene in a proceeding, the Commission has traditionally applied judicial concepts of standing. *See Metropolitan Edison Co.* (Three Mile Island Nuclear station, Unit 1), CLI-83-25, 18 NRC 327, 332 (1983) (citing *Portland General Electric Co.* (Pebble Springs Nuclear Plant, Units 1 and 2), CLI-76-27, 4 NRC 610 (1976)).
3. A petitioner for intervention is entitled to party status if he (establishes standing and pleads at least one valid contention. *Carolina Power and Light Co. and North Carolina Eastern Municipal Power Agency* (Shearon Harris Nuclear Power Plant, Units 1 and 2), LBP-82-119A, 16 NRC 2069, 2070 (1982). Petitioners believe that if Fermi 2 is allowed to operate for an additional twenty years without first resolving the Petitioners safety concerns, the nuclear reactor may operate unsafely and pose an unacceptable risk to the environment and jeopardize the health, safety, and welfare of Petitioners’ members who live, recreate, conduct business, and own property within the vicinity of the Fermi 2 nuclear reactor.
4. The Petitioners have standing because CRAFT is a grassroots organization with office inside the Fermi 2 radiation zone, 17397 Five Points Street, Redford MI 48240, with hundreds of members within said zone. Those members’ interests will not be adequately represented without this course of action and intervention, and without the opportunity to

participate as full parties in this proceeding. Representational standing of the Petitioners is provided through the attached affidavits for CRAFT.

5. Petitioners present their contentions as attachments to this Petition. They incorporate the same by reference into this Petition, and pray the Commission admits them for full and further adjudication.

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PREFACE to ALL Contentions:

The Issues raised in each of the following Contentions are integrally relevant and Material to these proceedings. 10 CFR 2.309 (f)(iv) requires that the Petitioner "Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding." In discussing the materiality requirement, the Atomic Safety and Licensing Board (ASLB) considering the license renewal for Millstone Nuclear Power Station stated "In order to be admissible, the regulations require that . . . [w]here a contention alleges a deficiency or error in the application, the deficiency or error must have some independent health and safety significance." *Millstone, supra* at 7, and *see Private Fuel Storage, supra* at 179-180. The deficiencies highlighted in these Contentions have enormous independent health and safety significance. The Applicant's LRA and associated analyses as part of the AMP and ER have material deficiencies to an extent that could significantly jeopardize (impact) public health and safety.

An Adjudicatory Hearing is the only way to properly address the Petitioner's concerns. The Atomic Safety and Licensing Board (ASLB) may determine that many of the issues raised in the Petitioner's Contentions have been dealt with generically already by the NRC, and any complaints about the treatment of these topics or enforcement of these rules should be raised by the Petitioner as part of a 2.206 petition or by filing a rulemaking petition under 10 CFR 2.802. *See for example, Turkey Point, supra* at 18, and *In the Matter of Amergen Energy Company, LLC* (License Renewal for Oyster Creek Nuclear Generating Station) ASLBP 06-844-01-LR p. 14, fn 9. (2006). In anticipation of this objection, the Petitioner asserts the existence of a long list of concerns that have been brought to the NRC's attention by Petitioners and other citizens groups over the last twenty-five or more years. Despite these laborious efforts by the public to raise their legitimate safety and environmental concerns, the NRC has granted only one of the dozens of 2.206 petitions submitted, as of 2006 -- one submitted by T. Cochran, NRDC, 1997. In addition, NRC rules preclude any appeal of a 2.206 decision, and "the hearing rights available through a section 2.206 petition are scarcely equivalent to, and not an adequate substitute for,

hearing rights available in a licensing proceeding." *Washington Public Power Supply System* (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1175-77 (1983). In addition, rulemaking under 10 CFR 2.802 takes a minimum of three years and can take up to nine years.

By the time these issues are addressed in a rulemaking proceeding, this re-licensing process will be over and Fermi, Unit 2 would be operating without these issues being resolved. Because of barriers (not the least of which is the cost to public interest groups of hiring qualified legal representation and experts who can provide original testimony and credible legal arguments) which have barred concerned citizens from effective participation in rulemaking and enforcement in the past, this Petitioner asserts that license renewal (even with its own set of barriers to effective citizen participation) is the proper and appropriate time to address safety and environmental issues that are of concern to the public. Linking agency action in license renewals to effective and meaningful reviews of safety and environmental concerns is required by the National Environmental Policy Act (NEPA) and by the Atomic Energy Act (AEA).

ENVIRONMENTAL CONTENTION ONE: WIND ENERGY IS A VIABLE ALTERNATIVE

Contention One: Wind Power as a viable option. Petitioners acknowledge and give credit to Beyond Nuclear for their ground-breaking work on this Contention's conception, to which Petitioners are deeply indebted. Beyond Nuclear submitted their contention, "CONTENTION ONE: WIND POWER" as part of their "Request for a Public Hearing and Petition for Leave to Intervene in the Matter of First Energy's Application to Relicense the Davis-Besse Nuclear Power Plant (Facility Operating License No-NFP-003, Docket No. 50-346, NRC-2010-0299) for Additional Years of Extended Operation," submitted to the Secretary of the NRC on December 27, 2010. However, Petitioners take sole responsibility for any errors of omission or commission contained in this contention, which is now timelier than their submission four years ago.

DTE Electric Company (hereinafter, DTE) Environmental Report (hereinafter, ER) does not adequately evaluate the full potential for renewable energy sources, such as wind power, to replace the loss of energy production from Fermi 2, and to make the license renewal request from 2025 to 2045 unnecessary. In violation of the requirements of 10 CFR§ 51.53© (3) (iii) and of the GEIS § 8.1, the DTE ER (§ 7.1.2.2.1) treats all of the alternatives to license renewal as unreasonable and does not provide a substantial analysis of the potential for significant alternatives, such as wind power, in the Region of Interest for the requested relicensing period of 2025 to 2045. While the ER plainly states, "Whereas a single wind farm generation unit would not provide consistent power generation, multiple wind farms scattered within a reasonable region and interconnected together via the grid may potentially provide power generation that could approach base-load capacity." On page 7-8, the ER states, "Placing wind farms offshore eliminates some of the obstacles encountered when siting wind farms on shore and limits conflicts with other planning interests."

DTE's ER quotes the assessments made for the proposed Fermi 3 and even flaunts NRC decisions in that licensing proceeding, "NRC's determination was that wind power was not a reasonable alternative to the proposed Fermi 3 unit. (NRC 2013c, Section 9.2.3.)" It seems unlawful to use the same study from one licensing proceeding case to another. Since the proposed license of a Fermi 3 reactor and the Fermi 2 license extension are separate licensing dockets; we hold that a viable study of wind power replacing Fermi 2 needs to be done.

According to a *Crain's Detroit Business* (Aug. 4- 10, 2014) "A \$15B upgrade for utilities", which deals with new Environmental Protection Agency (hereafter EPA) rules to reduce carbon emissions, DTE alludes to going to wind. "We'll be backfilling those retirements with natural gas and wind," said DTE Energy Co. CEO Gerry Anderson. "DTE's annual report estimates it will spend \$6.7 billion on capital outlays from this year through 2018. Much of that is for regular upgrades and maintenance. The period after that is when more money will begin to flow as DTE puts its moves toward natural gas and wind into play to meet the 2030 requirements." The article states that, "Since 2009, DTE has built about 400 megawatts of wind generation capacity, in Gratiot, Tuscola, Huron and Sanilac counties. It also has contracts to buy another 450 megawatts of capacity from third-party suppliers." The NRC definitely needs to reevaluate wind as a replacement for Fermi 2.

The scope of the SEIS is improperly narrow, and the issue of the need for Fermi 2 as a means of satisfying demand forecasts for the relicensing period must be revisited due to dramatically-changing circumstances in the regional energy mix that are currently underway already during this decade of Fermi 2's remaining operating license (2014 – 2025), and can especially be expected to accelerate and materialize over two decades to come covering DTE's requested license extension period (2025-2045).

Basis

The National Environmental Policy Act (NEPA) requires honesty and completeness in disclosure of environmental impact assumptions and the basis for agency decisions. The purpose of NEPA is to protect the environment. *See, e.g., Weinberger v. Catholic Action of Hawaii/Peace Education Project*, 454 U.S. 139,143 (1981) (NEPA's 'twin aims' are "to inject environmental considerations into the agency's decision-making process" and "to inform the public that the agency has considered environmental concerns").

As part of the NEPA review for all major federal actions, DTE Electric Company (hereafter, DTE) must prepare an Environmental Report (hereafter ER) that includes a sufficiently complete evaluation of the alternatives to the requested action. The U.S. Nuclear Regulatory Commission (hereafter NRC) later prepares a Supplemental Environmental Impact Statement (hereafter SEIS) based in part on DTE's ER.

While it is established that the courts must not “*substitute their judgment of the environmental impact for the judgment of the agency, once the agency has adequately studied the issue,*” *Crounse Corp. v. Interstate Commerce Comm’n*, 781 F.2d 1176 (6th Cir. 1986), Petitioners contend that the pivotal words are “adequately studied.” The harm NEPA seeks to prevent is complete when the agency makes a decision without sufficiently considering information NEPA requires be placed before the decision-maker and public. *Sierra Club v. March*, 872F.2d 497,500 (1st Cir. 1989). “The injury of an increased risk of harm due to an agency’s uninformed decision is precisely the type of injury NEPA was designed to prevent.” *Comm. To Save the Rio Hondo v. Lucero*, 102 F.3d, 448-40 (10th Cir. 1996).

Environmental Review and Scoping

The scope of the environmental review is defined by 10 CFR Part 51, the NRC’s “Generic Environmental Impact Statement (GEIS) for the License Renewal of Nuclear Plants” (NUREG 1437 (May 1996), and the initial hearing notice and order. *See, e.g., Vermont Yankee*, 2006 NRC Lexis 201 (ASLB 9/22/2006). Some environmental issues that might otherwise be germane in a license renewal proceeding have been resolved generically for all plants and are normally, therefore, “beyond the scope of a license renewal hearing.” *Matter of Florida Power & Light Co.* (Turkey Point Nuclear Power Plant), CLI-01-17, 54 NRC 3, 15 (7/19/2001); *see* 10 CFR § 51.53(c)(3)(i).

These “Category 1” issues are classified in 10 CFR Part 51, Subpart A, Appendix B. Category 1 issues May be raised when a petitioner (1) demonstrates that there is new and significant information subsequent to the preparation of the GEIS regarding the environmental impacts of license renewal; (2) files a petition for a rulemaking with the NRC; or (3) seeks a waiver pursuant to 10 CFR § 2.335. *See Turkey Point*, 54 NRC at 10-12; *see also* 10 CFR § 51.53(c)(3)(iv) (new and significant information).

New and Significant Information Prompts Revision of ER

The National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321-37, requires all federal agencies to examine environmental impacts that could be caused by their discretionary actions. NEPA’s twin aims are (1) obligating a federal agency to consider every significant aspect of the environmental impact of a proposed action and (2) ensuring that the federal agency will inform the public that it has indeed considered environmental concerns in its decision-making process. *Baltimore Gas & Elec. Co. v. Natural Resources Defense Council*, 462 U.S. 87, 97 (1983); *see also* 42 U.S.C. § 4332(2)(c) (identifying requirements of an EIS).

As a federal agency, the NRC must comply with NEPA. *Calvert Cliffs Coordinating Comm. V. AEC*, 449 F.2d 1109 (D.C. Cir. 1971) (NEPA applies to NRC’s predecessor). Moreover, NEPA imposes continuing obligations on the NRC following completion of an environmental analysis. An agency that receives new and significant information casting doubt upon a previous

environmental analysis must reevaluate the prior analysis. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989). This requirement is codified in NRC regulations at 10 CFR § 51.92(a).

The NRC's license renewal application regulations repeat this obligation. 10 CFR § 51.53(c)(3)(iv) provides that an ER must contain "any new and significant information regarding the environmental impacts of license renewal of which the applicant is aware." The NRC has concluded this applicant obligation extends to new and significant information even when such information pertains to a Category 1 issue. *See Duke Energy Corp. (McGuire Nuclear Station, Units 1 and 2, Catawba Nuclear Station, Units 1 and 2)*, CLI-02-14, 55 NRC 278, 290 (2002). In *Vermont Yankee*, 50-271-LR (9/22/2006) at 17-27, the Commission recognized "...that even generic findings sometimes need revisiting in particular contexts. Our rules thus provide a number of opportunities for individuals to alert the Commission to new and significant information that might render a generic finding invalid, either with respect to all nuclear power plants or for one plant in particular. In the hearing process, for example, petitioners with new information showing that a generic rule would not serve its purpose at a particular plant may seek a waiver of the rule. See 10 CFR § 2.758; see also note 3, *supra*, and accompanying text. Petitioners with evidence that a generic finding is incorrect for all plants may petition the Commission to initiate a fresh rulemaking. See 10 CFR § 2.802. Such petitioners may also use the Supplemental Environmental Impact Study (SEIS) notice-and-comment process to ask the NRC to forgo use of the suspect generic finding and to suspend license renewal proceedings, pending a rulemaking or updating of the GEIS. See 61 Fed. Reg. at 28,470; FEIS at 1-10 to 1-11."

So the Commission foreclosed no options but has identified some of the several options available. A waiver of the generic rule is not a prerequisite, nor is such a conclusion obvious or necessary in light of the plain language of the regulation.

To the extent that Petitioners articulate significant or new information, it is aimed at rebutting statements made, and conclusions drawn by the Applicant, and to evidence some of the errors and omissions in the Environmental Report.

With respect to the remaining issues in Appendix B, "Category 2" issues, (1) the applicant must make a plant-specific analysis of environmental impacts in its Environmental Report, 10 CFR § 51.53(c)(3)(ii), and (2) NRC Staff must prepare a Supplemental Environmental Impact Statement (SEIS), *id.* § 51.95(c). Contentions implicating Category 2 issues ordinarily are deemed to be within the scope of license renewal proceedings. *See Turkey Point*, 54 NRC at 11-13; *Matter of Amergen Energy Co. (Oyster Creek)*, 50-0219-LP, 2006 NRC Lexis 195 (Feb. 27, 2006).

Similarly, the environmental review mandated by NEPA is subject to a rule of reason. While it need not include all theoretically possible environmental effects arising out of an action, it draws

direct support from the judicial interpretation of the statutory command that the NRC is obliged to make reasonable forecasts of the future. *Northern States Power Co.* (Prairie Island Nuclear Generating Plant, Units 1 & 2), ALAB-455, 7 NRC 41, 48, 49 (1978); *Hydro Res., Inc.*, LBP-04-23, 60 NRC 441, 447 (2004), *review declined*, CLI-04-39, 60 NRC 657 (2004).

In the context of the required NEPA review to include a reasonable forecast for less harmful alternatives to the proposed federal license extension of Fermi 2 for the requested renewal period of 2025 to 2045, renewable energy alternatives such as wind power are demonstrated to be unique, significant, and compelling when compared to the proposed Fermi 2 license extension because such alternatives can be demonstrated to have significantly less adverse human environmental impacts. In large part, this unique quality is due to the fact that energy alternatives like wind are abundantly available and do not have a carbon producing fuel cycle such as in the case with uranium (the major carbon producing aspects of the uranium fuel chain occur at the stages of mining, milling, processing, and enrichment, although the various transport legs also contribute, as does the very long term management of radioactive wastes; in addition, carbon releases from operating nuclear power plants, and especially radioactive waste reprocessing facilities, include radioactive Carbon 14 releases, a very significant biological hazard with a hazardous persistence lasting more than 50,000 years) as it pertains to the requested relicensing action. Such alternatives also do not have the radiological impacts and risks of the uranium fuel chain, which is, of course, an inevitable part and parcel of the environmental impacts associated with a 20 year license extension at Fermi 2.

Supporting Evidence

A significantly beneficial environmental feature of wind generated power over the extension of the operation of Fermi 2 is that scientific studies show that wind has a significantly smaller carbon footprint (as well as no radiological footprint). DTE's 2013 10-K admits they need to increase alternative energy sources. "In 2008, a renewable portfolio standard was established for Michigan electric providers targeting 10% of electricity sold to retail customers from renewable energy by 2015. DTE Electric has approximately 900 MW of owned or contracted renewable energy generation, principally wind turbines located in Gratiot, Tuscola, Huron and Sanilac counties in Michigan, at December 31, 2013, which is projected to represent approximately 9.6% of electricity that will be sold to retail customers in 2015. Approximately 690 MW was in commercial operation at December 31, 2013. DTE Electric expects to meet the 10% renewable portfolio standard with the commercial operation of an additional 210 MW in 2014 and 50 MW in 2015." (Page 7) "In response to an EPA regulation, DTE Electric is required to examine alternatives for reducing the environmental impacts of the cooling water intake structures at several of its facilities." (Page 15) *See Form 10-K, ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934*, Commission file number 1-11607 for the Fiscal Year ended December 31, 2013.

Greater reliance upon renewable energy in the future, particularly in wind energy development, would provide a significantly greater reduction in adverse human environmental consequences as compared to the proposed nuclear power license extension of Fermi 2, by the fact that renewable energy generators such as wind turbines also do not require radiological emergency planning zones, constantly vigilant security perimeters, use-of-lethal-force security exclusion zones, and the creation of national sacrifice areas to contain radioactive wastes, as is the case with the uranium fuel chain, beginning with the uranium mines and mills, and ultimately leading to the still-unresolved issue of long-term nuclear waste management and disposal.

Petitioners contend that without fulfilling the NEPA standards, the NRC cannot effectively make decisions as to the wisdom and merit of the requested federal license extension action in light of reasonable energy alternatives that are demonstrably less harmful to the human environment. Petitioners also contend that DTE's ER as currently written is significantly and unacceptable deficient and does not meet the requirements of NEPA to rigorously discuss and provide a sufficiently complete evaluation of those alternatives with significantly less adverse human and environmental consequence to the requested federal relicensing action for the period of 2025 through 2045.

Therefore, the Petitioners contend that the NRC cannot accept DTE's ER as accurate and sufficiently complete for purpose of preparing and completing the NEPA required Environmental Impact Statement (EIS) in the requested federal action for the previously stated reasons.

ENVIRONMENTAL CONTENTION TWO, WALPOLE ISLAND FIRST NATIONS' EXCLUSION FROM PROCEEDINGS

A. Purpose of Contention

To ensure that all Native American tribes and bands and First Nations have adequate notification by NRC of the proposed Fermi 2 licensing extension and environmental review proceedings, as due to them under applicable treaties, laws, and regulations; and to ensure that individual tribal members' interests are represented whether their tribal government intervenes or not on their behalf.

B. Statement of the Issue

While it appears that NRC notified a number of Native American tribes across Michigan, as far away as Wisconsin and even Oklahoma, about the environmental scoping public comment opportunity for the proposed extension of the Fermi 2 nuclear reactor license, it seems that NRC did not notify numerous Native American tribes, bands, and First Nations in the area of concern.

Likewise, it is unclear that NRC adequately notified even the aforementioned tribes in Michigan, Wisconsin, and Oklahoma of their rights to intervene with contentions in that proceeding, in addition to their opportunity to provide public comments during the environmental scoping proceedings; it seems clear that the tribes, bands, and First Nations not notified of their environmental scoping public comment opportunity were also not informed of their right to intervene against extending Fermi 2's license.

In fact, like states, sovereign "Indian tribes," Native American and First Nations, are granted automatic standing in NRC reactor proceedings. However, tribes cannot intervene, despite their automatic standing, if NRC fails to inform them of the proceeding, and their opportunity and right to petition for leave to intervene and submit official contentions.

Many tribal members had no idea their tribal governments were allowing the contamination of the lands they are guaranteed to hunt, fish, and gather food forevermore. These tribal members allow CRAFT to represent them in this proceeding.

C. Statement of Issues of Law and Fact to be Raised

NRC has legal obligations under the National Environmental Policy Act (NEPA) to notify affected Native American tribes of pending significant proposals and actions, such as a license extension which would allow the Fermi 2 reactor to operate another 31 years. NRC is required under NEPA to interact with Native American tribes in a sovereign government to sovereign government manner.

NRC's own regulations, specifically 10 CFR § 51.28 (a) (5), require the NRC to invite "any affected Indian tribe" to participate in the environmental scoping process for the Fermi 2 license extension.

Typically, when a U.S. federal action impacts First Nations associated with the Canadian federal government, the U.S. federal agency will contact its Canadian federal counterpart. The Canadian federal agency will then provide its U.S. counterpart a list of First Nations in the affected area which should receive notification and an explanation of their rights in the proceeding. Such close and careful coordination and collaboration is codified in such U.S. and Canadian binding legal arrangements as the century-old Boundary Waters Treaty, which created the U.S.- Canadian International Joint Commission (IJC) to oversee such shared natural resources as the Great Lakes, upon which the Fermi 2 reactor sits.

In addition, the United States federal government has entered into various treaties with Native American tribes over the course of centuries. These treaties recognize such legally binding rights as Native American tribes' rights to hunt and fish in certain territories. See, for example, the United States' "Treaty with the Ottawa, Etc., 1807 (November 17, 1807; 7 Statute, 105; Proclamation, January 27, 1808) attached, which states at Article V:

“It is further agreed and stipulated, that the said Indian nations shall enjoy the privilege on hunting and fishing on the lands ceded as aforesaid, as long as they remain the property of the United States.”

In addition, as NRC itself wrote to the Little Traverse Bay Bands of Odawa Indians and other tribes on July 8, 2014:

“In accordance with the provisions in 36 CFR § 800.8, [under the National Historic Preservation Act], the NRC wishes to ensure that Indian Tribes that might have an interest in any potential historic properties in the area of potential effect are afforded the opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, and , if necessary, participate in the resolution of any adverse effects to such properties.”

Such notifications of National Historic Preservation Act protections should also have been sent to the Walpole Island First Nation, since they are neither Canadian nor American, but live in between the two countries on unceded lands.

D. Brief Explanation of the Basis for the Contention

NRC has never notified the Walpole Island First Nation, a mere 50 miles from the Fermi 2 reactor site, of the opportunity to provide public comments during the environmental scoping proceedings. Walpole Island First Nation occupies unceded territory, named the Bkejwanong Territory, located on a series of islands in the St. Clair River between Michigan and Ontario, north and east of Fermi 2.

Similarly, NRC has not notified a number of additional First Nations in the area, including the following in southwestern Ontario: the Moravian of the Thames, or Delaware of the Thames, First Nation; the Chippewas of the Thames First Nation; the Oneida of the Thames First Nation; the Caldwell (Potawatomi) First Nation; the Aamjiwnaang, or Chippewas of Sarnia First Nation; the Chippewas of Kettle and Stony Point First Nation; and the Munsee-Delaware First Nation.

There are additional First Nations throughout the Great Lakes basin which were not notified by NRC – including, as but one example, the Serpent River First Nation of Ontario.

E. Demonstration That the Issue Raised by the Contention is Within the Scope of the Proceeding and Material to the Findings the NRC Must Make to Support its Licensing Decision.

Walpole Island First Nation would be an affected Indian tribe, should Fermi 2 be allowed to operate another 31 years. Over a third of the time, the prevailing winds that reach Walpole Island First Nation emanate from the direction of Fermi 2. Thus, any radiological and/or

toxic chemical releases from Fermi 2, whether so-called “routine” or “permissible” releases or accidental releases, would likely reach and negatively impact Walpole Island First Nation.

In addition to the airborne radiological and toxic chemical risks from Fermi 2, the waterborne radiological, toxic chemical and thermal factors are also important. Walpole Island First Nation, and many, perhaps all, of the tribes which NRC notified or did not notify that have been mentioned above, likely have hunting and fishing rights, but treaty (such as the aforementioned Treaty of 1807), that are negatively affected, both by “routine releases” of radioactivity, toxic chemicals, and thermal pollution, as especially by large-scale releases of radioactivity due to an accident or attack at the Fermi 2 nuclear reactor.

Given that numerous species of fish, wild game, and migratory bird consumed as food by Walpole Island First Nation spend a part of their life cycle at or near the Fermi 2 site, whether in the surrounding surface waters or on land, Fermi 2’s radiological, toxic chemical and thermal pollution negatively impacts the food supply of the Walpole Island First Nation.

Such negative impacts certainly require NRC to notify Walpole Island First Nation of its right to participate and opportunity to provide public upon the continued operation of the Fermi 2 proposal during the scoping proceeding. For this reason, Walpole Island First Nation and other affected First Nations not notified by NRC should be granted at least sixty days to submit public comments.

In addition, given the native impacts upon such treaty rights as hunting and fishing near the Fermi 2 nuclear reactor site, especially in Lake Erie, all the affected tribes of Michigan, Wisconsin, Oklahoma, Ontario, and beyond should have been notified by NRC of their opportunity to intervene against the Fermi 2 license extension with relevant contentions. NRC should notify the tribes of their rights and opportunity, and provide them at least sixty days in which to submit petitions to intervene and contentions.

F. Concise Statement of Facts or Expert Opinion Relied on to Show the Existence of a Genuine Dispute with the Applicant and the NRC Regarding the Adequacy of the License Extension Application.

CRAFT has carefully reviewed NRC correspondence with Native American Tribes, and identified a number of First Nations, including Walpole Island First Nation, that NRC failed to notify. Petitioner reviewed NRC regulations, NEPA, and the U.S.-Native American treaties, and determined NRC’s lack of notifications to numerous First Nations to violate laws and regulations.

Petitioner also communicated with Walpole Island First Nation officials to verify that NRC notifications had not taken place. Walpole Island First Nation is well aware of its downwind status in relation to the Fermi 2 nuclear reactor. It is also well aware of the degrading impacts

upon the fish, wild game, and migratory birds its community fishes and hunts that could be contaminated by the continued operation of Fermi 2. Walpole Island First Nation has quality scientific data and legal research that it could bring to bear in NRC proceedings, had NRC but notified it of its opportunity to participate.

Petitioner has also agreed to represent the named tribal members who object to their treaty rights being contaminated for now and forevermore. Petitioners also have 36 affidavits from various tribal members in support of this contention.

ENVIRONMENTAL CONTENTION NUMBER 3: NRC CANNOT LEGALLY EXTEND REACTOR LICENSES

In brief, the U.S. NRC's existing moratorium on licensing and renewal actions as part of the ongoing Waste Confidence rulemaking process unequivocally precludes the possibility of the NRC Commission granting issuance of License Renewal in the Matter of the Fermi 2 License Renewal Application (hereinafter LRA).

The Petitioner requests an ASLB recommendation to the Commission to extend the moratorium until all legal appeals through the federal courts have been exhausted or resolved, pertaining to the expected appeal of the pending 2014 Waste Confidence Rule by the same Coalition of U.S. States and Organizations which successfully appealed the previous 2010 version of the Waste Confidence Rule. In good faith, the NRC should defer to the multiple intervening parties who together represent millions of U.S. persons, American citizens and residents. (*New York v. NRC*, 681 F.3d 471 (D.C. Cir. 2012))

Scope and Materiality of Waste Confidence issue To the Fermi LRA Contention:

It is reasonable to estimate that, during the 20-year License Renewal period, Fermi, Unit 2 would generate an amount of spent fuel from normal operations equal to about fifty percent (50%) of that which it produced during the original 40-year Operating License period. At the same time, the current "structured coordination" between the Nuclear Energy Institute (NEI) and the NRC appears to be heading towards potentially indefinite "continued storage" of spent fuel with no technical specifications in place, now or for the foreseeable future.

Whereas, the Applicant/Licensee is charged with the primary responsibility for safely and securely handling its own high-level radioactive waste (HLRW) generated during the licensed life of the reactor, the Petitioner contends that there is a "gap of accountability" in the Applicant's plan as it is currently written in the Fermi 2 LRA and associated documents. The Petitioner requests a public hearing to address the unaddressed issue of financial accountability to the public taxpayers and utility ratepayers, who deserve a seat at the table on the issue of whether to assume new, additional, and uncertain future long-term liabilities.

The Petitioner contends that one subject of significant concern particularly to residents of the State of Michigan and the Great Lakes Region is the issue of wet storage solutions for spent nuclear fuel, that is, actively managed pools. Appendix G "Spent Fuel Storage Facilities" (Pages

G-1 to G-15) of the Waste Confidence DGEIS specifically mentions Fermi, Unit 2 on Pages G-1 and G-4. The Fermi, Unit 2 nuclear fission reactor is located within a fifty-mile radius of Metro Detroit (MI), Ann Arbor (MI), Monroe (MI), Toledo (OH), Windsor (Ontario), and a large section of Lake Erie. Fermi, Unit 2's design is the notorious U.S. GE Mark 1 Boiling Water Reactor (BWR), and Appendix G notes that Fermi, Unit 2 has the largest spent fuel pool capacity of any operating BWR in the country -- hence, the potentially greater magnitude of consequences of severe leaks, fires, or other structural breaches of the pool. Why, then, does the NRC allow for "continued storage" in spent fuel pools for up to 60 (sixty) years after the end of the licensed operating life of a reactor? The Petitioner contends that sixty years is a long time to live "on the edge."

So, with that specific concern in mind, the Petitioner turns attention to Chapter 9.0 "List of Preparers" (Pages 9-1 to 9-5) of the DGEIS. "Tables 9-1 and 9-2 provide a listing of the NRC [staff] and CNWRA [Center for Nuclear Waste Regulatory Analyses] staff involved, their experience, and their role in preparing this draft GEIS." (Page 9-1, lines 6 - 7). There are three individuals listed as expert contributors whose function was to prepare the Waste Confidence DGEIS Sections pertaining specifically to "spent fuel pool fires." Presumably, Appendix F "Spent Fuel Pool Fires" was the result primarily of their work. The Petitioner contends that, of these three individuals, neither of them is genuinely qualified to competently and adequately address the complexities of the issue.

Dr. Todd Mintz has a Ph.D. in Materials Science and Engineering, but, ominously, he has only one year of relevant experience, and he is not a trained Nuclear Engineer.

Mr. Donald Helton only has a Master's degree in Nuclear Engineering, and he is not a trained expert in Chemical or Materials Science or Civil or Environmental Engineering.

Finally, Mr. Michael Wentzel only has a Bachelor's degree, and his degree is in Microbiology -- which begs the question: How can he possibly be qualified to prepare an EIS analysis of spent fuel pool fires?

Many DGEIS Preparers have twenty or more (20 +) years of relevant experience, but, unfortunately, all of the listed experts who prepared the analysis of spent fuel pool fires dramatically fail this seniority test. Thus, it seems to the Petitioner that a travesty is occurring in plain sight, and the Petitioner is taking this opportunity to clearly express grave concern. The Petitioner supposes that the NRC could argue that if the three individuals put their heads together, they would equal one qualified individual. However, the Petitioner respectfully disagrees.

Although the Preparers do indeed cite many research studies and References to support their analysis and conclusions, an Environmental Impact Statement is mandated by NEPA to be a reasonably original and independent, fresh, "hard look" assessment which necessarily requires a thorough and comprehensive scoping process and a gold-standard, rigorous investigation, not an anemic, "B-team" approach. It is no wonder, then, that the NRC's Waste Confidence Rule has been unanimously rebuked by the U.S. Federal Court of Appeals of the DC Circuit (*New York v.*

NRC, June 2012); and, going forward, the NRC should certainly expect further legal challenges stemming from multiple states acting through the federal court system.

In the Executive Summary of the Waste Confidence DGEIS (p. xxiii), the NRC explains that the term "Waste Confidence applies to the storage of spent fuel *after* the end of the licensed life for operations of a nuclear reactor and *before* final disposal in a permanent repository. This timeframe is referred to as "*continued storage*" throughout this draft GEIS." The Petitioner contends that there are two fundamental contradictions embedded in that language. First, there can be no genuine "confidence" until such time as "continued storage" has a defined and available endpoint with no ambiguity or open-endedness. Second, there can be no genuine "confidence" until such time as the NRC initiates regulatory action to require licensees to expedite the transfer of spent nuclear fuel from active wet storage (pools) to passively-safer dry storage systems with the ultimate goal of a complete phase-out of any nuclear reactor located in or near a seismically-active zone and any nuclear reactor of the U.S. GE Mark I and II BWR design, such as Fermi, Unit 2 in Southeast Michigan. Such regulatory actions would be very politically viable in the wake of the ongoing, horrific tragedy of Fukushima Dai-ichi and would demonstrate that a reexamination of bogus generic reactor and storage design criteria could realistically initiate at the NRC headquarters without the pretext of pressure, intervention or imposition from exogenous quarters.

Citations:

Proposed revised U.S. NRC Waste Confidence Rule (10 CFR 51.23), September 13, 2013 (78 FR 56776), RIN 3150-AJ20; Docket ID NRC-2012-0246, 10 CFR Part 51: Waste Confidence - Continued Storage of Spent Nuclear Fuel

U.S. NRC Waste Confidence Generic Environmental Impact Statement, Draft Report for Comment, September, 2013, Office of Nuclear Material Safety and Safeguards (Waste Confidence DGEIS -- NUREG-2157)

ENVIRONMENTAL CONTENTION NO. 4: ENRICO FERMI UNIT 2 TRANSMISSION CORRIDOR OFFSITE AC POWER SUPPLY

Fukushima Lessons Learned: U.S. NRC Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool (SFP) Instrumentation," March 12, 2012 (ML12054A679), pertains to Fermi, Unit 2, and informs requirements for Fermi, Unit 3, as follows:

Design Features: Independence; Power Supplies (RAI #9, #10)
(from U.S. NRC ISE and RAI regarding OIP for Implementation of Order EA-12-051 at Fermi Nuclear Power Plant, Unit 2; November 21, 2013)

Petitioner's contend that the Applicant has failed to provide the NRC Staff with an acceptable final configuration of the offsite AC power supply, including sources, routing and termination points (transmission corridor) for each channel/circuit, so the Staff may conclude that the

channels/circuits are independent (physically separate commensurate with the hazard) from a power supply assignment perspective, for the purpose of ensuring reliable and uninterrupted electric power for the Fermi Nuclear Reactor, Unit 2, within and as part of the inseparable context of the same Applicant's active and pending Fermi, Unit 3 COLA as submitted.

The Petitioner contends that the Applicant's pending arrangement explicitly violates the Acceptance Criteria of the Mitigation Strategies Directorate (NRR) Audit Plan to Review Licensee Submittals in response to the Commission's Issuance of Orders with regard to Beyond-Design-Basis External Events (BDBEE) mitigation response and recovery actions.

Regulatory Basis:

Attachment 2 of Order EA-12-051 states, in part, that:

- The primary instrument channel shall be independent of the backup instrument channel.
- Permanently installed instrumentation channels shall each be powered by a separate power supply.

Nuclear Energy Institute, NEI 12-02 ("Industry Guidance for Compliance with NRC Order EA-12-051," U.S. NRC endorsed) states, in part, that:

- Independence of permanently installed instrumentation, and primary and backup channels, is obtained by physical and power separation commensurate with the hazard and electrical isolation needs. If plant AC or DC power sources are used then the power sources shall be from different buses and preferably different divisions/channels depending on available sources of power.
- The normal electrical power supply for each channel shall be provided by different sources such that the loss of one of the channel's primary power supply will not result in a loss of power supply function to both channels of SFP level instrumentation.

Supporting Statement:

Whereas, the Fermi Nuclear Power Plant's spent fuel pool requires a reliable, uninterrupted supply of electric power, the Petitioner submits the following Statement, within the Scope of the LRA Review, identifying significant safety flaws in the design of the Fermi offsite AC power transmission system, as follows:

"Limited Appearance Statement from Farouk D. Baxter Regarding the ASLB Hearing on the Combined License Application for Fermi Unit 3, ML13294A355, October 19, 2013."

Farouk D. Baxter, PE

Expert/Specialist, Nuclear Power Plant Electrical Systems

Sudbury, MA

"Technically, [Fermi's] lines cannot be considered separate because they are routed in a

common corridor (right-of-way) and are susceptible to various severe weather and man-made single failure events, such as tornadoes, ice storms, brush fires, galloping conductors, severe solar disturbances, light-aircraft impingement, and the like; each of these events could remove [all] circuits for an extended period of time through structural damage to multiple transmission line conductors and hardware simultaneously." (Excerpt) (Emphasis added).

The Petitioner requests a public hearing to discuss "*Significant New Unknown and Unanalyzed Conditions*" identified in this Contention, such that further analysis is called for, based on NEPA "hard look" requirements and previous federal court rulings.

Fukushima Lessons Learned: U.S. NRC Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (BDBEE)" (ML12054A736), pertains to this Contention as follows:

In the context of Fukushima Lessons Learned, and presuming the Fermi, Unit 3 COLA as it actively stands, the Petitioner raises the issue of safety margins for multi-unit events, including Design-Basis Threats and Events (DBT) as well as Beyond-Design-Basis External Events (BDBEE). Indeed, multi-unit risks and uncertainties include unexpected events, accidents or occurrences, which may produce synergistic, compounding and emergent scenarios involving catastrophic failure of mission-critical systems. The Petitioner submits that the Applicant's Severe Accident Mitigation Alternatives (SAMA) analysis, ER, and overall License Renewal Application (LRA) hastily fail to comprehensively analyze reasonably foreseeable risks, consequences and mitigation alternatives to the extent required by NEPA or even by the NRC's own guidelines.

ENVIRONMENTAL CONTENTION NO. 5 : SPENT FUEL POOL INSTRUMENTATION IS DEFICIENT

The Petitioner requests a public hearing to consider the following Contention pertaining to U.S. NRC Commission Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool (SFP) Instrumentation," March 12, 2012 (ML12054A679):

Basis

Spent fuel is stored in high-density pools at every reactor in the United States. No spent fuel pool is protected by containment or is required to have independent redundant cooling; they were meant for short-term cooling (~5 years) and weren't intended for multi-decade storage of 4-5 times more spent fuel than their original designs. Pools are not only vulnerable to accidents – as witnessed by the Fukushima accident – but they are prime terrorist targets. In the NRC's Draft Consequences Study, the NRC admits that a pool fire could displace more than 4 million people from their homes. After both 9/11 and the Fukushima accident, the NRC recognized the potential for a catastrophic pool fire. Furthermore the NRC's Office of Nuclear Security and Incident Response uses a predictive tool to aid emergency responders during nuclear accidents which indicates that the radiological release from a pool fire following an earthquake would dwarf that of a reactor meltdown. It also indicates that the consequence of the breach of a dry cask is

thousands of times less severe. (U.S. Nuclear Regulatory Commission, Office of Nuclear Security and Incidence Response, RASCAL 3.0.05 Workbook, NUREG-1889, September 2007).

In 2001, in NUREG-1738, the NRC admitted that the most severe accident risk is posed by prolonged disruption of air or water circulation over the spent fuel assemblies. This point was confirmed by a panel of the National Academy of Science in 2004. (National Research Council, Board on Radioactive Waste Management, Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage, National Academies Press (2006), p. 38-39).

The NRC has focused on an earthquake as the only type of event possible of initiating a fire in the spent fuel pools, and has ignored other credible initiating events that are at least as probable. For example, the impacts of aging and the potential for an attack on a pool. Fermi 2 has gone into loss of electricity, by station blackout, on several occasions.

- In May 2002, the Fermi 2 reactor had a station blackout because a raccoon shorted out electrical buses.
- In May 2002, NORAD reported that a small plane circled the Fermi 2 cooling towers, then dipped toward the reactor before flying off into a storm, and lost track of by NORAD.
- In August 2003, a Grid Failure caused eight reactors to experience station blackout. Fermi 2 lost power for over six hours.
- In June 2010, a tornado hit Fermi 2 and caused a station blackout.
- In September 2012, a bird flew into a substation which triggered SBO at Fermi 2.

There is no way to predict how the facility could lose power and be unable to provide sufficient cooling to the spent fuel pool.

The Petitioner respectfully argues that verified, full completion of Order implementation at the Fermi Nuclear Reactor, Unit 2 must be a prerequisite for issuance of a License Renewal, as the Order is materially relevant to the standard by which to properly judge the adequacy of the Applicant's Aging Management Plan (AMP) program, that is to "reasonably assure" that the Current Licensing Basis (CLB) will be maintained throughout the renewal period based upon 10 CFR § 54.21 and 10 CFR § 54.29, with adjustments to incorporate Fukushima Lessons Learned. As there is no credible reason for hastily approving the Fermi 2 LRA, and the current operating license will not expire until 2025, prudence and wisdom suggest that the license renewal action can reasonably wait until all Fukushima Lessons Learned Orders, Actions and Requirements have been fully and completely implemented and verified, which should occur as soon as possible and practicable for the benefit of the public interest.

The Petitioner contends that there is credible reason to suspect that the Applicant will fail to complete Order implementation in an effective and timely manner. Indeed, more than two years after the issuance of Order EA-12-051 and allowing plenty of time for preparation of a respectable plan for review, nevertheless, the Applicant managed to provoke the NRC Staff to issue sixteen (16) substantive RAI's pertaining to essentially every aspect of the Applicant's plan, even after the Applicant referenced and attempted to apply the NEI's NRC-approved industry

guidelines as a conformance template for compliance with the Commission's Order.

Therefore, considering all of the above, the Petitioner requests an ASLB ruling and recommendation supporting full fleet wide implementation and compliance with already-issued, existing and open Commission Orders prior to the issuance and approval of any new licensing or relicensing action, including, specifically, the Fermi, Unit 2 LRA.

Reference:

(publicly available information from U.S. NRC ISE and RAI regarding OIP for Implementation of Order EA-12-051 at Fermi Nuclear Power Plant, Unit 2; November 21, 2013).

Furthermore, in the context of this Contention which pertains to reliable, onsite storage of spent fuel at Fermi 2, the Petitioner requests a public hearing to discuss the Open Matter of ISFSI Control of Heavy Loads (fuel loading and handling procedures and acceptance criteria) with regard to lack of seismic qualification of remedial welds on 5th-floor vertical beams, structural integrity of the associated crane and supporting superstructure, and the safety margins for reliable transfer of spent fuel from wet storage to dry storage (from SFP to dry casks). The Petitioner contends that this unresolved Matter must be completely remedied as a prerequisite for issuance of a License Renewal for Fermi, Unit 2, as this Matter is materially relevant to the standard by which to properly judge the adequacy of the Applicant's Aging Management Plan (AMP) program, that is to "reasonably assure" that the Current Licensing Basis (CLB) will be maintained throughout the renewal period based upon 10 CFR § 54.21 and 10 CFR § 54.29, with adjustments to incorporate Fukushima Lessons Learned.

New and Significant Information Prompts Revision of ER

DTE's ER fails to adequately address several factors identified by previous studies, other expert bodies, and real world nuclear accidents. The following issues needing to be addressed by DTE were brought to public attention by Dr. Gordon R. Thompson to the NRC on the June 2013 draft, "Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark 1 Boiling Water Reactor."

Partial water loss from a pool with high density racks could be more consequential than complete pool drainage. NRC staff has assumed that complete drainage is the worst case scenario and that water loss occurs before the spent fuel heats up, ignoring the more likely hazards of partial pool drainage. This problem was underscored in a report to the NRC by a panel of the National Academy of Sciences in 2004. The panel thus concluded, "A partially or completely drained spent fuel pool could lead to a propagating zirconium cladding fire and release large quantities of radioactive materials to the environment. (National Research Council, Committee on the Safety and Security of Commercial Spent Nuclear Fuel; Storage, Board on Radioactive Waste Management, *The National Academics Press*, Washington D.C. (2006), (NAS 2004) p.8. According to the panel, "If a supply of oxygen and or steam is available to sustain the reactions... The result could be a runaway oxidation - referred to as a zirconium cladding fire - that proceeds as a burn front, (e.g., as seen in a forest fire or fireworks sparkler)... NAS 2004, p.39.

DTE's ER seems to have ignored real world multiple risk factors that excludes the hazards of a concurrent reactor accident that are known to impact the safety of spent fuel pool systems. Dr. Thompson correctly points out, "the physical proximity of spent-fuel pools to operating reactors, and their sharing of safety systems, means that the use of high-density racks creates strong linkages between reactor risk and pool risk." This fact is underscored in a 1990 NRC-sponsored study which points out that a long-term station blackout at the Peach Bottom nuclear station, would cause "deflagrations to occur in the reactor building and refueling bay..." (I.K. Madni, MELCOR Simulation of Long-Term Station Blackout at Peach Bottom, BNL-NUREG-44993, 1990). This is exactly what occurred at the Fukushima reactors, which caused significant damage to the spent fuel pools. Peach Bottom is a Mark 1 reactor, as is Fermi 2.

Regarding aging and deterioration of Spent Fuel Pool Systems, is a problem that has been dismissed by ignoring a 2011 NRC-sponsored study, which concludes, "as nuclear plants age, degradations of spent fuel pools, reactor refueling cavities...are occurring at an increasing rate, primarily due to environment-related factors. During the last decade, a number of NPP's have experienced water leakage from the spent fuel pools and reactor refueling cavities." (U.S. Nuclear Regulatory Commission, *A summary of Aging Effects and Their Management in Reactor Spent Fuel Pools, Refueling Cavities, TORI and Safety-Related Concrete Structures*, NUREG/CR-7111 (2011). P. vxiii. DTE has ignored this study.

DTE's ER has also failed to compare relative hazards of high-density pool storage with dry cask storage. According to estimates developed in 2007 for the NRC's Emergency Operation Center, for purposes of emergency planning and response, a major earthquake near the San Onofre Nuclear Generation Station in California might cause a spent fuel cladding fire releasing approximately 40 million curies of Cs-137 and causing life-threatening radiation doses to people within a 10-mile radius. (U.S. NRC, Office of Nuclear Security and Incidence Response, RASCAL 3.0.5 Descriptions of Models and Methods, NUREG-1887, August 2007). By contrast, according to the same NRC document, a cask rupture would result in the release of 2,500 times less radioactivity. This was shown at Fukushima Da-Ichi where all nine dry spent fuel casks were unscathed by the earthquake and tsunami. (David Talbot, *The Case for Moving U.S. Nuclear Fuel to Dry Storage*, MIT Technology Review, April 14, 2011).

Petitioner therefore requests that DTE's ER should start with a clean slate and sponsor a proper investigation of the physics and chemistry of pool fires. The Fermi 2 spent fuel pool was designed to hold 2,300 units/assemblies. A projection of 2015 states it will be holding close to 4,600, twice what it was designed to hold. The transfer of fuel out of the Fermi 2 spent fuel pool has been hampered because the reactor was not built as designed. The welds were not properly done in 1970, and remedial recently 768 welds had to be done.

ENVIRONMENTAL CONTENTION NO. 6: MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS

Contention 6 deals with the inadequacies in DTE's response to U.S. NRC Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-

Design-Basis External Events (BDBEE)" (ML12054A736). As of November 25, 2013 DTE Electric had failed to implement the plan, as revealed in NRC Staff Evaluation (TAC No. MF0770)

DTE had not complied with the order and had three Open Items, "Open item – an item for which the licensee has not presented a sufficient basis for NRC to determine that the issue is on a path to resolution. The intent behind designating an issue as an open item is to document significant items that need resolution during the review process, rather than being verified after the compliance date through the inspection process." (TAC No. MF0770, page 6).

In addition to Open Items, the Fermi 2 plan had thirty-three (33) Confirmatory Items, which according to the TAC, "Confirmatory item – an item that the NRC considers conceptually acceptable, but for which resolution may be incomplete."

The Confirmatory Item (3.1.2 Flooding) states, "On page 1 of its Integrated Plan the licensee stated that Fermi Station is not a 'dry site.'" Section 1.2.2.3.5 of the UFSAR states that the site grade is at 583 ft. but the maximum Stillwater elevation, based on the probable maximum meteorological event is 586.9 ft...Therefore, the flooding hazards are applicable at Fermi Station."

Another safety concern is in regard to TAC no. MF07770, 3.1.4.4 Considerations in Using Offsite Resources which states, "The licensee's description of their plans for the use of offsite resources do not provide reasonable assurance that the plans will conform with NEI 12-06, Section 8.3.4 and Order EA-12-049 due to the absence of further details including a description of the methods to be used to deliver the equipment to the site." Petitioners stand that no license extension be considered until all these safety items are in place.

The Petitioner contends that "*Significant New Unknown and Unanalyzed Conditions*" directly pertaining to the Fermi Nuclear reactor, Unit 2 have been identified by the highly-respected U.S. National Academy of Sciences (NAS) in a major report released on July 24, 2014, months after the Applicant officially submitted/filed the Fermi, Unit 2 LRA. The Petitioner hereby submits the NAS report into the docket, as the NAS report is inherently within the Scope of the Fermi, Unit 2 LRA Safety Review.

Given the following facts:

- (a) the Fermi 2 LRA substantively fails to incorporate the analyses, recommendations and conclusions of the NAS study; and,
- (b) the NRC has not completed an anticipated comprehensive analysis and review of the NAS study in order to determine the best response and course of action; therefore, the above incongruous circumstances must be reconciled as a prerequisite for license renewal in order to necessarily maintain the values of credibility and intellectual honesty as a non-negotiable standard for LRA Safety Reviews, generally and specifically; so says the Petitioner.

Citation:

(U.S. National Academy of Sciences (NAS) Committee on the Implications of Fukushima Dai-ichi for U.S. GE Mark 1 and Mark 2 Boiling Water Reactors, report released on July 24, 2014.

The Applicant's Fermi 2's ER is inadequate and materially deficient because it fails to accurately and thoroughly provide a Severe Accident Mitigation Alternatives (SAMA) analysis that comprehensively addresses the well-known and unresolved design vulnerability of the GE Mark 1 BWR pressure suppression containment system, and any associated severe accident consequences.

In support of the above Contention, the Petitioner submits into the docket the following comments from the public record:

U.S. NRC Senior Official, Chuck Casto
NRC's Operation Center Fukushima Transcript, ML12052A108
March 16, 2011

CHUCK CASTO [Deputy Regional Administrator]: "[. . .] if we end up with a molten core and then you talk about the time for the concrete to disassociate, you know, that NUREG says it's a couple of inches an hour, you know. And, of course, that Mark 1 containment is the worst one of all the containments we have, and it's literally, you know, this NUREG tells you that in a station blackout you're going to lose containment. There's no doubt about it."

Also in support of this Contention, the Petitioner puts forth and believes the following to be factual based on the public docket:

- A) That Fermi, Unit 2's GE Mark 1 BWR design is similar to that of Fukushima Dai-ichi, with similar design flaws, including a very small containment volume.
- B) That the Fukushima Dai-ichi Lessons Learned, including station blackout, have not been incorporated into the Fermi 2 design.
- C) That higher power output levels at Fermi 2 increase the risk of core melt through because of reactor penetrations placed on the bottom of the reactor in the BWR design.
- D) That the NRC Staff has already indicated the necessity of hardened filtered vents for the GE Mark 1 BWR design.
- E) That the Fermi 2 Applicant/Licensee has not installed these recommended hardened vents.

Additionally, in support of this Contention, the Petitioner submits into the docket the following article:

"*Nuclear Safety: Jaczko Calls for Phase-out in US, Says Plants Aren't Safe,*"
Stephanie Cooke, *Nuclear Intelligence Weekly*, March 29, 2013.

The overwhelming weight of evidence presented in the cited article, including statements

attributed to two former NRC Commissioners including a former Chairman, argues strongly and compellingly for an extremely cautionary approach to any further reactor License Renewal Applications.

ENVIRONMENTAL CONTENTION NO. 7: AGING MANAGEMENT PLAN DOES NOT ADEQUATELY INSPECT AND MONITOR FOR LEAKS

Contention

The Aging Management program proposed in the DTE Electric Company (hereafter, DTE) lines extension application for the Fermi 2 nuclear reactor is inadequate because (1) it does not provide for adequate inspection of all systems and components that may contain radioactively contaminated water and (2) there is no adequate monitoring to determine if and when leakage from these areas occurs. Some of these systems include underground pipes and tanks which the current aging management and inspection programs do not effectively inspect and monitor.

The Contention is within the Scope of these proceedings

This Contention raises concerns of inspection of underground leaks: Pertaining, in part, to buried pipes and tanks that fall within those described in 10 CFR part 54, as follows: The Aging Management Plan (AMP) program, as proposed by the Applicant, is inadequate with regard to aging management of buried pipes and tanks that contain radioactively contaminated water, because the AMP program does not provide for adequate monitoring wells that would detect leakage. Furthermore, the Petitioner contends that the Aging Management Plan does not adequately inspect and monitor for leaks in all buried systems and components within scope or in the partially buried sections of systems and components within scope, to include not only buried components that may contain radioactive liquids but also the buried pipes and tanks for the fuel oil system, the station blackout diesel generator system, the fire protection system and the water inflow piping that do not contain radioactive material but are within scope.

10 CFR § 2.309(f)(iii) requires that the Petitioner “Demonstrate that the issue raised in the contention is within the scope of the proceeding.” In proceedings concerning the renewal of an operating license, the scope is limited to “a review of the plant structures and components that will require an aging management review for the period of extended operation and the plant’s systems, structures, and components that are subject to an evaluation of time limited aging analysis.” *See Florida Power and Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 and 4), CLI-00-23, 52 NRC 327, 329 (2000). The inspection and monitoring program for corrosion of systems and components containing radioactive water is within the scope of these proceedings.

In reactor license renewals, 10 CFR § 54 requires the Applicant to submit as part of its application an Aging Management Program for all passive systems at the facility, which includes the methods they use to monitor the condition of important equipment so that they can make

repairs and replacements before safety margins are compromised. In order to renew its license for another 20 years, Fermi 2/DTE is required, under 10 CFR § 54.21 to demonstrate that for each structure and component identified in that section the effects of aging will be adequately managed for the period of extended operation. The Fermi 2 Nuclear Power Plant Application for License Renewal (Application) includes a list of systems that require aging management. Among them are pipes and tanks. The aging of materials is important during the period of extended operation of a plant applying for license renewal because certain components may have been designed upon an assumed service life. *Florida Power and Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-01-17, 54 NRC 3, 7 (2001). Deficiencies in the Aging Management Plan that encompass the detection of leaks in systems containing radioactive water could endanger the safety and welfare of the public and are therefore within the scope of a re-licensing hearing.

The issue raised in the Contention is Material to the findings of these proceedings.

10 CFR § 1.309(f)(iv) requires that the Petitioner, “Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceedings.” In discussing the materiality requirement, the Atomic Safety and Licensing Board (ALSB) considering the license renewal for Millstone Nuclear Power Station stated, “In order to be admissible, the regulations require that all contentions assert an issue of law or fact that is material to the outcome of a licensing proceeding; that is, the subject matter of the contention must impact the grant or denial of a pending license application. When a contention alleges a deficiency or error in the application, the deficiency or error must have some independent health and safety significance.” *In the Matter of Dominion Nuclear Connecticut, Inc.* (Millstone Nuclear Power Station, Units 2 and 3) Docket Nos. 50-336-LR ASLBP No. 04-824-01-LR July 28, 2004, p. 7. *See Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 NRC 142, 179-80 (1998), *aff’d* in part, CLI-98-13, 48 NRC 26 (1998). The sufficiency of the Aging Management Plan for detecting possible leaks in systems and components that contain radioactive water is material to the renewal of this license because that deficiency could significantly impact health and safety.

There is a Substantial Basis for this Contention

As described below, recent events around the country have demonstrated that leaks of underground pipes and tanks can result in the release of massive amounts of radioactive materials into the ground water. Exposure to this radiation can be a threat to human health, and is a violation of NRC Regulations. Because older plants are more likely to experience corrosion and leakage problems, and low energy radionuclides can speed up the rate of corrosion, Fermi 2 should be required, as part of its Aging Management Program, to adequately inspect and monitor any systems and components that carry radioactive water. The Aging Management Plan should be revised to include this inspection and monitoring before a license renewal is granted.

Petitioner maintains that neither the AMP program for buried pipes and tanks, nor the inspections and tests performed as part of routine maintenance and operation, provide reasonable assurance that the effects of aging will be managed such that the buried pipes within scope and

under consideration will perform their intended functions consistent with the current licensing basis for the period of extended operation. Therefore in order to protect public safety, the aging management program must be enhanced or supplemented with: (1) a more robust inspection system; (2) cathodic protection; (3) a base line inspection prior to license extension; and (4) an effective monitoring well program, or the Application must be denied.

It is also the position of the Petitioner that the adequacy of the AMP program must not be judged simply on whether it provides "reasonable assurance" that the components will not leak so much as to cause a design-basis failure, but, rather, whether the standard is to "reasonably assure" that the Current Licensing Basis (CLB) will be maintained throughout the renewal period based upon 10 CFR § 54.21 and 10 CFR § 54.29.

The Petitioner notes the following process requirements: (1) The Applicant has the burden of proving "reasonable assurance" by a clear preponderance of the evidence. *Metropolitan Edison Co. (Three Mile Island Nuclear Station, Unit 1)*, ALAB-697, 16 NRC 1265, 1271 (1982) (citing 10 CFR § 2.325). (2) Proving "reasonable assurance" with a "clear preponderance" of the evidence [*North Anna Envtl., Coalition v. NRC*, 533 F. 2d 655, 667-68 (D.C. Cir. 1976)] is a two-step process.

Consequently, without defining what level of assurance is "reasonable assurance," there is no way in which any Board or the NRC Commission can determine whether any Applicant or Licensee has proved, by a "clear preponderance," that an undefined standard has been met. In other words, if the standard for "reasonable assurance" is not defined, there is no way to determine if a "clear preponderance of the evidence" shows that the standard of "reasonable assurance" will be met.

As a result, the Petitioner requests a public hearing to contend the above Process Issue, which is, indeed, "an issue of law or fact that is material to the outcome of a license proceeding; that is, the subject matter of the contention must impact [and does impact] the grant or denial of a pending license application." (*Millstone, supra* at 7, and *see Private Fuel Storage, supra* at 179-180).

ENVIRONMENTAL CONTENTION NO. 8: SEVERE ACCIDENT MITIGATION ALTERNATIVES (SAMA) ARE MATERIALLY DEFICIENT

Contention 8 is regarding Severe Accident Mitigation Alternatives (SAMA) analysis: Pertaining to critical input data, as follows: The Applicant's Fermi, Unit 2 LRA Environmental Report (ER) and SAMA analysis are materially deficient in that the input data concerning evacuation time estimates (ETE) and economic consequences are incorrect, resulting in incorrect conclusions about the costs versus benefits of possible mitigation alternatives, such that further analysis is called for under NEPA.

Basis:

The first issue to address is Meteorology: The Fermi, Unit 3 COLA (Part 5, Appendix 4 "Emergency Plan: Radiological Monitoring and Assessment," Feb. 2014) incorporates the Raddose-V software program to "provide real-time (as the release is occurring), site specific predictions of atmospheric transport and diffusion . . . determined using a *variable trajectory* plume simulation model, along with real-time or simulated scenario meteorological data. . . . Raddose-V is currently in-use at the Fermi site [that is, Fermi, Unit 2]." (Emphasis added). The Petitioner agrees that the "variable trajectory" plume distribution model is more realistic and appropriate for the Fermi site than a "straight-line Gaussian" model would be, due to the Fermi site's lakeshore and riverside location (see, for example, Dr. Bruce Egan's testimony in support of the New York Attorney General's Intervention against the Indian Point LRA); however, the Petitioner contends that, for the same reason, the Fermi site's location necessitates a wider (larger) Emergency Planning Zone (EPZ) than is currently proposed by the Applicant and endorsed by the NRC. A "variable trajectory" model recognizes the uncertainties of predicting plume behavior, especially near bodies of water, and the Fermi site is also located near many major metropolitan urban communities. In other words, a "variable trajectory" model and a larger EPZ go hand-in-hand. Thus, while the Applicant's SAMA analysis assumes a 10-mile EPZ probabilistic model, the Petitioner contends that a 50-mile EPZ would be a more realistic and appropriate starting point for Fermi, Unit 2's location and would, importantly, yield different results. In fact, the Petitioner asserts that the Applicant's arbitrary and unrealistic EPZ probabilistic modeling served conveniently for underestimating and minimizing projected consequences of a Severe Accident.

Also needing a more in-depth NEPA evaluation is DTE's Evacuation Time Estimates (ETE): The Applicant's evacuation time estimates are unrealistically low because the estimates rely on (1) an arbitrary and scientifically inappropriate probabilistic model for the Fermi site --- a 10-mile EPZ and minimal "shadow evacuation zone" and (2) the incorrect and unwise assumption that not everyone within ten miles of the Fermi site would have to evacuate, rather only those in the peak radiation plume. The Applicant minimized "shadow evacuation" of those outside the 10-mile EPZ, and the Applicant's ETE input parameters failed to consider instances of serious road construction delays, severe snow conditions (beyond 20% impairment), and other pertinent factors including questionable local preparedness response capabilities required by 10 CFR 50.47(b)(1). Even after the Fukushima Dai-ichi disaster proved that the EPZ should be significantly expanded, the Applicant's analysis relies on the inappropriate, absurd and discredited 10-mile EPZ --- see *Endnote*. Ironically: (a) the NRC's inconsistent guidelines (Dec. 2013) require Emergency Planning within fifty (50) miles of each plant for preventing the ingestion of releases, "such as through bans on contaminated food and water," according to the Congressional Research Service (Jan. 2014); and, (b) while the Raddose-V program is capable of calculating deposition at receptors in the 50-mile ingestion pathway, which appears to include, in the U.S., about 8 counties in Michigan and 8 counties in Ohio, the Applicant's Emergency Plan executes arrangements in support of emergency preparedness with only two county governments -- Monroe Co. and Wayne Co., Michigan, although both Ohio and Canada are within the 50-mile affected radius. Thus, the Petitioner contends that the Applicant's Emergency Plan is inadequate, and, therefore, requests a more realistic look at a potential disaster that could displace millions of people from their homes.

Another faulty issue in the Fermi 2 license extension application is Economic Consequences. The Applicant's cost calculations assume an arbitrary and scientifically inappropriate EPZ probabilistic model for the Fermi site and, as a result, that a radiological release will affect only a relatively small area. Proper inputs specific to the Fermi site indicate a far larger affected area -- -- potentially including the densely populated centers of Metro Detroit (MI), Ann Arbor (MI), Monroe (MI), Toledo (OH) and Windsor (ON); such scenarios would result in longer evacuation times and greater costs and consequences.

Radiation plume exposure from a prolonged or delayed evacuation and consequent projected *health-related costs* in the affected population *would be greater* if an appropriate probabilistic model and correct input parameters were used in the Applicant's ETE. The Petitioner contends that realistic and reasonably foreseeable scenarios were ignored or underestimated by the Applicant's cost-benefit analysis. Importantly, a proper SAMA analysis significantly affects whether local communities will receive commensurate safety enhancements. Furthermore, the Petitioner contends that actual long-term recovery, remediation and redevelopment costs in a Severe Accident could be astronomical and that no reliable or credible cost analysis currently exists, given the uncertainties about long-term habitability criteria and cleanup standards. Therefore, the Petitioner contends that the development of a long-term cleanup policy and strategy must be completed as a prerequisite for any further licensing or relicensing actions.

The Petitioner has a contrarian point of view on the basic validity of the MACCS and MACCS2 codes as a proper diagnostic tool to assess economic costs and consequences. The Petitioner refers to expert testimony supporting Pilgrim Watch's Petition to Intervene against the PNPS LRA: David Chanin, who coded the cost model of the MACCS and MACCS2, stated (Chanin Declaration for Pilgrim Watch, June 2007, ML071840568) that, "I have spent many many hours pondering how MACCS2 could be used to calculate economic costs and concluded it was impossible. (and) Speaking as the sole individual who was responsible for writing the FORTRAN in question, which was done many years prior to my original work in SAND 96-0957, I think it's foolish to think that any useful cost estimates can be obtained with the cost model built into MACCS2. The economic cost numbers produced by MACCS2 have absolutely no basis. If you want to discuss economic costs, I'd be glad to discuss SAND 96-0957, but the "cost model" of MACCS2 is not worth anyone's time."

For a cost analysis which supports the Petitioner's argument, the Petitioner points to Sandia National Laboratory's CRAC-2 Report, "Calculation of Reactor Accident Consequences," (1982). The report stated that a core meltdown at Fermi, Unit 2 would have the following consequences: 8,000 "Peak Early Fatalities," 340,000 "Peak Early Injuries," 13,000 "Peak Deaths from Cancer," and \$136 billion in property damage costs. Note that these 1982 numbers are unadjusted for demographic and monetary inflation trends and do not account for the current or foreseeable amount of spent fuel stored onsite.

Thus, given all of the above, the Petitioner contends that there are facts at issue which can affect whether or not a particular SAMA or mitigation is cost-effective, and, therefore, further analysis is called for.

Respectfully, the Petitioner requests a public hearing to contend that the SAMA analysis included in the Applicant's Environmental Report (ER) is incomplete and deficient. Not only does the probabilistic modeling for Severe Accidents artificially make consequences appear insignificant, the Applicant has also entered incomplete and incorrect input parameters into the computer code. The Petitioner contends that the Applicant has drastically undercounted the costs of a Severe Accident and, therefore, could have been led to erroneously reject mitigation alternatives. Therefore, further analysis is called for as a recognized remedy under NEPA.

Endnote:

Elaborating on the inadequacy of the 10-mile Emergency Planning Zone (EPZ) as a probabilistic model or tool for properly estimating reasonably foreseeable costs and consequences of a Severe Accident, the Petitioner submits the following statement from the public record:

<http://www.state.gov/p/eap/rls/rm/2011/03/158441.htm>

Statement by U.S. Ambassador John V. Roos on Japan's Earthquake and Tsunamis
Remarks (excerpt) - Tokyo, Japan

March 16, 2011

“The United States Nuclear Regulatory Commission (NRC), the Department of Energy and other technical experts in the U.S. Government have reviewed the scientific and technical information they have collected from assets in country, as well as what the Government of Japan has disseminated, in response to the deteriorating situation at the Fukushima Nuclear Power Plant. Consistent with the NRC guidelines that apply to such a situation in the United States, we are recommending, as a precaution, that American citizens who live within 50 miles (80 kilometers) of the Fukushima Nuclear Power Plant evacuate the area or to take shelter indoors if safe evacuation is not practical.

We want to underscore that there are numerous factors in the aftermath of the earthquake and Tsunami, including weather, wind direction and speed, and the nature of the reactor problem that affect the risk of radioactive contamination within this 50 mile (80 km) radius or the possibility of lower-level radioactive materials reaching greater distances.”

ENVIRONMENTAL CONTENTION NO. 9: QUALITY ASSURANCE IS FAULTY

The Petitioner requests a public hearing to consider the following Contention pertaining to a fundamental and egregious failure of Safety-Related Quality Assurance which occurred during a 20-year-period from 1986 to 2006 at the Fermi Nuclear Power Plant, Unit 2 and which remains unresolved to this day in the eye of the public, thus warranting a fresh, "hard look" as part of any credible NEPA Review or Safety Review process associated with the Fermi, Unit 2 LRA; and, therefore, the Petitioner respectfully argues that this Item is well within the Scope of Consideration for the LRA Review and is Material to the proceeding.

In support of this Contention, the Petitioner submits into the docket the following landmark study by the Union of Concerned Scientists (UCS):

Futility at the Utility: How Use of the Wrong Answer Key for Safety Tests Went Undetected for 20 Years at Fermi Unit 2, David Lochbaum, Director, Nuclear Safety Project, Union of Concerned Scientists (UCS), February 2007.

The cited UCS report documents an inexcusable fiasco involving Detroit Edison (now the Applicant: DTE Electric Co.) and the U.S. NRC in tandem. For two decades, the Fermi 2 Licensee repeatedly tested the emergency diesel generator (EDG) protection safety system using the wrong answer key, resulting in the operation of Fermi, Unit 2 with inaccurate technical specifications. As a result of gross negligence, incompetence, and pervasive mismanagement at Detroit Edison, by employees who have not been held properly accountable and are probably currently involved with promoting the License Renewal, fundamental "process flaws" went undetected and uncorrected, creating new problems and sustaining old ones. Ominously, the root-cause of this fiasco remains unresolved and continues to constitute a systemic failure of regulatory oversight, as well as an ongoing weakness throughout the entire reactor fleet. Therefore, the Petitioner contends that this issue must be revisited through an independent process, as the NRC Staff continues to fail to recognize the significance of the problem. The Petitioner requests an ASLB recommendation to refer this issue to an *independent body* for further analysis as called for.

Whereas, the contemptible executives and officers of DTE Electric Co. will surely shirk their individual and corporate responsibility by not initiating such a review, the Petitioner therefore requests a public hearing to seek an ASLB ruling and recommendation demanding a comprehensive reassessment modeled according to the principles of 10 CFR 50.59.

ENVIRONMENTAL CONTENTION NO. 10: SAFETY ASSURANCE VIOLATION.

The Petitioner requests a public hearing to consider the following Contention pertaining to ensuring compliance with reasonable safety and security standards, precautionary principles, and administrative controls and procedures at the Fermi Nuclear Power Plant, Unit 2, in order to prevent a potentially significant unauthorized release over the entire licensed life for operations of the reactor.

Safety/Security and Quality Assurance Violation:

The Petitioner's forward-looking, long-term confidence in the Applicant/Licensee has been severely compromised by a recent incident at the Fermi Nuclear Power Plant, Unit 2, which resulted in the U.S. NRC putting DTE Electric Co. on probation for significantly violating the NRC's security requirements at a Greater than Green level, thus initiating an escalated enforcement action. The regulatory compliance violation happened during a February 2014 inspection that could have resulted in unauthorized and unmonitored access to a protected area, according to an NRC report. As a result of the investigation and finding, Fermi, Unit 2 will move down in the plant ranking system from the licensee response column to the regulatory

response column for the rest of this year (2014). The irony is that the probationary period is ongoing concurrently, even as DTE pushes forward with the Fermi, Unit 2 LRA as well as the Fermi, Unit 3 COLA.

Citation: May 29, 2014

EA-14-022; Final Significance Determination of a Greater than Green Finding and Notice of Violation; NRC Inspection Report No. 05000341/2014407; Fermi Power Plant Unit 2 (Cover Letter Only & Enc. 1) ADAMS Accession Number ML14150A041

The Petitioner contends that the above Security Violation represents more than a Security matter; rather, the Violation represents a fundamental Quality Assurance deficiency reflected in the Applicant/Licensee's incomplete License Renewal Application. This Contention identifies a significant site safety and radiation protection Matter ("*Significant New Unknown and Unanalyzed Conditions*") which deserves further analysis and reevaluation at a higher level of scrutiny than is currently being applied by the NRC Staff. In other words, the situation calls for pro-active and prescient measures; in practical terms, the ASLB must prudently recommend invoking a safety review process modeled according to the principles of 10 CFR 50.59, which would entail, in part, evaluating the severity of an accidental release, dose analysis, consideration of human factors and no more "unreviewed safety questions." Alternatively, simply citing a violation and enforcing a piecemeal correction is not adequate to close the issue. This Open Item remains unresolved and requires a fresh, "hard look."

Furthermore, the Petitioner requests a public hearing to contend that full and complete resolution of the above Open Item must be a prerequisite for issuance of the Fermi, Unit 2 License Renewal. The Petitioner respectfully calls upon the ASLB to assert and effectively promote a "safety culture" at the regulatory agency and to challenge those who advocate for less than the highest standard of safety, security and environmental compliance.

ENVIRONMENTAL CONTENTION NO. 11: DTE'S ER IGNORES PUBLIC HEALTH DATA

The Petitioner requests a public hearing to consider the following Contention pertaining to "*Significant New Unknown and Unanalyzed Conditions*" reflected by the Applicant/Licensee's incomplete and obsolete analysis of public health impacts of authorized, routine, by-design radioactive releases by Fermi, Unit 2 into the surrounding environment.

The Petitioner contends that the Applicant's ER fails to consider new and updated public health data, unavailable at the time of issuance of the original Operating License; further, the Petitioner contends that the Applicant fails to adequately consider Mitigation Alternatives which could significantly reduce the alleged significant environmental and public health impact of Fermi, Unit 2 operations. Therefore, the Petitioner invokes NEPA requirements and contends that further analysis is called for.

In support of this Contention, the Petitioner submits into the docket the following public health

impacts study by the Radiation and Public Health Project (RPHP):

Potential Health Risks Posed By Adding A New Reactor At The Fermi Plant: Radioactive contamination from Fermi 2 and changes in local health status, pages 1 - 21, January 10, 2012, Joseph J. Mangano, MPH, MBA, Executive Director, Radiation and Public Health Project (RPHP).

http://www.beyondnuclear.org/storage/Mangano_corrected_Fermi_report_Jan_11_2012.pdf

Additionally, making the case for scope and material relevance, the Petitioner submits revised excerpts from the following press release issued by the Fermi, Unit 3 COLA Intervenors:

February 2, 2012

NEW REPORT SHOWS INCREASE IN CANCERS AND MORTALITIES SINCE FERMI 2 NUCLEAR PLANT START UP

Thursday -- Monroe, MI -- A new report submitted to the U.S. Nuclear Regulatory Commission (NRC) shows dramatic increases in cancer and mortalities in Monroe County since the start-up of the Fermi 2 nuclear plant. Using data from the Centers for Disease Control and Prevention (CDC), the report was prepared by Joseph Mangano, MPH, MBA, Executive Director of the Radiation and Public Health Project (RPHP).

One of the most shocking statistics shows that cancer death rates of young people (up to age 24) living in Monroe County exceeded the U.S. national rate by 28% from 1985 to 2008, a large shift from 1979 to 1984, when the county rate was 24% below the national average. Cancer death rates for 25 to 44 year olds in Monroe County also jumped, from 22% below the U.S. national average to 4% above the national average. In 1985, Fermi 2 loaded fuel and began low power testing; full commercial operation began in January 1988.

There were nineteen (19) health indicators reviewed including infant mortalities, low birth weights and hospitalizations that showed increased incidence in Monroe County, compared to the U.S. national average. Ten (10) of these indicators were statistically significant, and four (4) others approached significance.

"These patterns in Monroe County raise serious questions about whether emissions from Fermi 2 harmed local residents," says Joseph Mangano. "Before any decision is made on the future of Fermi 3, unusual health patterns such as these must be studied thoroughly by federal and state health officials, and findings reported to the public," Mangano concluded.

Nuclear power plants emit numerous radioactive isotopes not only from accidents, but also as part of routine "normal" operations. In 2002, Fermi 2 was 10th highest in the U.S. for airborne emissions of Iodine-131 and 7th highest for Strontium-89. In 2007, Fermi 2 was 13th highest in emissions of Tritium. Fermi 2 experienced a serious accident Christmas Day 1993 that resulted in a discharge of two million gallons of slightly radioactive water into Lake Erie. The drinking water intakes for the City of Monroe and Frenchtown Township are located 1/4 mile downstream

from the plant. Radioactive isotopes can bio-accumulate and bio-concentrate in the food chain much like DDT, PCB's and dioxins.

The Mangano Report was prepared for submissions to the U.S. Nuclear Regulatory Commission (NRC) during the proposed Fermi 3 nuclear plant Draft Environmental Impact Statement (DEIS) public comment period. Mangano calls for more study before approval of a new Fermi 3 nuclear plant that is proposed adjacent to Fermi 2 and the closed Fermi 1. For these reasons, a growing Coalition of Fermi 3 Intervenors has called for Baseline Health Studies of Monroe County in order that elevated cancers from a proposed Fermi 3 could be measured.

The Mangano findings regarding Fermi 2 are consistent with studies from around the world, including:

A recent French study on childhood leukemia, posted at:

<http://www.beyondnuclear.org/home/2012/1/12/french-study-finds-childhood-leukemia-doubled-around-nuclear.html>

And the 2008 German study on childhood leukemia, posted at:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2696975/?tool=pubmed>

Both of these studies report elevated incidence of cancers associated with proximity to nuclear power plants.

All DEIS Public Comments (more than fifty) are in process of being posted at:

<http://www.beyondnuclear.org/home/2012/1/27/resistance-to-fermi-3-proposed-new-esbwr-targeted-at-monroe.html>

ENVIRONMENTAL CONTENTION NO. 12 ; THERMAL DISCHARGE INCREASE ALGAE BLOOMS

Petitioner's request a public hearing to examine the impact of daily thermal discharges from Fermi 2 as an accelerator and contributor to harmful algal blooms (HABS). The Fermi 2 releases 45 million gallons of water per day into Lake Erie. This thermal discharge averages 18 degrees (F) above ambient lake temperature 365 days per year.

Petitioner's contend that the Applicant's Environmental Report (ER) fails to consider new and updated environmental and public health data, unavailable at the time of issuance of the original Operating License; further, the Petitioner contends that the Applicant fails to adequately consider Mitigation Alternatives which could significantly reduce the alleged significant environmental and public health impact of Fermi, Unit 2 operations. Therefore, the Petitioner invokes NEPA requirements and contends that further analysis is called for.

Illustration:

Petitioner puts forth the following NOAA Satellite Image of Lake Erie from August 10, 2014, <http://coastwatch.glerl.noaa.gov/webdata/cwops/html/modis/modis.php?region=e&page=1&template=sub&image=a1.14222.1852.LakeErie.143.250m.jpg> to illustrate how severe the algal bloom crisis has become.

Scope and Materiality:

In support of this Contention, the Petitioner submits into the docket the following analysis from the U.S. NRC, pertaining to the Fermi 2 Nuclear Reactor:

- The U.S. Nuclear Regulatory Commission (NRC) has stated in Draft NUREG-2105, volume 1, October 2011, page 2-228: "Public and occupational health can be compromised by activities at the Fermi site that encourage the growth of disease-causing microorganisms (etiological agents). Thermal discharges from Fermi into the circulation water system and Lake Erie have the potential to increase the growth of thermophilic organisms. These microorganisms could give rise to potentially serious human concerns, particularly at high exposure levels." (Emphasis added).

Basis:

The Governor of the State of Ohio recently declared a "State of Emergency" (summer 2014) in response to a clean drinking water supply crisis in and around the City of Toledo, Ohio. There is no doubt about the significance of this public health crisis. To what extent does the thermal loading resulting from Fermi 2 continued operations contribute to and accelerate this crisis, and what are the prospects for the future. Petitioner contends that one significant contributing factor is in fact the routine, thermal discharges from Fermi Unit 2 which add cumulative stress impacts to the fragile ecosystem of Lake Erie's shallow western basin and shoreline. Lake Erie already suffers from numerous environmental stressors, including pollution from agricultural runoff (such as phosphorus), sewage overflows and routine, authorized releases of industrial toxic chemicals (including releases originating from Fermi, Unit 2).

In addition, thermal pollution from nearby power plants is a known contributing factor to the conditions which produce toxic algal blooms and consequent hypoxic dead zones. The exact and precise extent to which Fermi, Unit 2 normal operations are directly causative, not just correlative, of significant environmental and public health impacts is "*unknown and unanalyzed*." Therefore, the Petitioner hereby invokes NEPA requirements and contends that a "hard look" and further analysis is called for, as a precondition for approval of the Applicant's Fermi, Unit 2 License Renewal Application (LRA).

ENVIRONMENTAL CONTENTION NO. 13: INADEQUATE RADIATION PROTECTION STANDARDS.

The following Contention pertains to inadequate environmental radiation protection standards for nuclear power operations at the Fermi Nuclear Power Plant, Unit 2. The Petitioner seeks an ASLB recommendation to the NRC Commission to issue an Order to independently assess the adequacy of current and proposed U.S. EPA guidelines.

Citation:

40 CFR 190 EPAHQ OAR 2013-0689; FRL-9902-20OAR "Environmental Radiation Protection Standards for Nuclear Power Operations," U.S. Environmental Protection Agency (EPA).

If EPA issues new radiation exposure guidelines for nuclear facilities, it needs to protect women and children, particularly the vulnerable female infant, from exposure. Current EPA standards do not do this.

EPA itself recognizes that ". The risk per unit dose [for radiation induced cancer] has generally increased over the years." This is why it is important that human health, not the financial health of the nuclear industry, drive any changes that EPA makes to radiation exposure standards. Any changes need to not only reflect this increase risk per unit dose, but also need to protect humans during their most vulnerable life stage: childhood.

The current EPA averaged risk of cancer could underestimate the risk to children and infants by 2-5 times, possibly more. A female infant is seven times more vulnerable than an adult male. Since she is the most sensitive to radiation, the standards should be set to protect her. Falling short of this goal would fail to afford the female infant the equal protection she deserves.

EPA must also begin to integrate longer-term strategies for assessing multi-generational impacts of chronic exposure to low radiation doses. These impacts, although they show up much more slowly, could represent a weakening of the human genome and an increase in diseases such as cystic fibrosis, muscular dystrophy, neural tube defects, congenital heart defects, coronary heart disease, essential hypertension, diabetes mellitus and more. Cancer isn't the only disease endpoint EPA should be considering, especially since artificial radioactivity has been continually released for three or four generations now.

If EPA turns a blind eye to longer-term genetic impacts, or refuses to set standards to protect the female infant, it will fail in its duty to protect public health and the environment. It will instead be allowing industry to "take" the health of our children in service of industry profits.

ENVIRONMENTAL CONTENTION NO. 14: FERMI DOES NOT MEET EPA STANDARDS

The Petitioner hereby requests a public hearing before the ASLB Panel to respectfully Appeal for Reconsideration a misguided previous ruling which is described in this Contention and which pertains directly and materially to the Scope of this relicensing action.

Submitted for Reference:

---- The Petitions, Contentions and legal filings pertaining to a Petition to Intervene (Contentions 1 - 5) and subsequent adjudication, in the Matter of the Pilgrim Nuclear Power Station (PNPS) License Renewal Application (2006 -) -- Docket No. 05000293 (including Pilgrim Watch's Motion to Intervene, Contention 4, May 2006 - ADAMS Accession Number ML061630125). Petitioners included Pilgrim Watch (<http://www.pilgrimwatch.org>) and the Commonwealth of Massachusetts Office of Attorney General.

Basis:

The ASLB and the NRC Staff have failed to apply their own rules and regulations pertaining to Severe Accidents involving spent fuel pools, which are vulnerable structures integral to a facility's normal operation. Consistently and incorrectly, the NRC has argued that all spent fuel issues are Category 1 and, therefore, "off the table" for practical purposes, having been generically resolved for all plants and not subject to further analysis in any relicensing proceeding. However, the NRC Rules say otherwise. The NRC applies the wrong section of the Rules and consequently misinterprets the whole regulation. The correct and appropriate interpretation of 10 CFR 51.53 is found in Section 5, not Section 6, in NUREG - 1437 (GEIS). Section 6 of the GEIS specifically deals with "The Uranium Fuel Cycle and Solid Waste Management" under *normal* operations; Section 5 deals with "Environmental Impacts of Postulated Accidents," including Category 1 generic "Design-Basis Accidents" and Category 2 site-specific "Severe Accidents." Section 5 includes definitions of "severe" and "accident" and does not limit these to reactor core accidents. Section 5 focuses on potential *consequences* to determine whether or not a potential accident is severe ---- and, thus, under Section 5, spent fuel pool fires are a Category 2 issue, within the Scope of a site-specific Severe Accident Mitigation Alternatives (SAMA) analysis and, therefore, are a fundamental part of an Applicant's Environmental Report (ER) and subject to NEPA review and remedy. In other words, it is the consequences of an accident, not the source or cause, which determines whether such accident is properly categorized as "Severe."

Of course, spent fuel pools typically contain a large inventory of high-level radioactive waste (HLRW) with an inherent and undisputed potential for catastrophic consequences in the context of an accident; ironically, a spent fuel pool event could conceivably cause a reactor core accident, thereby greatly magnifying cumulative consequences. Thus, the idea that a spent fuel pool is somehow outside the realm and scope of a SAMA analysis and that even if mitigation alternatives are readily available and cost-effective (which they are) the plant nevertheless need not consider them, is ridiculous and absurd.

As a consequence of several re-racks implemented as part of an extremely misguided, NRC-endorsed policy, the Fermi, Unit 2 spent fuel pool currently stores approximately twice the amount of spent fuel as it was originally designed to hold (4600 vs. 2300 design), resulting in a precariously vulnerable condition which must be actively managed at all times. Adding to the danger is the fact that the GE Mark 1 BWR design locates the spent fuel pool on the 5th floor, in an elevated, structurally vulnerable position.

Under 10 CFR 2.309, a Petitioner is required to show that the issue raised in a Contention is

within the Scope of the proceeding. Contentions that seek compliance with NEPA must be based on the Applicant's Environmental Report (ER). (10 CFR 2.309(f)(2)). Under 10 CFR part 51 (c)(3)(ii), the Applicant is required to provide an ER that contains analyses of the environmental impacts of the proposed action associated with license renewal and the impacts of operation during the renewal term for those issues identified as Category 2 issues. "Severe Accidents" are listed as a Category 2 issue in the applicable section on "Postulated Accidents." Contentions implicating Category 2 issues ordinarily are deemed to be within the Scope of License Renewal proceedings. *See Turkey Point, supra* at 11-13.

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The Fermi Petitioner contends that the Applicant's Environmental Report (ER) utterly fails to address Severe Accident Mitigation Alternatives which could substantially reduce the risks and consequences associated with onsite storage of high level radioactive waste (HLRW), especially, spent fuel pool water loss and fires.

CONCLUSION OF CONTENTIONS

The contention rule is not a "fortress to deny intervention." *Matter of Duke Energy Corp.* (Oconee Nuclear Power Plant), 49 NRC at 335 (quoting Philadelphia *Elec. Co.* (Peach Bottom Atomic Power Station, Units 2 and 3), 8 AEC 13, 20-21 (1974), *rev'd in part*, CLI-74-32, 8 AEC 217 (1974) *rev'd in part*, York Committee for a Safe Environment v. NRC, 527 F.2d 812 (D.C. Cir. 1975). There is no requirement that the substantive case be made at the contention stage. *Matter of Entergy Nuclear Generation Co., et al.* (Pilgrim Nuclear Power Station), 50-293-LR (ASLB Oct. 16, 2006), 2006 WL 4801142 at (NRC) 85 (quoting *Oconee*, 49 NRC at 342).

The Commission has explained that the requirement at § 2.309(f)(1)(v) 'does not call upon the Intervenor to make its case at [the contention] stage of the proceeding, but rather to indicate what facts or expert opinions, be it one fact or opinion or many, of which it is aware at that point in time which provide the basis for its contention.' A petitioner does not have to provide a complete or final list of its experts or evidence or prove the merits of its contention at the admissibility stage. And, as with a summary disposition motion, the support for a contention may be viewed in a light that is favorable to the petitioner, so long as the admissibility requirements are found to have been met. The requirement '*generally is fulfilled when the sponsor of an otherwise acceptable contention provides a brief recitation of the factors underlying the contention or references to documents and texts that provide such reasons.*' (Emphasis supplied)

The Petitioners' recitation in support of its contentions is not brief; Contention One is valid because it documents the evidence of DTE's poor consideration of wind power as a serious alternative to the continuation of the Enrico Fermi 2 operation from 2025 to 2045 is overwhelming. The ER fails the standards of NEPA, and as well, NRC regulations and case law interpretations. Petitioners seek admission as intervenors in this relicensing to set the record straight, and to prove that the licensee must take a hard look at far more than it has revealed so

far in its perfunctory ER. The presumption that an operating Fermi 2 nuclear reactor is the best that can be done respecting the environment is therefore less supportable than ever.

All other contentions are equally valid, if not as lengthy presented.

Wherefore, Petitioners pray the Commission admit their contentions for hearing.

/Signed by Jessie Pauline Collins & submitted by Digital Certificate Pro Se on behalf of
Petitioners/

Jessie Pauline Collins

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Certificate of Service

I hereby certify that on 18 August 2014, I electronically filed the foregoing Petition with the electronic filing system of the U.S. Nuclear Regulatory Commission and that all persons and parties of record were electronically served.

Jessie Pauline Collins, pro se Counsel for Petitioners