



10 CFR 51.45
10 CFR 52.77

June 21, 2012
NRC3-12-0022

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

- References:
- 1) Fermi 3
Docket No. 52-033
 - 2) Letter from Bruce Olson (USNRC) to Peter W. Smith (Detroit Edison),
"Request for Additional Information Letter No. 76 Related to the Need for
Power for the Environmental Review of the Fermi, Unit 3 Combined License
Application," dated June 1, 2012
 - 3) Letter from Peter W. Smith (Detroit Edison) to USNRC, "Detroit Edison
Company Response to NRC Request for Additional Information Letter No. 76,"
NRC3-12-0020, dated June 20, 2012

Subject: Detroit Edison Company Supplemental Response to NRC Request for
Additional Information Letter No. 76

In Reference 2, the NRC requested additional information to support the review of certain portions of the Fermi 3 Combined License Application (COLA). The response to the Request for Additional Information (RAI) was submitted in Reference 3. As a result of a telephone discussion with NRC staff on June 21, 2012, Detroit Edison is providing a supplemental response to Reference 2 in Attachment 1 of this letter.

If you have any questions, or need additional information, please contact me at (313) 235-3341.

I state under penalty of perjury that the foregoing is true and correct. Executed on the 21st day of June 2012.

Sincerely,

A handwritten signature in black ink, appearing to read 'PWS', with a long horizontal flourish extending to the right.

Peter W. Smith, Director
Nuclear Development – Licensing and Engineering
Detroit Edison Company

Attachment: 1) Supplemental Response to RAI Letter No. 76 (Question No. EIS 8.0)

cc: Jerry Hale, NRC Fermi 3 Project Manager (w/o attachment)
Adrian Muniz, NRC Fermi 3 Project Manager (w/o attachment)
Michael Eudy, NRC Fermi 3 Project Manager (w/o attachment)
Bruce Olson, NRC Fermi 3 Environmental Project Manager
Fermi 2 Resident Inspector (w/o attachment)
NRC Region III Regional Administrator (w/o attachment)
NRC Region II Regional Administrator (w/o attachment)
Supervisor, Electric Operators, Michigan Public Service Commission (w/o attachment)
Michigan Department of Natural Resources and Environment
Radiological Protection Section (w/o attachment)

Attachment 1

NRC3-12-0022

Supplemental Response to RAI Letter No. 76

**RAI Question No. EIS 8.0
(eRAI Tracking No. 6468)**

(6 pages)

NRC RAI EIS 8.0 (6468)

Background

While the SAR, which is developed by the applicant, is the safety document of record for a combined license (COL) application, the environmental document of record is the staff's environmental impact statement (EIS), not the applicant's environmental report (ER). The staff's development of an EIS is mandated by the National Environmental Policy Act of 1969 (NEPA) because the licensing action is a major Federal action.

The U.S. Nuclear Regulatory Commission's regulations, as defined in Title 10 of the Code of Federal Regulations, (CFR) Part 51, states the applicant's role in developing the information necessary to aid the staff in accumulating, assessing, and presenting relevant data for its EIS:

§ 51.41 Requirement to Submit Environmental Information.

The Commission may require an applicant for a permit, license, or other form of permission, or amendment to or renewal of a permit, license or other form of permission, or a petitioner for rulemaking to submit such information to the Commission as may be useful in aiding the Commission in complying with section 102(2) of NEPA. The Commission will independently evaluate and be responsible for the reliability of any information which it uses. [emphasis added]

In other words, the staff relies heavily upon the ER from the applicant in its early site permit or COL application. The staff's guidance, NUREG 1555, "Standard Review Plans for Environmental Reviews for Nuclear Plants," sets aside Chapter 8 of an EIS for an assessment of the need for power. That assessment is based upon four assertions from the applicant in its ER, each of which is necessary but not sufficient for the interrelated assessment of the need for power, alternative generating technologies, alternative sites, and benefit-cost balancing. The four assertions are:

- 1) What kind of power does the applicant propose? Is the power baseload, intermediate, or peaking power? Or does the applicant anticipate the new generating capacity to be "replacement power" for other generating units that will be shut down?*
 - a. forms the foundation for the staff's alternative generating technologies discussion in chapter 9 of the EIS*
 - b. defines the inventory of available capacity for the need for power analysis*
- 2) When does the applicant proposed making that power commercially available?*
 - a. establishes the outer limit of the staff's extrapolation of data into the future to determine whether or not there will be sufficient excess demand to warrant approval of the proposed project*

- 3) *Where does the applicant anticipate making that power available? Is the power to be sold exclusively in a service area or other well-defined geographic area (e.g., Reliability First Corporation (RFC) boundaries), or will some or all of the power be sold on the grid?*
 - a. *establishes the relevant area for which demand and supply estimations should be made in the need for power assessment*
 - b. *defines the relevant area within which alternative sites should be identified for Chapter 9*
- 4) *How much power does the applicant expect to generate from the proposed project (in MWe), and with what expected capacity factor?*
 - a. *identifies the size of the excess demand "gap" between future supply and demand for electricity in the relevant service area at the time when the purposed project goes on line*

While the staff may ask an applicant for additional information to improve its NEPA assessment, it is sensitive to the Commission's cautionary language that: ". . . while a discussion of need for power is required, the Commission is not looking for burdensome attempts by the applicant to precisely identify future market conditions . . . to establish with certainty that the construction and operation of a nuclear power plant is the most economical alternative for generation of power." (Emphasis added. See 68 Fed. Reg. at 55,910 (citing LES CLI-98-3, 47 NRC at 88, 94)). In other words, the staff must only determine a reasonable need for the specific amount of power in the location identified, at the date when commercial operations are expected to commence, and therefore any information requested by the staff must be reasonable and well founded.

The need for power component of an EIS was defined by the Commission in SECY-02-0175, Denial of Petition for Rulemaking to Eliminate Review of Alternative Sites, Alternative Energy Sources and Need for Power in Nuclear Power Reactor Siting and Licensing Reviews (PRM-52-2):

"Although NEPA does not explicitly mention cost-benefit balancing, it is well established through judicial interpretations of the statute that an EIS for a proposed major action must include some kind of cost-benefit analysis. The principal benefit of constructing and operating a power reactor is the electric power. Hence, absent some 'need for power,' justification for building a facility is problematical" (Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), ALAB-355, 4 NRC 397, 405 (1976))."

In other words, the principal benefit derived from the operation of a nuclear power plant is not the tax revenue or economic stimulation of an area's economy; the benefit resides with the power itself. Without a demonstrated need for power, the staff must conclude that there are not sufficient benefits from the proposed action to fully offset its environmental and social costs.

The staff published its draft EIS in October 2011, and held a public meeting in Monroe, Michigan, in December 2011. During the public comment period following the publication of the

draft EIS for the Fermi, Unit 3 COL, the staff received a number of comments making the following assertion:

“ . . . there is no substantial evidence that the aggressive growth forecast in the 21st Century Plan and adopted in the Draft EIS will materialize in the near future. In fact, testimony by Detroit Edison, other Michigan and Midwest utility information, and independent demand forecasts show that the Draft EIS’ demand forecast of 1.2 percent yearly growth is a significant overestimation. To date, the Draft EIS demand forecast adopted from the 21st Century Plan has proven to be seriously overstated.” (see FERM-COL3-DR-00036-1)

The staff’s regulations in 10 CFR 51 state that:

§ 51.91 Final environmental impact statement - contents

- (a)(1) The final environmental impact statement will include responses to any comments on the draft environmental impact statement or on any supplement to the draft environmental impact statement. Responses to comments may include:*
- (i) Modification of alternatives, including the proposed action;*
 - (ii) Development and evaluation of alternatives not previously given serious consideration;*
 - (iii) Supplementation or modification of analyses;*
 - (iv) Factual corrections;*
 - (v) Explanation of why comments do not warrant further response, citing sources, authorities or reasons which support this conclusion.*

The staff determined comments similar to that above have a substantive nature and, therefore, the staff has to supplement the need for power discussion in the EIS prior to issuance of the final EIS. Consequently, the staff seeks additional information from DTE Energy Company (DTE) to complete the Need for Power determination of the final EIS.

Need For Power—Information Needs

Based on its own best judgment, when does DTE expect operation of Fermi 3 to begin? Revision 2 of the ER for the COL application provided by DTE has the following purpose statement in Section 1.1 the following:

“The purpose of the project is fourfold:

- 1. Generate at least 1535 ± 50 megawatts (MW) of electricity for sale that will reliably aid in satisfying the forecasted energy and capacity needs of Detroit Edison customers located in the Detroit Edison Service Territory;*
- 2. Provide new baseload electric generation capacity as early as 2021 to compensate for the expected retirement of existing, aging baseload generating units and diminishing availability of the Midwest Independent Service Operator regions baseload generation capacity;*
- 3. Provide price stability by minimizing reliance on imported power into the Detroit Edison service territory; and*

4. *Utilize an electric generation technology that is less subject to price fluctuations resulting from either fuel or regulatory drivers, provides fuel diversity, and reduces reliance on fossil fuel and their attendant environmental impacts.” (emphasis added)*

The purpose statement addresses three of the four assertions listed above as necessary for the staff to make a need for power determination. Purpose number one addresses how much—the specific amount of power to be provided—and identifies where the relevant service area is located. The second listed purpose identifies what kind of power DTE proposes as a combination of baseload and replacement power. However, the purpose statement does not address when DTE proposes the commencement of commercial operations (see bolded text). For the staff’s purposes, an exact date is not necessary, but a specific year (or narrow range of years), when the applicant expects to begin commercial operations must be provided to achieve a demonstrated need for power.

Section 1.1.7 of the ER identifies a commercial operation date June 2020. This is the same as the date described in Section 8.1.1, but it is in direct conflict with the purpose defined in section 1.1, which claims a start date of “as early as 2021.” Furthermore, in discussions with DTE about the starting date for operations, DTE stated the time from initial decision to construct to the commencement of commercial operations was about ten years, indicating that operations could begin “no sooner than 2022.” The staff needs this contradictory series of statements resolved before a need for power determination can be made.

Where does DTE expect to supply the 1600 MW of electricity from Fermi 3? Chapter 1 of the ER identifies the relevant service area for the proposed project as DTE’s customer base, which is roughly analogous to the ITC jurisdiction. The purpose statement does not identify any other market within which DTE plans to sell its power from Fermi 3. Therefore, the staff must use the DTE service area as its basis for determining need for power. The staff needs a clear accounting for as much of the 1600 MW capacity from Fermi 3 as possible within and outside that service area, including projected increases in demand, any aging baseload units planned for retirement (including where those units are located, whether they service the DTE customer base or not, and when those retirements will take place), and any other consumptive uses of that power.

RAI: The staff requests two specific items related to the need for power:

1. *Please provide a date, which in DTE’s best estimate, resolves the contradictions found in the ER and defines when DTE expects commercial operation of Fermi 3 to begin.*
2. *Please account for the planned allocation of the Fermi 3 1600 MW of electricity. Identify how much power is planned for DTE service area growth, replacement power for retired units and purchase agreements, any sales of electricity to MISO, and any other uses that can contribute to the need for power.*

Supplemental Response

Recognizing that Detroit Edison has not committed to build Fermi 3, for analytical purposes, use 2021 for the Fermi 3 commercial operation date in the Need for Power evaluation.

Proposed COLA Revision

None