Enclosure 1
U.S. Nuclear Regulatory Commission (NRC) Requests for Additional Information (RAIs)
Fermi Nuclear Power Plant, Unit 3 (Fermi 3)
Combined License Application - Environmental Report

GENERAL (GE)

RAI Number[1]	Question Summary (RAI)	Full Text (supporting information)
GE1.1-1 ESRP 1.1 10 CFR 51, Subpart A, App. A (4) 40 CFR 1502.13 Regulatory Guide (Reg. Guide) 4.2, Ch. 1 Clean Water Action, Section 404(b)(1) and associated U.S. Army Corps of Engineers Guidelines	Provide a revised and more detailed (though still concise) Purpose and Need statement, clearly specifying the project purpose and identifying and justifying the need for the project.	The Purpose and Need statement should establish and justify a clear need for a specified quantity of electricity (in Megawatts, baseload or otherwise) within a specified service area and timeframe. This type of discussion would establish a clear need for additional electricity from the outset and a project purpose to fully or partially fulfill that need, and would form the strong basis needed for the identification and analysis of alternatives to meet the purpose and need. Section 1.1 of the Environmental Report (ER) provides the following statement of purpose for the proposed action: "The purpose of the proposed new nuclear power plant is to generate electricity for sale." Chapter 8 of the ER provides a discussion of the need for power. However, although the statement in Section 1.1 specifies a "purpose," it neither adequately nor fully expresses the purpose nor does it establish the "need" in ER Chapter 1 (in addition to addressing the need later in the ER under Need for Power). 10 CFR 51 Subpart A, Appendix A (4) states: "The [purpose and need] statement will briefly describe and specify the need for the proposed action." Guidance in Reg. Guide 4.2, Chapter 1 (first paragraph) states, "In Chapter 1 of its environmental report, the applicant should demonstrate the purpose of, and thus the benefits of, the proposed facility with respect to the power requirements to be satisfied, the

[1] RAI numbers follow a specific form. RAIs apply to a specific section from the Environmental Standard Review Plan (ESRP; U.S. Nuclear Regulatory Commission. 1999. *Standard Review Plans for Environmental Reviews for Nuclear Power Plants*. NUREG-1555. Office of Nuclear Reactor Regulation, Washington, D.C. October, 1999), and the RAI number consists of the relevant ESRP section number followed by a unique number (e.g., the first RAI related to ESRP Section 2.7 would be numbered 2.7-1). If the RAI applies to more that one section of the ESRP, then the next higher section number is used (e.g., if an RAI is applicable to Sections 3.3.4, 3.3.5, and 3.3.6, then the RAI is assigned to Section 3.3, such as 3.3-1).

GENERAL (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
		system reliability to be achieved, or any other primary objectives of the facility and how these objectives would be affected by variations in the scheduled operation of the proposed station." The CEQ regulations state, in 40 CFR 1502.13 Purpose and need, "The statement shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." Furthermore, since the U.S. Army Corps of Engineers (the "Corps") is a cooperating agency for the Fermi 3 Environmental Impact Statement (EIS), a Purpose and Need Statement is required to also meet the Corps' requirements under the Clean Water Act, Section 404(b)(1), and the associated Corps Guidelines. This is needed to support the alternatives analysis to be evaluated as part of the Corps' Section 404 review process. The Corps requires that the applicant provide the Purpose and Need Statement for its project. Purpose and need should be viewed as two parts of a whole: 1. There is a problem that needs to be addressed (project purpose); and 2. Need is the evidence that the problem actually exists. Thus, the project need must be a part of purpose and need statements. For the NRC, this would mean that the need for power analysis would be briefly summarized and included as part of the purpose and need statement in ER Chapter 1. Also, the purpose and need statement should be written so as not to focus on a particular alternative, but instead to allow for the identification of more than one possible alternative to potentially meet the "need."

GENERAL (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
GE1.2-1 ESRP 1.2 10 CFR 51.45(d)	Provide documentation or a description of the status of Coastal Zone Management (CZM) Certification for Fermi 3.	Documented proof of CZM Certification must be provided to the NRC by Detroit Edison before the NRC can issue a combined license. The current status and process for obtaining CZM Certification will be presented in the EIS.
GE1.2-2 ESRP 1.2 10 CFR 51.45(d)	Provide documentation or a description of the status of Clean Water Act Section 401 Water Quality Certification for Fermi 3.	Documented proof of Section 401 Water Quality Certification must be provided to the NRC before the NRC can issue a combined license. The current status and process for obtaining Section 401 Water Quality Certification will be presented in the EIS.
GE1.2-3 ESRP 1.2 10 CFR 51.45(d)	Provide documentation or a description of the status of the required Nuclear Waste Fund waste disposal contract with the U.S. Department of Energy (DOE).	Per the Nuclear Waste Policy Act of 1982, as amended, before a combined license can be issued by the NRC for Fermi 3, Detroit Edison must provide either proof that such a contract is in place with DOE or an official document from DOE stating that Detroit Edison is making a good faith effort to get a contract.
GE2-1 ESRP Sections 2, 3, 4, and 5	Provide copies of handouts used during the Fermi 3 general site audit tour.	These handouts contain information not available elsewhere. The handouts are needed for the impact analysis and for citation in the EIS.
GE2-2 ESRP Sections 2, 3, 4, and 5	Provide electronic versions of all Environmental Report Rev. 0, September 2008 (the “ER”) figures in .jpeg, .png or .tif format at a resolution of at least 300 dpi.	Electronic versions of the figures used in the ER at sufficiently high resolution would facilitate production of the EIS and prevent the need for redrafting figures.
GE2.2-1 ESRP 2.2, 2.4, 2.5, and 4.3	Provide the Geographic Information System (GIS) data (as electronic shapefiles) that were used to create the figures in the ER.	GIS data used to create figures in the ER are needed for the NRC to perform confirmatory analyses for the EIS. Figures that appear to be based on GIS data include, but may not be limited to: 2.2-1, 2.2-3, 2.2-4, 2.4-5, 2.5-17, and 4.3-2.

GENERAL (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
GE3.1-1 ESRP 3.1 10 CFR 51.45 Reg. Guide 4.2, Ch. 2	Provide updated site layout information and a complete evaluation and assessment of short-term and long-term direct, indirect, and cumulative impacts on all resources based on site layout changes.	At the site audit, Detroit Edison indicated that a modified site layout was being developed to reduce impacts to critical environmental resources. This information would represent a significant change to the ER and would be important for all aspects of the EIS.
GE4-1 ESRP 4 and 5 Endangered Species Act of 1973, as amended	Provide the draft Environmental Protection Plan (EPP).	Information in the EPP will be reviewed and incorporated into analyses presented in the EIS. The final EPP will be included as an attachment and condition to the combined license.

ACCIDENTS (AC)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
Accidents – Design Basis		
AC7.1-1 ESRP 7.1 10 CFR 50.34 10 CFR 52.79	Provide a reevaluation of the Design Basis Accidents (DBA) doses using the ESBWR Design Control Document (DCD) Revision 5 source terms and site-specific X/Q values for the Exclusion Area Boundary (EAB) and Low Population Zone (LPZ).	During the site audit, Detroit Edison presented new DBA doses using DCD Revision 5. The NRC staff will use the X/Q values and calculate the EAB And LPZ doses for the DBAs, and compare the results of its calculations with the results of Detroit Edison's calculations.
Accidents - Severe		
AC7.2-1 ESRP 7.2 10 CFR 51.50(c)	Provide in electronic format the input and output files for the MACCS2 code used to evaluate the consequences of severe accidents in the ER. Include all files required to run the code for the base case calculation as well as sensitivities with respect to the release height, energy, meteorology, and precipitation assumptions.	During the site audit, Detroit Edison presented new severe accident consequence and risk estimates using DCD Revision 5, and Probabilistic Risk Assessment (PRA) Revision 3. The NRC staff will run the MACCS2 code and compare the results of its calculations with the results of Detroit Edison's calculations.
AC7.2-2 ESRP 7.2 10 CFR 51.50(c)	Provide the revised results for accident-specific impacts to population and land from the Fermi 3 severe accident analysis, similar to that provided in Table 7.2-1 in the ER.	Detroit Edison has revised the values in ER Table 7.2-1 based on new MACCS2 calculations using ESBWR DCD Rev 5 and PRA Rev 3. Therefore, revised values for the ER Table 7.2-1 are needed for review and confirmatory analysis.

ACCIDENTS (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
Accidents – Severe Accident Mitigation Alternatives (SAMA)		
AC7.3-1 10 CFR 51.50(c) 10 CFR 52.79(d)(3)	Provide in electronic format the analysis and assumptions used in determining averted costs for SAMAs. Discuss the process for ensuring that SAMAs related to operating procedures and administrative controls will be evaluated prior to plant startup. Explain how completion of this analysis will be tracked. Also, evaluate the effect of changing the reported cost basis in NUREG/BR-184, which is in 1992-1993 dollars, to the current year, similar to the cost estimate process used in the MACCS2 analysis for determining offsite property losses resulting from severe accidents.	Section 7.3.3 of the ER presents a discussion leading to the conclusion that no cost beneficial SAMDAs have been identified, and states that evaluation of specific administrative control measures for the ESBWR will be considered for implementation when they are developed prior to fuel load. The current analysis is based on cost bases in 1992-1993 dollars as given in NUREG/BR-184. For new reactors that are expected to have a 60-year lifetime, there is a need to readjust the cost values. NUREG/BR-184 states that the averted costs dollar measures “should be present valued and expressed in terms of the same year.” Considering that the potential operation date for Fermi 3 is 2016 and beyond, there is a need for adjusting these costs estimates to the current date, especially for the replacement power costs that contribute the most to the estimated averted costs.

AIR QUALITY AND METEOROLOGY (AQ)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AQ2.7-1 ESRP 2.7 40 CFR 51, Subpart W	Provide a general conformity analysis for construction and operation activities of the proposed Fermi 3 project due to nonattainment status of the area for 8-hour ozone and $PM_{2.5}$.	Section 2.7.2.1 of the ER states that "Monroe County and the counties that include the Detroit metropolitan area are ruled as non-attainment areas for the USEPA's $PM_{2.5}$ and 8-hour ozone standard." Accordingly, the site is subject to a general conformity analysis under 40 CFR 51, Subpart W. Provide a conformity analysis for ozone and $PM_{2.5}$ associated with construction and operation of Fermi 3, along with quantifying direct and indirect emission rates.
AQ2.7-2 ESRP 2.7 Reg. Guide 1.111, Sec. C Reg. Guide 1.145, Sec. C Reg. Guide 4.2, Sec. 2.3 10 CFR 51.50 10 CFR 51.70(b) 10 CFR 51 App. A 10 CFR 100.20(c)	Discuss the impacts of lake/land breeze on atmospheric dispersion estimates. Provide the reference Ryznar, E., et al., 1973, *An Investigation of Atmospheric Diffusion in the Vicinity of the Enrico Fermi Atomic Power Plant.*	During the site audit, Detroit Edison showed the NRC staff the reference: Ryznar, E., et al., 1973, *An Investigation of Atmospheric Diffusion in the Vicinity of the Enrico Fermi Atomic Power Plant.* This reference presents the potential impacts of lake/land breeze on atmospheric dispersion along the Lake Erie shoreline where the Fermi 3 facility will be situated. The document is not publically available and is needed for the analysis of air emissions dispersion.

AIR QUALITY AND METEOROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AQ2.7-3 ESRP 2.7 Reg. Guide 1.23, Sec. C Reg. Guide 1.111, Sec. C Reg. Guide 1.145, Sec. C Reg. Guide 4.2, Sec. 2.3 10 CFR 51.50 10 CFR 51.70(b) 10 CFR 51 App. A 10 CFR 100.20(c)	Provide in electronic format the 2001-2007 onsite meteorological database.	These data are required by the staff to perform independent evaluations and assessments of atmospheric diffusion characteristics and station impacts on the environment. Data should be provided in a format compatible with that described in Appendix A to Reg. Guide 1.23.

AIR QUALITY AND METEOROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AQ2.7-4 ESRP 2.7 Reg. Guide 1.23, Sec. C Reg. Guide 1.111, Sec. C Reg. Guide 1.145, Sec. C Reg. Guide 4.2, Sec. 2.3, 3.4, 5.1, 5.2, 7.1 10 CFR 51.50 10 CFR 51.70(b) 10 CFR 51 App. A	Provide in electronic format all input and output files used in modeling, including PAVAN (short-term, accidental releases), XOQDOQ (long-term, routine releases), and SACTI (seasonal/annual cooling tower) models.	These data are required by the staff to perform independent evaluations and assessments of atmospheric diffusion characteristics and station impacts on the environment.
AQ2.7-5 ESRP 2.7 Reg. Guide 1.145, Sec. C 10 CFR 51.50 10 CFR 51.70(b) 10 CFR 51 App. A	Describe and justify the methodology used to determine distances to the EAB and LPZ.	The determination of distances to the EAB and outer boundary of the LPZ, as discussed during the site audit, were not made according to the methodologies described in the Reg. Guide 1.145.

AIR QUALITY AND METEOROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AQ3.6.3-1 ESRP 3.6.3 10 CFR 51.71(d)	Provide particulate matter (PM_{10} and $PM_{2.5}$) emission estimations for the proposed natural draft cooling tower (NDCT) and the mechanical draft cooling towers (MDCT).	Section 2.7.2.2 of the ER states that "Sources of air emissions for Fermi 3 include two standby diesel generators, an auxiliary boiler, and a diesel fire pump, as well as a natural draft cooling tower (NDCT) and 4-cell mechanical draft cooling tower (MDCT)." In ER Section 3.6.3.1, emissions for other equipment were presented but emissions of PM (PM_{10} and $PM_{2.5}$) as drift from the NDCT and MDCT were not included.
AQ3.6.3-2 ESRP 3.6.3 10 CFR 51.71(d)	Provide: (1) a memo including vendor emission data for proposed stationary sources during operation, which were not cited in ER Tables 3.6-3 (standby diesel generators), 3.6-4 (auxiliary boiler), and 3.6-5 (fire pump engines); (2) the rationale for assuming 3% sulfur content; and (3) estimation of CO_2 emissions for these sources.	ER Tables 3.6-3 to 3.6-5 present annual emission rates for criteria pollutants and volatile organic compounds (VOCs) during operation; however no specific reference was provided. During the site audit, Detroit Edison showed a memo including emission inventories for this equipment. When Fermi 3 is in operation, only ultra low sulfur diesel of 15 ppm will be on the market. Estimates of annual emissions of CO_2 and other greenhouse gases are needed for the climate change analysis that will be presented in the EIS.
AQ3.6.3-3 ESRP 3.6.3 10 CFR 51.71(d)	Provide a copy of the figure used during the air quality/meteorology tour (titled "DTE Fermi Site") that included locations of existing and proposed air emission sources.	During the air quality/meteorology tour at the site audit, Detroit Edison handed out the scaled map titled "DTE Fermi Site," showing locations of existing and proposed emission sources. This information is not available elsewhere and is needed for air quality and noise impact analyses to be presented in the EIS.
AQ4.4.1-1 ESRP 4.4.1 10 CFR 51.71(d)	Provide expected CO_2 emission rates during the worst year of construction. Emission sources considered should include engine exhaust emissions from heavy equipment and worker/delivery/support vehicles, and other fossil fuel combustion emissions.	CO_2 emissions during construction are needed for the climate change analysis to be presented in the EIS. Emissions from the worst year (i.e., the year when CO_2 emissions are expected to be highest) will provide a conservative estimate of climate change impacts.

AIR QUALITY AND METEOROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AQ5.3.3.1-1 ESRP 5.3.3.1 10 CFR 51.71(d)	Provide information on the four-cell MDCT (similar to that for the NDCT in ER Table 5.3-17) including the typical number of hours per year in operation.	Detailed information and impact analysis for the NDCT were provided in the ER. Similar information is needed for the MDCT. Even though the MDCT will be operating intermittently, capacity and typical operational patterns are needed for completeness of the impact analysis.
AQ5.8.1-1 ESRP 5.8.1 10 CFR 51.71(d)	Provide expected annual CO_2 emission rates during Fermi 3 operations. CO_2 emission sources should include engine exhaust emissions from heavy equipment and worker/delivery/support vehicles, and other fossil-fuel combustion emissions	CO_2 emissions during operation are needed for the climate change analysis to be presented in the EIS. Note that annual CO_2 emissions from stationary sources during operation are included in RAI Number 3.6.3-2.

AIR QUALITY AND METEOROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AQ6.4-1 ESPR 6.4 Reg. Guide 1.23, Sec. C 10 CFR 51.45(c) 10 CFR 51.50 10 CFR 100.20(c)(2)	Provide additional information or clarification regarding the following meteorological instrumentation issues identified at the site audit: • Distance between the meteorological tower and nearby trees; • Height of nearby trees; • Differences in temperature readings between the primary and secondary delta-temperature channels; and • Meteorological instrumentation vendor.	Visual inspection during the site audit indicated that the distance from the meteorological tower to the nearest obstruction (i.e., the wooded area located west of the tower) is less than ten obstruction heights. This distance does not comply with requirements identified in Reg. Guide 1.23, which states "The sensors should be located over level, open terrain at a distance of at least 10 times the height of any nearby obstruction if the height of the obstruction exceeds one-half the height of the wind measurement." Detroit Edison stated that this was a self-identified issue entered into the Fermi 2 corrective action system in 2004 and was resolved as having no impact on the monitoring program based on a comparison with historic data collected during the previous 30 years. The staff would like Detroit Edison to provide a written description of the evaluation that closed out this issue. Also, during the site audit, the Fermi 2 meteorological system engineer indicated that the secondary delta-temperature channel ($\Delta T = T_{60m} - T_{10m}$) recorded values that were consistently 0.2°C higher than the primary delta-temperature channel. This discrepancy translates to 0.4°C/100 m. Because this value is used in NRC's ΔT_{100m} method to determine the Pasquill-Gifford stability class, results from the primary and secondary monitoring systems could result in different stability class estimates. Provide an evaluation of the potential cause(s) and implication(s) of this temperature difference. The ER incorrectly lists the instrumentation vendor (i.e., the instrumentation was provided by Climatronics, not Climet).

ALTERNATIVES (AL)

RAI Number	Question (Summary) (RAI)	Full Text (Supplemental information requested)
AL9.3-1 ESRP 9.3 (I) 10 CFR 51.50(c) NEPA Section 102(2)(C)(iii)	Provide a more complete evaluation of the environmental conditions and expected impacts at Candidate Sites A and C.	In order to complete an analysis of the impacts of developing a nuclear plant at Alternative Sites A and C, more information is needed. Provide discussions, analyses, and/or other information to address the following: • The specific modifications that would be required for Sites A and C to establish a viable cooling water option for each. • Conceptual site plans for both Sites A and C. • The anticipated impacts of site development in the following topical areas: - impacts to wetlands; - impacts to other users of the identified water source; - impacts to aquatic and terrestrial species, including threatened and endangered species; - impacts to land use (environmental, recreational, agricultural, other special uses); - impacts to visual resources; and - impacts to the receiving water source from projected discharges during operation.
AL9.3-2 ESRP 9.3 (I) 10 CFR 51.50(c) NEPA Section 102(2)(C)(iii)	Provide copies of the Alternative Site Selection Reports (both the original site selection study completed in 2006 and the 2008 update on which the alternative sites discussion in ER Section 9.3 is based).	The Alternative Site Selection Reports contain details not presented in the ER and would enable a more complete understanding of the alternative site selection process and the data available for each of the identified candidate sites. The reports are not publically available but are needed as primary references to support the alternatives analysis to be presented in the EIS.

AQUATIC ECOLOGY (AE)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AE2.4.2-1 ESRP 2.4.2 10 CFR 51.71(d)	Provide copies of correspondence with Federal and State agencies (U.S. Fish and Wildlife Service [USFWS], Michigan Department of Natural Resources [DNR], Ohio DNR, Canadian agencies, etc.) regarding potential impacts to aquatic species and monitoring studies for Fermi 3.	Discussions with agencies regarding Fermi 3 and threatened and endangered species were mentioned in the text of the ER (Sections 2.4.1.2.1 and 2.4.1.2.2, for example), but references were not provided. At the site audit, it was mentioned that written records of discussions with these agencies existed, but are not publically available. This correspondence is needed for the impact analysis to be presented in the EIS.
AE2.4.2-2 ESRP 2.4.2 10 CFR 51.71(d)	Provide a copy of the interim monitoring report "Aquatic Ecology Survey, Detroit Edison Company Fermi 3 Project, Interim Report" prepared by AECOM Environment, and dated December 2008. Provide a more recent version and the final report when available.	ER Section 2.4.2 indicated that additional aquatic ecology monitoring was underway and the information in the requested interim report was discussed at the Fermi 3 site audit. This report contains the most recent available information that: • evaluates the abundance and occurrence of aquatic organisms in the vicinity of the Fermi site; • identifies the aquatic habitat features in the vicinity of the Fermi site; • provides additional support for statements in the ER that Federal and State-listed threatened and endangered aquatic species have not been observed in the vicinity of the Fermi site; and • evaluates impingement mortality associated with the intake structure based upon the first half of the ongoing one-year monitoring effort. The final report is expected to include the results of the entire one-year monitoring effort for aquatic ecology, including results of the entrainment monitoring at the existing Fermi 2 intake.

AQUATIC ECOLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AE2.4.2-3 ESRP 2.4.2 10 CFR 51.71(d)	Provide the most currently available information pertaining to entrainment of aquatic organisms at the Fermi 2 intake.	Entrainment data are needed to understand the potential effects of Fermi 3 operations. The interim report identified in RAI 2.4.2-2 does not contain entrainment data. If there is information available, it would be useful to have a summary of that information.
AE2.4.2-4 ESRP 2.4.2 10 CFR 51.71(d)	Provide a copy of the interim monitoring report "Water Quality Survey Detroit Edison Company Fermi 3 Project, Interim Report," prepared by AECOM Environment, and dated December 2008. Provide a more recent version and the final report when available.	The requested interim report was discussed at the Fermi 3 site audit and provides the most recent information about water quality in the vicinity of the Fermi site. The report is not publically available and is needed for the analysis of impacts to be presented in the EIS.
AE4.3.2-1 ESRP 4.3.2 10 CFR 51.71(d) 33 CFR Section 320.2-320.4 40 CFR Part 230	Provide any available chemical characterization information pertaining to dredged materials from areas in Lake Erie near the Fermi site.	The requested information will assist with evaluating the potential impacts to aquatic organisms from suspension of sediments that could occur during dredging operations to prepare the intake area/barge slip and during placement of the discharge pipe for Fermi 3.
AE5.2.2-1 ESRP 5.2.2-1 10 CFR 51.71(d)	Provide an updated description of the design and operation for the fish screening system at the Fermi 2 intake and for the proposed Fermi 3 intake.	The description of the fish screening system in ER Section 5.3.1.2.2 describes a return sluiceway in use at the Fermi 2 intake to return impinged organisms to the lake. However, based on observations made during the site audit, this system uses a mulching process that does not return impinged fish to Lake Erie. An accurate description of the design and operation of the screening system for Fermi 2 is needed and the expected design for the Fermi 3 intake needs to be clarified.

AQUATIC ECOLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
AE5.3.1.2-1 ESRP 5.3.1.2 10 CFR 51.71(d)	Provide information pertinent to the evaluation of the cumulative impacts of impingement and entrainment on aquatic resources in the Western Basin of Lake Erie by providing copies of recent 316(b) evaluation reports from the Detroit Edison Monroe Plant and from other power plants (e.g., Bayshore in Ohio) within the Western Basin of Lake Erie.	The impingement and entrainment information that is provided in ER Section 5.3.1.2.4 for other nearby power generation facilities dates from 1978 or earlier. Evaluation of cumulative impacts from the proposed Fermi 3 facility would be enhanced by consideration of more recent impingement and entrainment data for other nearby facilities. Please supplement the information in the ER by submitting the most recent 316(b) evaluation reports that are available.

BENEFIT-COST BALANCE (BC)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
BC10.4.2-1 ESRP 10.4.2 10 CFR 51.45 10 CFR 51.71	Provide an updated and citable source for monetized benefits and costs.	All monetized benefits and costs in the ER are presented in 2006 dollars. With the exception of operating costs, no source document is provided in this section.
BC10.4.2-2 ESRP 10.4.2 10 CFR 51.45 10 CFR 51.71	Provide data on spent fuel storage costs. Data should show total construction and annual operating costs for an independent spent fuel storage facility (ISFSI), that is either: • built to support spent fuel storage at the Fermi 2 reactor; • an expansion of a Fermi 2 reactor ISFSI to accommodate Fermi 3 spent fuel; or • built at the Fermi 3 reactor, after a specified time period to be provided by Detroit Edison.	Spent fuel storage, particularly dry storage, is an important aspect of the operation of a nuclear power plant, and may be of particular concern to the public. Construction and operating costs specified separately from the costs of the remainder of the plant provide the public with additional information on nuclear waste activities and the associated costs.

CULTURAL RESOURCES (CR)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
CR2.5.3-1 ESRP 2.5.3 10 CFR 51.71 (d) 36 CFR 800	Provide copies of Native American consultations; documentation of meetings with the Wyandotte Nation; and additional correspondence with the Wyandotte regarding the draft Phase I report and the Wyandotte letter of support.	Information included in this documentation will be used to complete the NEPA analysis and to support compliance with the Section 106 process.
CR4.1.3-1 ESRP 4.1.3 ESRP 5.1.3 10 CFR 51.71 (d) 36 CFR 800 36 CFR 63	Provide copies of all past, present, and future correspondence and documentation of discussions between Detroit Edison (or its consultants), and the State Historic Preservation Office (SHPO), regarding cultural resources and/or historic properties in the direct and/or indirect areas of potential effect (APEs) for Fermi 3, and Fermi 1 and 2 as they relate to Fermi 3.	Comments from the SHPO on the findings of the Phase I reports conducted for the project, including comments on National Register of Historic Places (NRHP)-eligibility of those cultural resources identified within the archaeological and architectural APEs for the project, were not available at the time that the ER was prepared. This information will be used to complete the NEPA analysis and to support compliance with Section 106. Note that personal correspondence can be provided in reading rooms.
CR4.1.3.-2 ESRP 4.1.3 and ESRP 5.1.3 10 CFR 51.71 (d) 36 CFR 800 43 CFR 10	Provide a document describing how ITC Transmission would identify and/or protect cultural resources during ROW construction and maintenance, including measures in the event that unanticipated archaeological resources or human burials are identified during construction, and including procedures required by applicable State and Federal laws for human burials.	This information will be used to complete the NEPA analysis and to support compliance with the Section 106 process.

CULTURAL RESOURCES (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
CR4.1.3-3 ESRP 4.1.3 ESRP 5.1.3 10 CFR 51.71 (d) 36 CFR 800	Provide documentation that identifies the following types of cultural resources within the study areas for the alternatives, including a description of NRHP-listed and -eligible historic properties (archaeological and above ground); National Historic Landmarks, and State Register-listed and -eligible cultural resources (archaeological and architectural).	Information included in this documentation is critical to ensuring a thorough and complete EIS review of project impacts. Information included in this documentation will be used to complete the NEPA analysis and to support compliance with the Section 106 process.
CR4.1.3-4 ESRP 4.1.3 10 CFR 51.71 (d) 36 CFR 800 43 CFR 10	Provide a document outlining standard procedures that Detroit Edison would follow in the event that unanticipated archaeological resources or human burials are identified during construction, including procedures required by applicable State and Federal laws for human burials.	Information included in this documentation is critical to ensuring a thorough and complete EIS review of project impacts. This information will be used to complete the NEPA analysis and to support compliance with the Section 106 process.
CR4.1.3-5 ESRP 4.1.3 10 CFR 51.71 (d) 36 CFR 800	Provide a description of the measures that will be used to avoid, minimize and/or mitigate any effects on all historic properties associated with construction and pre-construction work.	Information included in this documentation is critical to ensuring a thorough and complete EIS review of project impacts. This information will be used to complete the NEPA analysis and to support compliance with the Section 106 process.
CR4.1.3-6 ESRP 4.1.3 ESRP 5.1.3 10 CFR 51.71(d) 36 CFR 800	Provide copies of current Phase I Cultural Resources reports prepared for the Fermi 3 project and copies of forthcoming Phase I reports that have been revised per SHPO comments. Reports should be in color, and include all figures, photos, and appendices.	Information included in this documentation is critical to ensuring a thorough and complete EIS review of project impacts. This information will be used to complete the NEPA analysis and to support compliance with the Section 106 process.

CULTURAL RESOURCES (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
CR4.1.3-7 ESRP 4.1.3 ESRP 5.1.3 10 CFR 51.71(d) 36 CFR 800	Provide copies of the Fermi 1 Phase I Cultural Resources report when available. Report should be in color, and include all figures, photos, and appendices.	Information included in this documentation is critical to ensuring a thorough and complete EIS review of project impacts. This information will be used to complete the NEPA analysis and to support compliance with the Section 106 process.
CR4.1.3-8 ESRP 4.1.3 ESRP 5.1.3 10 CFR 51.71(d) 36 CFR 800	Provide a copy of the Maritime Assessment report when available. Report should be in color, and include all figures, photos, and appendices.	Information included in this report describes the results of archaeological studies in Lake Erie for the Fermi 3 project. The report is critical to ensuring a thorough and complete EIS review of project impacts. This information will be used to complete the NEPA analysis and to support compliance with the Section 106 process.
CR4.1.3-9 ESRP 4.1.3 ESRP 5.1.3 10 CFR 51.71(d) 36 CFR 800 36 CFR 63	Provide copies of report(s) evaluating Fermi 1 and Fermi 2 for eligibility for listing in the NRHP. Report(s) should make recommendations regarding NRHP-eligibility of Fermi 1 and Fermi 2, assess the potential impacts of the Fermi 3 project on Fermi 1 and Fermi 2, and make recommendations for the potential Section 106 effects of the Fermi 3 project on Fermi 1 and Fermi 2. Reports should be in color, and include all figures, photos, and appendices.	Information included in this documentation is critical to ensuring a thorough and complete EIS review of project impacts. This information will be used to complete the NEPA analysis and to support compliance with the Section 106 process.

FUEL CYCLE (FC)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
FC5.7-1 ESRP 5.7 10 CFR 51.51(b) Table S-3	Provide corrected information related to uranium fuel cycle impacts.	The Fermi 3 ER contains errors on pages 5-142 and 5-143. The 1.79 scaling factor should not have been used to adjust the following percentages: • Annual uranium fuel cycle discharges of water to air (i.e., consumptive water use) = 2% of model 1000-MW(e) light water reactor (LWR) with cooling tower. The value of 2% should not have been scaled to 3.6%. • Annual uranium fuel cycle discharges of water associated with thermal effluents < 4% of model 1000-MW(e) LWR with once-through cooling. The value of 4% should not have been scaled to 7.2%. • The maximum uranium fuel cycle consumptive water use (assuming that all plants supplying electrical energy to the uranium fuel cycle used cooling towers) would be about 6% of that of the model 1000-MW(e) LWR using cooling towers. The value of 6% should not have been scaled to 10.7%.
FC5.7-2 ESRP 5.7 10 CFR 51.51(b) Table S-3	Provide corrected information related to uranium fuel cycle Tc-99 releases.	There is a typographical error on page 5-145 of the Fermi 3 ER where it is stated that releases of Tc-99 for Fermi 3 are a total of 0.012 Ci per reactor year. The reference reactor is estimated to release 0.012 Ci per reactor year, in which case the releases associated with Fermi 3 would be 0.022 Ci.

HUMAN HEALTH (HH)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HH3.6.3-1 ESRP 3.6.3 40 CFR Part 80	Explain how the EPA Tier 4 emission standards and fuel sulfur content standards would be met for the stand-by diesel generators and diesel fire pumps.	Emissions for the stand-by diesel generators and diesel fire pumps, presented in ER Tables 3.6-3 and 3.6-5, exceed the EPA Tier 4 emission standards. In addition, the sulfur content of the fuel is presented in the ER as 3% by weight (ER Section 3.6.3.1). The EPA has mandated reductions in sulfur content to 15 ppm effective June 2010 for non-road fuel. The 15 ppm sulfur content standard is also mentioned in 40 CFR 80.520. The requested information will be used in developing the human health assessment.
HH4.5-1 ESRP 4.5 10 CFR 20.1301	Provide an explanation of the conclusion that the TLD location T-48 is the most representative location for construction worker dose estimates.	A written explanation for the conclusion that the TLD location T-48 is the most representative location to be used for construction worker dose estimates is needed to support the assessment.
HH4.5-2 ESRP 4.5 40 CFR 190 10 CFR 50 App. I	Provide the rationale for using 2001 data for thyroid and whole body dose calculations.	The staff assumes that 2001 data were used for thyroid and whole body dose calculations because data from this year resulted in the highest estimates of dose and therefore are conservative. A written statement to that effect is needed from Detroit Edison.
HH4.5-3 ESRP 4.5 10 CFR 20.1301 10 CFR 50 App. I	Provide information on: • specific construction activities and the number of workers used in construction worker dose calculations and • effects of doses from Fermi 1 on Fermi 3 construction worker doses.	According to ESRP 4.5 Section I, data are needed for the number and principal locations of construction workers who will be exposed to the radiation sources and the total amount of time per year that they will spend at those locations. ER Section 4.5 does not have any information about specific construction activities and the number of workers used in construction worker dose calculations. Fermi 3 construction worker dose calculations include doses from Fermi 2, but do not include any component or discussion about doses from Fermi 1.

HUMAN HEATH (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HH4.5-4 ESRP 4.5 10 CFR 20.1301 40 CFR 190 10 CFR 50 App. I	Provide updated dose calculations for construction workers based on the new Fermi 3 site layout.	During the site audit, it was mentioned that the site layout for Fermi 3 would change. This change would result in a change to the estimated construction worker dose.
HH5.3.4-1 ESRP 5.3.4 40 CFR 141.70	Provide documentation related to the consultation with the Michigan Department of Community Health on infectious diseases associated with Lake Erie for the last 10 years.	Section 5.3.4.IV of the ESRP (Theromophilic Microorganisms) recommends inclusion of the results of consultations with the State Public Health Department, related to any regional outbreaks of waterborne diseases. Documentation related to the consultation with the Michigan Department of Community Health is needed for the staff to perform this assessment.
HH5.4.1-1 ESRP 5.4.1 10 CFR 20.1301 10 CFR 50 App. I 40 CFR 190	Provide justification for the transit time and dilution factors used in LADTAP code dose calculations for liquid discharges for different intake locations (commercial fish and invertebrate catch locations, drinking water intake locations). Also provide discussion on the impact of thermal variations on dilution factors.	ESRP Section 5.4.1 identified the following information as needed to perform the dose calculation from liquid effluent releases: (1) the transit times and dilution factors at each appropriate receptor location and transit times to unrestricted area boundaries and diluted stream flows at these boundaries; and (2) the predicted dilution factors at specified locations. The calculation package provided by Detroit Edison at the site audit did not discuss any impact of thermal variations in the discharge on dilution factors.
HH5.4.1-2 ESRP 5.4.1 10 CFR 20.1301	Provide invertebrate catch data (if any) from waters within 50 miles downstream of the facility's radwaste discharge.	According to ESRP Section 5.4.1, the following information is needed to perform dose calculations: "the present commercial fish and invertebrate catch (in kg/yr) from waters within 80 km (50 mi) downstream (or 80-km [50-mi] radius for lake or coastal sites) of the plant radwaste discharge…." Table 5.4-1 of the ER lists liquid pathway input parameters, but does not include invertebrate catch data.

HUMAN HEATH (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HH5.4.1-3 ESRP 5.4.1 10 CFR 20.1301	Provide discussion on the unusual animals, plants, agricultural practices, game harvests, or food processing operations having the potential to contribute 10% or more to either individual or population doses in areas affected by liquid effluents, and food-processing operations involving large quantities of water.	According to ESRP 5.4.1, the following information is needed to perform site-specific analysis: "unusual animals, plants, agricultural practices, game harvests, or food processing operations having the potential for contributing 10% or more to either individual or population doses ….." Section 2.2 of the ER does not address any unusual animals, plants, agricultural practices, game harvests, or food processing operations.
HH5.4.2-1 ESRP 5.4.2 10 CFR 50, App. I 10 CFR 20.1301 40 CFR 190	Provide input and output data (in electronic format) of the LADTAP and GASPAR computer codes.	ESRP 5.4.2, Section III, states "Assess the computer outputs to ensure that data were entered properly and that the outputs appear normal." The input and output files for LADTAP and GASPAR codes used in dose calculations will enable the staff to perform confirmatory analyses. Provide the basis for any factors other than defaults used as input to the computer codes.
HH5.4.2-2 ESRP 5.4.2 10 CFR 50.34a	Provide a description of the methodology used to calculate doses for the general population, and the population average input values that were used. Provide the consumption/usage rates used in dose calculation for population.	In Section 5.4.1.2 on page 5-108 of the ER it states that the input parameters for the gaseous pathway are presented in Table 5.4-3. Table 5.4-3 does not appear to contain information on consumption/usage rates for the population. ER Table 5.4-2 lists annual consumption/usage rates for MEI for liquid and gaseous pathways, but is not discussed in the text. Population average values are different from these and are not shown.
HH5.4.3-1 ESRP 5.4.3 10 CFR 20.1201	Provide occupational dose calculations from normal operation of Fermi Unit 3 (The occupational dose should also include dose from existing Fermi 1 and Fermi 2 sources.)	Provide occupational doses from normal operations. ESRP Section 5.4.3.III(3) recommends inclusion of "an estimate of the collective occupational dose using the format of Table 5.4.3-2." Provide collective occupational doses, or justify their exclusion.

HUMAN HEATH (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HH5.4.3-2 ESRP 5.4.3 10 CFR 20.1201	Provide revised calculations of construction worker doses that incorporate any new Independent Spent Fuel Storage Installation (ISFSI) that would be built on the Fermi site before or during the construction of Fermi 3.	If Detroit Edison plans to build and operate an ISFSI before or during the construction of Fermi 3, the dose rates from the ISFSI need to be addressed in the calculation of the construction worker doses for Fermi 3. See related RAI BC10.4.2-2.
HH5.4.3-3 ESRP 5.4.3 10 CFR 20.1301 40 CFR 190 10 CFR 50, App. I	Provide updated calculations of dose from gaseous effluent releases for the MEI and population based on the new site layout.	During the site audit it was mentioned that the site layout for Fermi 3 would change. This change may result in changes to the MEI and population doses from gaseous effluent releases. These revised estimates are needed for the analysis that will be presented in the EIS.
HH5.4.4-1 ESRP 5.4.4 40 CFR 190, 10 CFR 20.1301(d)	Provide dose estimates for biota (including the bald eagle) inside the site boundary (0.25 mi from Fermi 3 emission sources).	Biota doses are presented in Table 5.4-9 (Dose to Biota from Liquid and Gaseous Effluents) but the assumptions used with the LADTAP computer code to estimate dose to biota from liquid effluents are not provided. It is assumed that biota would be at the site boundary to calculate the dose from gaseous effluent but biota could be inside the site boundary and very near the proposed Fermi Unit 3. According to ESRP Section 5.4.4, “the biota to be considered in this evaluation should include those in the pathways identified in ESRP 5.4.1, those appearing on the endangered/threatened species lists, and others of significance.” ER Section 2.4.1.2.1, page 2-330 states that two bald eagle nests were observed on the Fermi site in May 2008. Dose calculations for the bald eagle should be made because the species is protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

HUMAN HEATH (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HH5.11.7-1 ESRP 5.11 40 CFR 190	Provide an explicit statement regarding how contributions from the Davis-Besse nuclear plant and other nuclear facilities are incorporated in the assessment of cumulative radiological health impacts.	ER Section 5.11.7 states “The radiological environmental monitoring program measures radiation and radioactive materials from all sources, including Fermi.” The Davis-Besse nuclear power station located 21 miles ESE of Toledo, Ohio, is about 30 miles from the proposed Fermi Unit 3. An explicit statement is needed regarding how the contributions from Davis-Besse and other nuclear facilities are incorporated in the radiological monitoring program and cumulative dose calculations.
HH6.2-1 ESRP 6.2 Reg. Guides 4.1 and 4.15	Provide results from groundwater monitoring that has been done at the Fermi site in support of the Nuclear Energy Institute (NEI) Ground Water Protection Initiative. Describe any changes being planned to provide monitoring coverage under this initiative for Fermi 3.	Section 2.3.3.2 of the ER mentions groundwater monitoring done as part of the voluntary NEI initiative but Section 6.2 of the ER does not provide any results from groundwater monitoring.

HYDROLOGY (HY)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HY2.3.1-1 ESRP 2.3.1 10 CFR 51.70(b)	Provide maps and descriptions of the areal extent, cross section, and depth of all existing clay dikes installed during the construction of Fermi 1 and 2.	As determined during the site audit, more detailed information on geologic and hydrogeologic conditions is needed to assess the groundwater systems that could be affected by construction and operation of Fermi 3.
HY2.3.1-2 ESRP 2.3.1 10 CFR 51.70(b)	Provide maps or isopach contour maps and descriptions of the areal extent and depth of all existing gravel fills on the Fermi site. Provide copies of Fermi 1 and Fermi 2 construction drawings: (DWG # 6C721-24; 6C721-9 (Fermi 1); 6C721-32; 6C721-23; 6C721-33; 6M721-2130; 6M721-2250; and 6C721-40).	As determined during the site audit, more detailed information on geologic and hydrogeologic conditions is needed to assess the groundwater flow systems that could be affected from construction and operation of Fermi 3.
HY2.3.1-3 ESRP 2.3.1 10 CFR 51.70(b)	Provide at least two east-west geologic cross sections that extend west of the Fermi site: one that crosses the Fermi 1 area and another that crosses the Fermi 2 area. Use the cross sections to show the clay dike, gravel fill, native lacustrine clay, tills, sand and gravel above the dolomite bedrock, and the dolomite bedrock.	As determined during the site audit, more detailed information on geologic and hydrogeologic conditions is needed to assess the groundwater flow systems that could be affected from construction and operation of Fermi 3.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HY2.3.1-4 ESRP 2.3.1 10 CFR 51.70(b)	Using groundwater level data from piezometers and wells, construct and provide separate water table contour maps for rock fill, lacustrine sediments, and glacial tills under the Fermi site.	During the site audit, the NRC staff were told that water table data from the rock fill, glacial tills, and lacustrine clay were combined as a single hydrologic unit to derive water table contour maps, though their hydraulic properties are significantly different. This RAI requests that separate water table contour maps be prepared for each of these materials to better understand the groundwater flow systems under the Fermi site. The maps should also show seasonal variation in water table conditions.
HY2.3.1-5 ESRP 2.3.1 10 CFR 51.70(b)	Provide justification of the use of Butler's method to interpret the slug test data for rock fill. Provide published documents to support that justification.	Butler's method (mentioned in ER Section 2.3.1.2.2.4.1) can be applied to interpret data from confined and unconfined aquifers by using two different equations. An Aqtesolv tutorial document provided by Detroit Edison presented a Butler's method formula for confined aquifers. It is unclear whether or not the same formula is used to interpret data obtained from the rock fill which is under unconfined conditions.
HY2.3.1-6 ESRP 2.3.1 10 CFR 51.70(b)	Provide justification of the sampling frequency used in the slug tests for the rock fills.	The sampling frequency used in the slug tests for the rock fills may not be high enough to capture the fast, oscillatory test response of the water levels of the aquifer. Such a situation can cause problems in the curve-matching process of data interpretation for the EIS.
HY2.3.1-7 ESRP 2.3.1 10 CFR 51.70(b)	Provide a contour map that shows the elevation of the bottom of all proposed excavations and maps that show the 3-dimensional extent of all proposed rock fills for Fermi 3. Provide information on the configuration of the floor grouting below the excavation areas for Fermi 3.	Information on excavation depth and the extent of rock fills is important for understanding the effects of construction and operations on groundwater hydrology. The foundation depths of Fermi 3 buildings differ. Grout is going to be applied within various excavation areas. The configuration of the floor grout at various depths would affect the groundwater flow in the vicinity of the excavation areas and the results of the dewatering model simulations. A full characterization of the grouting and proposed gravel fill at the Fermi 3 excavation areas will be used to evaluate the impacts of

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
		construction and operations on groundwater flow and quality.
HY2.3.1-8 ESRP 2.3.1 10 CFR 51.70(b)	Provide a new estimate for the flow characteristics of Swan Creek based on data from a gauged, nearby, and comparable watershed. Estimates of the maximum, average maximum, average, average minimum, and minimum flow of Swan Creek (on a monthly basis) should be provided.	Flow data are not available for Swan Creek. ER Section 2.3.1.1.3.1 states that the drainage-area ratio method was used to estimate the flow of the creek by using data from the Plum Brook gauge station (04163500), which has a much smaller watershed area and is located more than 20 miles north of Detroit. There are other gauged streams that are closer and more similar to Swan Creek that would provide a more appropriate basis for estimation.
HY2.3.1-9 ESRP 2.3.1 10 CFR 51.70(b)	Identify the elevation of the proposed discharge structure and provide detailed bathymetry in the vicinity of the structure.	Elevation information and detailed bathymetry are needed to evaluate dredging impacts, thermal discharge impacts, and erosion/sedimentation.
HY2.3.1-10 ESRP 2.3.1 10 CFR 51.70(b)	Provide maps that show the full extent of the 100-year floodplains of Swan Creek and Lake Erie in the vicinity of the entire Fermi site.	The extent of the 100-year floodplain was not characterized as far as Swan Creek and along the shore of Lake Erie near the Fermi site in the ER.
HY2.3.1-11 ESRP 2.3.1 10 CFR 51.70(b)	Provide historical aerial photographs, at approximately 5-year intervals, for the last 30 years.	A sequence of historical aerial photographs would enable an evaluation of shoreline erosion near the Fermi site. A baseline of shoreline erosion and deposition is needed to evaluate the potential impact of shoreline structures.
HY2.3.1-12 ESRP 2.3.1 10 CFR 51.70(b)	Provide the electronic input and output files for all packer and slug tests.	The input and output files are needed to allow performance of confirmatory analyses for the EIS.
HY2.3.1-13 ESRP 2.3.1 10 CFR 51.70(b)	Provide written statements that: • Frenchtown Township supplies potable and demineralized water demands of Fermi 2 and will also be adequate to meet those	At the site audit, Detroit Edison indicated that no upgrade of the water lines from the Frenchtown Township water system to the Fermi site is planned for the construction and operation of Fermi 3, but there could be upgrades to piping in the future for reasons that are unrelated to Fermi 3 construction and operations. Confirmation of these issues is needed to ensure the impact assessment is

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
	demands of Fermi 3. • Demineralized water constitutes most of the water demand from the Frenchtown Township water supply system during operations. • Demineralized water will be supplied to one unit at a time. • The existing water supply pipeline is adequate to supply the needs for Fermi 2 and Fermi 3. • The existing sewer line is adequate for the needs of both Fermi 2 and Fermi 3. • The existing onsite fire protection wells are adequate for the needs of both Fermi 2 and Fermi 3.	accurate.
HY2.3.1-14 ESRP 2.3.1 10 CFR 51.70(b)	Provide copies of the following: • DTE Energy Nuclear Generation Memorandum, January 5, 2005; • EnviroSolutions Remedial Action Plan Closure Report (Fuel Tank Release), Dec. 2007; • NPMA-05-0001; • ACRES International Comprehensive Report #P13827.00, dated July 2001; • Facsimile to Mick Blunden from Mike Parrish, dated 12/19/2000,	These documents are cited in the ER, but are not publically available. They need to be made available to the NRC staff so they can be cited as references in the EIS.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
	containing dredging map; • MDEQ Permit No. 04-58-009-P, dated (issued) July 21, 2004; • January 2001 Dredging Story (handwritten note); • MDEQ NPDES Permit No. MI0037208; • Storm Water Pollution Prevention Plan for Fermi 2 Plant, Rev. 7; • Facsimile to Mike Parrish from Mick Blunden, dated 01/03/2001; • USACE Detroit District approval letter for dredging by hydraulic means, dated Nov. 8, 2000; • USACE Detroit District Permit No. 88-001-040-8, dated May 26, 2004; and • Detroit Edison Final Siting Study Report.	
HY2.3.1-15 ESRP 2.3.1 10 CFR 51.70(b)	Provide information on all NPDES discharge and temperature violations for Fermi 2. Provide the history of any radwaste/waste water discharges (to any location) from Fermi 2.	An understanding of the previous operational history for Fermi 2 is needed for the impact analysis to be included in the EIS.
HY4.2.1-1 ESRP 4.2.1	Using the measured water level data at the Fermi site, demonstrate that the results of the USGS regional model	The MODFLOW model presented by Detroit Edison requires model calibration by using the local water level data measured at the Fermi site.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
10 CFR 51.70(b)	are applicable to the Fermi site.	
HY4.2.1-2 ESRP 4.2.1 10 CFR 51.70(b)	Provide information on the calculation results of the drawdown (or water head) on the surface water bodies surrounding the Fermi site due to the dewatering operation of Fermi 3. Characterize all possible hydraulic connections among the bedrock aquifer under the Fermi site, the surface waters (including wetlands, lagoons, cannels, ponds, and Lake Erie) in the vicinity of the site, and the existing and proposed gravel fills at the Fermi site.	To evaluate the impact on wetlands by the dewatering operation, the water level changes of surface water bodies, the glacial overburden, and the gravel fills at the Fermi site need to be known. Also, the hydraulic connections between the above features need to be characterized. The modeling results of drawdown of the Bass Islands aquifer were presented in the ER. However, in some areas (e.g. around the reactor and fuel buildings) the gravel/rock fills in the existing Fermi 2 and proposed Fermi 3 excavation areas may extend to the bedrock aquifer and create a connection between the bedrock aquifer and the surface water bodies in the vicinity of the Fermi site. Dewatering of the bedrock aquifer may also dewater the surface waters through the connection and to some extent through the glacial overburden. That can impact the wetlands at the Fermi site, which are situated at a higher elevation than the lake level of Lake Erie. The wetlands are generally recharged by precipitation and by Lake Erie during high lake levels.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HY4.2.1-3 ESRP 4.2.1 10 CFR 51.70(b)	Model the dewatering effects of Fermi 3 pre-construction and construction activities on groundwater heads of different materials. Provide the input and output files (in electronic format), calibrations, and sensitivity analysis for the model.	MODFLOW was used to estimate drawdown across the Fermi site during dewatering operations. During the site audit, the NRC staff concluded that the spatial extent of the clay dikes and rock fills at the Fermi site was not fully characterized, but was incorporated into the MODFLOW model. The existing model treats the artificial rock fills, the natural lacustrine clay, and glacial tills as one hydrogeologic unit, though they have very different hydraulic properties according to slug and packer test data. In addition, the parameters used in the model were based on a regional groundwater study and therefore may not reflect the hydrologic characteristics of the local materials near the Fermi site. The model should use locally measured hydraulic properties of the geologic materials as input parameters and consider the presence and effect of the rock fills and clay dikes under the Fermi site, the extent of the Fermi 3 excavated area, recharge rates, and boundary conditions.
HY4.2.1-4 ESRP 4.2.1 10 CFR 51.70(b)	Provide information on the derivation of hydraulic conductivity/transmissivity values of MODFLOW model cells within excavation areas.	The foundation depths of different buildings for the Fermi 3 differ. Grout would be injected to the geologic materials under different buildings with different foundation depths. The layer thickness used in MODFLOW was 20 meters for the upper Bass Islands Group aquifer. The method used to derive the hydraulic conductivity or transmissivity for the cells within the excavation areas were not provided in the ER.
HY4.2.1-5 ESRP 4.2.1 10 CFR 51.45 and 10 CFR 51.70(b)	Clarify whether the MODFLOW Well Package used in the dewatering simulation is for Fermi 3 model cells or for other regional groundwater discharge cells outside the Fermi site If the wells are inside the Fermi site and used for groundwater withdrawal, provide maps and text to describe the	In the MODFLOW calculation package provided by Detroit Edison, an input file for the MODFLOW Well Package was included. However, in the ER, the Well Package was not mentioned. It is unclear whether the Well Package is used for cells inside or outside the Fermi site. The details of the planned dewatering operation were not discussed in the ER. With revised modeling results (see RAI 4.2.1-3 above), information on the dewatering schedule, locations and

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
	locations and depths of wells for the dewatering operation during Fermi 3 construction. Identify the withdrawal rates and describe the withdrawal schedule of the dewatering operation.	depths of dewatering wells may need to be updated.
HY4.2.1-6 ESRP 4.2.1 33 CFR 330 10 CFR 51.45	Provide justification of the use of the drain package of the MODFLOW for modeling the effect of dewatering operations during the construction of Fermi 3. Provide information on how the conductance values of the drainage cells within the excavation areas are derived. Provide information on the locations and elevations of the drains in the drainage cells within the excavation areas used in the MODFLOW model.	In Section 2.3.1.2.2.5.1 (p. 2-88, last paragraph) of the ER, quarry dewatering in the original regional model was represented using MODFLOW's drain package. The same approach is used for the excavation dewatering analysis for Fermi 3. However, the cells within the excavation areas are much finer in size in the dewatering analysis than in the regional model and the cells are at different elevations. If wells are used to dewater inside the excavation areas, it is unclear why the drainage package is needed. If the wells are for cells outside the Fermi site, the method used to derive the conductance of the drainage cells at Fermi 3 and information on their locations and depths were not presented in the ER.
HY4.2.1-7 ESRP 4.2.1 33 CFR 330 10 CFR 51.45	Provide the methods to be used to dredge Lake Erie sediments for the construction of water intake, barge slip, and water discharge structures for Fermi 3. Provide information on maps to show the extent of dredging for the above proposed structures and for areas outside of the barge slip. What is the plan of disposing the sediment from dredging in the future at the Fermi site as the existing dredge retention basin reaches its capacity?	There is no information in the ER regarding the methods used for dredging and the extent of the dredging. This information is needed for the impact analysis to be presented in the EIS. The existing retention pond for dredging material disposal is reaching its maximum capacity, according to a study conducted by Detroit Edison. Dredging is anticipated for construction of the Fermi 3 water intake structure, barge slip, and discharge pipe, in addition to the normal operation of Fermi 2. The disposal of dredging material, treatment of the dredge material to accelerate sediment settlement from the water, and the handling of returned water from the dredge retention pond to Lake Erie will be considered in the EIS.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HY4.2.1-8 ESRP 4.2.1 10 CFR 51.45 10 CFR 51.70(b)	Provide information regarding sediment plumes that would result from proposed dredging operations. Information should include: • Sampling associated with the Fermi dredging permit; • Sediment particle size of the dredged material; • Plan for any turbidity monitoring before, during, and after dredging; • Dredge basin history summary report, dated 7/9/2004; and • If available, input and output files (in electronic form), calibration, and sensitivity analyses.	Information on sediment plumes caused by proposed dredging operations was not presented in the ER. The information will be used to evaluate the impacts of dredging on the Western Basin of Lake Erie.
HY4.2.1-9 ESRP 4.2.1 10 CFR 51.50	Provide descriptions of the best management practices (BMPs) to be used for the disposal of the spoil from Fermi 3.	Detroit Edison has indicated that BMPs will be developed after the layout of Fermi 3 is finalized. These will provide an important basis for the assessment of construction impacts in the EIS.
HY4.2.1-10 ESRP 4.2.1 10 CFR 51.70(b)	Provide information on the design of the Condensate Storage Tank (CST) basin for Fermi 3.	The CST was designed to be enclosed in a basin (Section 2.4.13 of the Final Safety Analysis Report) to contain potential accidental releases of radioactive materials from the tank. A description of the CST basin and its location were not provided in the ER but is needed to understand the potential impacts of operations.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HY4.2.1-11 ESRP 4.2.1 10 CFR 51.50	Provide specific information on the groundwater monitoring programs (including the number and location of wells, well depth, aquifers sampled, chemical parameters monitored, and frequency of monitoring) during pre-construction and construction phases of Fermi 3.	Detroit Edison has indicated that specific groundwater monitoring programs will be developed after the layout of Fermi 3 is finalized. The information will used to evaluate the impacts of construction on groundwater.
HY4.6-1 ESRP 4.6 10 CFR 51.50	Provide the Soil Erosion and Sedimentation Control (SESC) plan for the construction of Fermi 3.	Detroit Edison has indicated that a SESC plan will be developed after the layout of Fermi 3 is finalized. This plan will provide an important basis for the assessment of construction impacts in the EIS.
HY4.6-2 ESRP 4.6 10 CFR 51.50	Provide the Storm Water Pollution Prevention Plan (SWPPP) plan for Fermi 3 operations.	Detroit Edison has indicated that a SWPPP will be developed after the layout of Fermi 3 is finalized. This plan will provide an important basis for the assessment of operational impacts in the EIS.
HY4.6-3 ESRP 4.6 10 CFR 51.50	Provide a plan and schedule for addressing the NPDES permit application.	Detroit Edison has indicated that the NPDES permit application will be developed sometime in the future and potentially after the combined license is issued. The permitting strategy will be discussed in the EIS.
HY5.2-1 ESRP 5.2 10 CFR 51.50	Provide specific information on groundwater monitoring (including the number and location of wells, well depth, aquifers sampled, chemical parameters monitored, and frequency of monitoring) during Fermi 3 operations.	Detroit Edison has indicated that specific groundwater monitoring programs for the operational phase will be developed after the layout of Fermi 3 is finalized. These monitoring programs will provide an important basis for the assessment of operational impacts.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HY5.3.2-1 ESRP 5.3.2 10 CFR 51.45	Resolve the inconsistency between ER Sections 5.3.2.1.1 and 3.4.1.1 regarding the cooling water basin for Fermi 3. Provide information on how the Fermi 3 normal power heat sink (NPHS) basin accommodates the water need during acute low-water events.	In Section 5.3.2.1.1.2 of the ER (p. 5-30), it is stated that "It is important to note that seiche-driven water level changes affect the operation of Fermi 2 and are anticipated in the operating procedures of the cooling water system. During acute low-water events associated with persistent west winds, the Fermi 2 cooling water intake may not reliably supply sufficient water for cooling tower makeup. Because this condition was considered in the circulating water system design, the cooling tower basin was constructed to hold more water than would be typically expected. During low-water events, intake and discharge of cooling water is stopped temporarily and the cooling tower is run at higher cycles of concentration for up to several hours using water stored in the basin. Such operation has previously occurred without incident. A similar strategy of design and operation is planned for the Fermi 3 cooling system." In ER Section 3.4.1.1 (p. 3-24), it is stated that "Water from the NPHS basin (Figure 3.4-3, p. 3-33) is pumped through the main condenser and then back to the cooling tower where heat, transferred to the cooling water in the main condenser, is dissipated to the environment (the atmosphere) by evaporation." During the site audit, Detroit Edison indicated that a cooling water basin (NPHS basin?) is located under the cooling tower of Fermi 3 and no separate water basin would be constructed. However, ER Section 5.3.2.1.1.2 (p. 5-30) states that cooling design and operation planned for the Fermi 3 cooling system would be similar to that of Fermi 2, which has a separate cooling water basin to accommodate low-water events, such as seiches.
HY5.3.2-2 ESRP 5.3.2 10 CFR 51.45	Provide the input and output files (in electronic form) for the CORMIX thermal plume analysis.	The input and output files are needed to allow performance of confirmatory analyses for the EIS.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HY5.3.2-3 ESRP 5.3.2 10 CFR 51.45	Clarify whether the values in ER Table 2.3-3 represent surface water temperatures for all of Lake Erie or just the Western Basin of Lake Erie.	There is inconsistency in the ER regarding what these values represent. The text on p. 5-32 suggests the data are from the Western Basin but Table 2.3-3 does not specifically state this. If the data represent all of Lake Erie, justification must be provided for why water temperature data from the western basin of Lake Erie or observed station data from the western basin (such as Station T02) were not used in the CORMIX model to calculate the extent of the thermal plume.
HY5.3.2-4 ESRP 5.3.2 10 CFR 51.45	Explain why a single-port CORMIX 1 model was used to model the thermal plume for evaluating the effects of rare westward currents in Model Set 3, while a multiple port CORMIX 2 model was used for Model Sets 1 and 2.	As stated in ER Section 5.3.2.1.1.1, the proposed diffuser would be a multiport diffuser. As indicated in the file SOF 5.2-513, CORMIX 1 (for a single port) was used for Model Set 3 to evaluate the effects of westward currents. However, the files SOF 5.3-531 and SOF 5.2-515 CORMIX Monthly Runs.pdf indicate that CORMIX 2 (for multiple ports) was used for Model Sets 1 and 2.
HY5.3.2-5 ESRP 5.3.2 10 CFR 51.45	Explain why the parameter Sigma angle was set as 263 degrees in the CORMIX model runs for Model Set 3. Explain why the parameter of Nearest Bank in the CORMIX model runs for Model Set 3 was set to “right” and the parameter was set differently to “left” in other model runs.	To model the effects of westward currents in Model Set 3, the current was assumed to be west-northwest (ER Section 5.3.2.1.1.2), and the parameter Sigma angle in CORMIX was set at 263 degree (file SOF 5.2-513). In Model Set 1 and 2, the Sigma angle was set as 270 degree when the current was assumed to flow to the north for the months of October to February. The current direction difference would be more than 90 degrees. However, the angle difference was only 7 degrees. Differences in the Nearest Bank parameter could produce different modeling results and should be corrected.

HYDROLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
HY5.11-1 ESRP 5.11 10 CFR 51.45 10 CFR 51.50	Provide information on cumulative water withdrawals and chemical and thermal discharges to the Western Lake Erie Basin from other users.	The Western Lake Erie Basin is hydrologically connected to the rest of Lake Erie, but the basin is different from other portions of the lake in that it is relatively shallow and a large population depends on the basin. To support the analysis of cumulative environmental impacts on the basin, please supply specific information on water withdrawals from the Western Basin. Also supply information on chemical and thermal discharges from other facilities, even if plume interactions are not foreseen.

LAND USE (LU)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
LU1.2-1 ESRP 1.2 10 CFR 51.45(d) 10 CFR 51.71	Provide a copy of the 2003 agreement between the USFWS and Detroit Edison regarding the Detroit River International Wildlife Refuge (DRIWR).	The NRC staff needs to properly document in the EIS the consultations Detroit Edison has pursued with Federal, State, regional, and local agencies including 1) current status of agreements, 2) environmental concerns of the authorizing agency that are to be addressed in the EIS, and 3) potential problems that may affect the granting of any other Federal, State, regional, and local agency authorizations.
LU1.2-1 ESRP 1.2 10 CFR 51.45 10 CFR 51.71 10 CFR 100.11	Provide confirmation that the Exclusion Area for Fermi 3 would be within the existing Exclusion Area for Fermi 2.	In the EIS, the NRC staff needs to cite Detroit Edison's characterization of the location of the Fermi 3 site. The delineation of the Exclusion Areas in the EIS must be accurate.
LU1.2-1 ESRP 1.2 10 CFR 51.45 10 CFR 51.71	Provide a discussion of the effects of the revised Fermi 3 site layout on the 100-year and 500-year floodplains at the site.	In the EIS, the NRC staff needs to cite Detroit Edison's characterization of the location of the Fermi 3 site. The land use impact analysis will include an evaluation of effects on floodplains.
LU4.1.1-1 ESRP 4.1.1 10 CFR 51.45 10 CFR 51.71	Provide a statement to confirm that no borrow materials would be obtained onsite. Identify where spoils materials would be disposed of.	At the site audit, Detroit Edison indicated that no borrow materials would be obtained onsite. It is unclear where spoils material would be disposed of. This information is needed for the analysis of land use impacts to be presented in the EIS.

LAND USE Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
LU4.4.2-1 ESRP 4.4.2 ESRP 10.4.1 10 CFR 51.45 10 CFR 51.71	Provide information on any past and present management of commercial timber onsite, and any plans to sell timber as part of the development of the Fermi 3 site, specifically: • value of marketed timber that has been, or is expected to be, harvested for commercial use and • duration of timber harvesting.	In the EIS, the NRC staff needs to cite Detroit Edison's characterization of these activities as they may affect land use and land requirements. A description of past and present activities will be used in developing the affected environment description in the EIS.

NOISE (NO)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
NO3.7-1 ESRP 3.7 10 CFR 51.71(d)	Provide the configuration for the proposed Fermi 3 switchyard including the types and number of equipment (e.g., 2 transformers at 500 MVA each, 4 circuit breakers, etc.).	Detailed information on the proposed switchyard was not provided in the ER and is needed to conduct the noise impact analysis for the EIS.
NO4.4.1-1 ESRP 4.4.1 10 CFR 51.71(d)	Provide the noise modeling analysis for construction on a typical and "worst" day (day with the highest levels of construction emissions).	Noise modeling for construction that assumes a reasonable combination of the number of heavy equipment operating and load factor for the average and worst day is needed for the impact analysis to be presented in the EIS.
NO4.4.1-2 ESRP 4.4.1 10 CFR 51.71(d)	Provide the noise and vibration modeling analysis for blasting-activities on an average and "worst" day.	Blasting impacts during construction would be the source of important noise and vibration impacts on nearby structures and neighboring communities. The noise and vibration modeling, along with blasting-related information (e.g., general description of blasting activities, TNT equivalent weight per charge, frequency, and noise and vibration control measures) is needed for the impact analysis to be presented in the EIS.
NO5.8.1-1 ESRP 5.8.1 10 CFR 51.71(d)	Provide the noise modeling analysis for operations associated with the new locations for the NDCT, switchyard, and transmissions lines.	An impact analysis for operations that considers: (1) the newly proposed location for the NDCT; (2) site-specific switchyard configuration information; and (3) new transmission lines (Fermi 3 to Milan) is needed for the impact analysis to be presented in the EIS.

SOCIOECONOMICS (SE)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
SE2.5.1-1 ESRP 2.5.1 10 CFR 51.45 10 CFR 51.70	Provide updated population estimates for ER Section 2.5.1.	As discussed at the site audit, population data were based on the 2000 census data throughout ER Section 2.5.1 because only 2000 census data are available in the LandView 6 software. However, the LandView 6 software is used to display population data graphically to assess radiological impacts and accidents impacts, but is not used for the socioeconomic impact analysis. The socioeconomic analysis is conducted by jurisdictions (municipalities, counties), and more recent population estimates should be provided for the demographics within the region.
SE2.5.2-1 ESRP 2.5.2 10 CFR 51.45 10 CFR 51.70	Provide information on the size and nature of the heavy construction industry and construction labor force within the region (size of labor force, unemployment rates, wages) specific to the job categories that would be used to support Fermi 3 construction (i.e., boilermakers, pipefitters, electricians, ironworkers, insulators, etc.).	More detailed information is needed to confirm assumptions on the availability of construction workers within the local area to further characterize impacts by jurisdiction on population, housing, public services, education, and public utilities.
SE2.5.2-2 ESRP 2.5.2 10 CFR 51.45 10 CFR 51.70	Provide information on the job categories that would be recruited for the operations workforce, and the size of the labor force, unemployment rates, and wages for these laborers within the region.	More detailed information is needed to confirm assumptions on the availability of operations workers within the local area to further characterize impacts by jurisdiction on population, housing, public services, education, and public utilities.

SOCIOECONOMICS (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
SE2.5.2-3 ESRP 2.5.2 10 CFR 51.45 10 CFR 51.70	Provide updated housing estimates and projections for ER Section 2.5.2.	The 2000 census housing data used to characterize number and types of units, vacancy, and adequacy of structures may no longer accurately reflect existing conditions. The staff assumes that housing data from the regional planning organization (SEMCOG) or other authoritative source may provide more detailed information relative to the communities that could be affected by an influx of workers. Additional data relative to temporary lodging (hotels, motels, RV parks) would also be relevant to assessing potential impacts of the temporary construction workforce.
SE2.5.4-1 ESRP 2.5.4 ESRP 4.4.3 ESRP 5.8.3 10 CFR 51.45 10 CFR 51.70 Executive Order 12898 59 CFR 7629	Provide copies of all correspondence and documentation of personal communications used to support the analysis in the ER sections on environmental justice.	The staff needs to be able to identify the authority that was cited in ER Sections 2.5.4.2.4, 4.4.3.3, and 5.8.3 and the information contained within to support statements related to low-income and minority populations, subsistence uses, and impact evaluation on those populations.
SE4.4.2-1 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide copies of all correspondence and documentation of personal communications used to support the analysis in the ER sections on education.	The staff needs to be able to identify the authority that was cited in ER Sections 4.4.2.4.1 and 5.8.2.4.1 and the information contained within to support statements related to impact evaluations on education.

SOCIOECONOMICS (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
SE4.4.2-2 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide copies of all correspondence and documentation of personal communications used to support analysis in the ER sections on public safety and social services.	The staff needs to be able to identify the information obtained to support statements related to impact evaluation on public safety and social services, where such authoritative references were used in the evaluation. Although no mention of contacts was made in ER Sections 4.4.2.4.3 or 5.8.2.4.3, Detroit Edison indicated during the site audit that some contacts had been made.
SE4.4.2-3 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide copies of all correspondence and documentation of personal communications used to support analysis in the ER sections on public utilities.	The staff needs to be able to identify the information obtained to support statements related to impact evaluation on public utilities. Although no mention of contacts was made in ER Sections 4.4.2.4.4 or 5.8.2.4.4, Detroit Edison indicated during the site audit that some contacts had been made.
SE4.4.2-4 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide copies of all correspondence and documentation of personal communications used to support analysis in the ER sections on tourism and recreation.	The staff needs to be able to identify the information obtained to support statements related to impact evaluation on public utilities. Although no mention of contacts was made in ER Sections 4.4.2.4.5 or 5.8.2.5, Detroit Edison indicated during the site audit that some contacts had been made.
SE4.4.2-5 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide existing Fermi 2 workforce data by zip code.	The data are needed to confirm assumptions used to estimate impacts presented in ER Sections 4.4.2.1 and 5.8.2.1, and to further characterize impacts by jurisdiction on population, housing, public services, education, and public utilities.

SOCIOECONOMICS (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
SE4.4.2-6 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide revised and updated construction cost estimates, reporting pre-construction and construction activities and expenditures separately, and reporting planned expenditures for supplies and materials within the local area versus outside the area.	The data are needed to better characterize the economic impacts of the proposed project presented in ER Sections 4.4.2, 4.4.2.4.6, and 5.8.2.7 using the most currently available construction cost estimates.
SE4.4.2-7 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide a list of job categories and wages/salaries of the construction and operations workforce.	The data are needed to confirm assumptions used to estimate local and non-local workforce; further characterize impacts on population, housing, public services, education, and public utilities based on demographic assumptions; and better characterize the economic impacts of the proposed project (ER Sections 4.4.2, 4.4.2.1, 4.4.2.4.6, 5.8.2.1, and 5.8.2.7).
SE4.4.2-8 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide revised RIMS II model output.	The staff assumes that the multiplier effect as modeled by the RIMS II Input-Output model is based on only the workforce that is relocated to the area, and does not include the existing workforce that is assumed to reside in the area (ER Sections 4.4.2, 4.4.2.4.6, and 5.8.2.7). The revised RIMS II output should also be based on the revised and updated construction cost estimates as specified in RAI number 4.4.2-6.
SE4.4.2-9 ESRP 4.4.2 10 CFR 51.45 10 CFR 51.70	Provide a written statement that minimal to no construction materials would be transported to the project site by water.	A statement was made during the site audit that minimal to no construction materials would be transported to the project site by water. A citable statement is needed to support the analysis of impacts related to the transportation of construction materials.

SOCIOECONOMICS (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
SE4.4.2-10 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	Provide a copy of Level of Service (LOS) analysis/traffic study.	This information is needed to evaluate 1) carrying capacity and condition of roads and highways during construction, operation, and outage periods; 2) relevant transportation and traffic information (i.e., likely commuter [including construction, operation, and periods of outages] and emergency evacuation routes) in Michigan and Ohio; 3) availability and types of public transportation; 4) proposed road modifications that may affect traffic flow to and from the Fermi site; and 5) hourly present and future rates of worker flow through Fermi security gates (ER Sections 4.4.2.4.2 and 5.8.2.4.2). In ER Section 4.4.2.4.2, Detroit Edison committed to supply this information within one year of submittal of the COLA.
SE5.11-2 ESRP 5.11 10 CFR 51.45 10 CFR 51.70	Provide copies of all correspondence and documentation of personal communications used to support the cumulative impact analysis presented in the ER, including but not limited to discussions with local government authorities on current or future activities/projects (public or private) in the vicinity of the Fermi site.	The projects that were considered in determining that cumulative impacts would be SMALL were not identified in ER Section 5.11.

TERRESTRIAL ECOLOGY (TE)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
TE2.4.1-1 ESRP 2.4.1 10 CFR 51.71 (d)	Provide handouts used during the terrestrial ecology site audit tour.	Detroit Edison used handouts during the terrestrial ecology site audit tour to show locations of terrestrial ecology survey areas and findings. Handouts will be used to complete analyses that will be presented in the EIS.
TE2.4.1-2 ESRP 2.4.1 10 CFR 51.71 (d)	Provide the interim report on the confirmatory updated terrestrial ecology survey for the first six months of study. Provide a more recent version and the final report when available.	The confirmatory terrestrial ecology survey was begun in July 2008 and is to be completed in July 2009. Results of this survey will be critical to the EIS analysis of ecological impacts.
TE2.4.1-3 ESRP 2.4.1 10 CFR 51.71 (d)	Provide copies of all correspondence with regulatory, natural heritage, and wildlife agencies.	Input from resources agencies is critical to ensuring a thorough and complete review of project impacts. Provide copies of correspondence (letters/emails) from USFWS (11/26/07) and Michigan DNR (11/28/07).
TE2.4.1-4 ESRP 2.4.1 10 CFR 51.71 (d)	Provide a copy of the 2000 report "Wildlife Management Plan for DTE Fermi Property."	The report "Wildlife Management Plan for DTE Fermi Property" was reviewed during the site audit and is needed as an EIS reference. The plan provides information that is needed for an assessment of the impacts of construction and operations of Fermi 3. The plan is not available elsewhere.
TE2.4.1-5 ESRP 2.4.1 10 CFR 51.71 (d)	Provide a copy of the July 2002 report "Wildlife Management Program Re-Certification for Fermi Power Plant."	The report "Wildlife Management Program Recertification for DTE Fermi Property" was reviewed during the site audit and is needed as an EIS reference. The report is not available elsewhere.
TE2.4.1-6 ESRP 2.4.1 10 CFR 51.71 (d)	Provide a copy of the "Wetland Delineation/Wetlands Functional Values Assessment Report."	The "Wetlands Delineation and Wetlands Functional Values Assessment Report," reviewed during the site audit, is needed as a reference for the EIS. Report data will be used to complete the analysis of impacts to wetlands. The report is not available elsewhere.

TERRESTRIAL ECOLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
TE2.4.1-7 ESRP 2.4.1 10 CFR 51.71 (d)	Provide a copy of the eagle nest location map.	One eagle nest was viewed during the terrestrial ecology special field tour and the location of another nest was described. A map showing the eagle nest sites was available during the site audit, but is not available elsewhere. The map will be used as an EIS reference and will support the impact analysis.
TE2.4.1-8 ESRP 2.4.1 10 CFR 51.71 (d)	Provide a copy of Ducks Unlimited's (DU's) anecdotal fox snake sighting map.	During the site audit, the location of the sighting of the fox snake by DU personnel was described and a map showing the location of the sighting was examined. The map will be used as an EIS reference and will support the impact analysis.
TE2.4.1-9 ESRP 2.4.1 10 CFR 51.71 (d)	Provide the Michigan DNR protected species assessment report mentioned in a letter from Michigan DNR to Ralph Brooks dated November 28, 2007.	This report on the subject of protected species will be critical to the analysis of ecological impacts that will be presented in the EIS. The report is not available elsewhere.
TE2.4.1-10 ESRP 2.4.1 10 CFR 51.71 (d)	Provide point maps of any protected species observed by Black & Veatch (B&V) or other contractors in planned spring and summer 2009 field observations.	The confirmatory terrestrial ecology survey was begun in July 2008 and is to be completed in July 2009. Provide point maps of any protected species observed during these surveys. Results will be critical to the EIS analysis of ecological impacts.
TE2.4.1-11 ESRP 2.4.1 10 CFR 51.71 (d)	Provide a copy of the November 7, 2008 Wetlands Assessment letter from Michigan Department of Environmental Quality (MDEQ) and the Jurisdictional Determination letter from the U.S. Army Corps of Engineers (USACE).	The requested letters will support the analysis of impacts to wetlands that will be presented in the EIS. The information is not available elsewhere.

TERRESTRIAL ECOLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
TE4.3.1-1 ESRP 4.3.1 10 CFR 51.71 (d)	Provide revised terrestrial ecology impacts data for the Fermi site based on the revised Fermi 3 site layout.	Prior to the site audit, Detroit Edison decided to make major changes in the site plan. Impacts from construction and operation of Fermi 3 would be substantially affected, compared to the previous proposal. At the site audit, staff discussed the need to revise existing resources conditions and impacts for the revised site plan. All information provided must address the revised site plan locations. Revised data will be used to complete the impact analyses that will be presented in the EIS.
TE4.3.1-2 ESRP 4.3.1 10 CFR 51.71 (d)	Provide additional detailed terrestrial ecology impacts data for the proposed transmission line from the Fermi site to the Milan substation. Specifically, provide quantitative data on: • forest fragmentation; • changes of wetland type from palustrine forested to palustrine scrub-shrub or palustrine emergent types; and • impacts on threatened and endangered species and important habitat. Provide a modified ER Table 4.3-4 to reflect acres of impact to vegetative communities from the clearing and operation of the ROW, not just the cumulative foot print of the towers.	The ER does not contain detailed information on construction impacts for the transmission line corridor. More detailed information is needed for the EIS, for the proposed transmission line from the Fermi site to the Milan Substation to support the assessment of ecological impacts. Data should include types and acreages of vegetative community impacts. Discussion should include impacts that cause changes in community types, especially forested to other types.

TERRESTRIAL ECOLOGY (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
TE4.3.1-3 ESRP 4.3.1 10 CFR 51.71 (d)	Provide water budget for onsite wetlands or documentation that proposed activities will have no potential to substantially alter the water budget of the wetlands. Include information on water withdrawals and dewatering discharge locations.	Concerns were raised during the site audit about dewatering activities during construction. Provide confirmation of statement made by B&V at the site audit that dewatering would not affect wetland areas. Documentation will be used in the analysis of wetlands impacts to be presented in the EIS. The information provided must address the revised site layout.
TE4.3.1-4 ESRP 4.3.1 10CFR 51.71 (d)	Provide a copy of the Conceptual Wetlands Mitigation Plan.	During the site audit, participants requested that Detroit Edison provide a conceptual mitigation plan to support the terrestrial ecology impacts analysis. The information provided must address the revised site layout.
TE4.3.1-5 10 CFR 51.71 (d)	Provide a topographic map (1-foot contours) of the Fermi site that includes areas that would be developed and that could be used for onsite mitigation.	The potential for onsite wetlands impacts mitigation is in part dependent on small variations in topography. One-foot contour data would facilitate the analysis in the EIS of onsite mitigation potential and overall impacts to wetlands.
TE4.3.1-6 10 CFR 51.71 (d)	Provide MDEQ data on overall acreage of existing inland wetlands and coastal wetlands and permitting data for Monroe County (see Table 4.3-1 of ER).	During the site audit, MDEQ indicated that they may have acreage data for existing inland wetlands and coastal wetlands in the project vicinity, and could provide these data to Detroit Edison if requested. Such data would facilitate the analysis of construction impacts on onsite wetlands compared to wetlands in the wider surrounding area.
TE4.3.1-7 10 CFR 51.71 (d)	Clarify that the column in ER Table 4.3-4 that is currently labeled “Acres Impacted” represents the percentage of the acreage of that type in the region, not the actual acres impacted.	The values in this table appear to be too small to represent the number of acres affected. These data are needed to complete the analysis to be presented in the EIS.

TRANSMISSION LINES (TL)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
TL4.1.2-1 ESRP 4.1.2 ESRP 5.1.2 10 CFR 51.71(d) 10 CFR 51, App. A(7)	Provide a description of construction, operation, and maintenance BMPs that would be applied to Fermi 3 transmission line corridors to the Milan substation.	In order to evaluate the impacts of transmission line construction, operation, and maintenance, a description of BMPs related to construction, operation, and maintenance activities is needed as related to protection of aquatic habitats, wetlands, cultural resources, invasive species control, threatened and endangered species, wildlife management, and habitat maintenance. Provide manuals used by ITC Transmission that describe BMPs. This information is not publically available and is needed for the impact analysis to be presented in the EIS.
TL4.1.2-2 ESRP 4.1.2 ESRP 5.1.2 10 CFR 51.71(d) 10 CFR 51, App. A(7)	Provide a description of the routing process used to identify the proposed Fermi 3-to-Milan corridor.	The EIS will include a description of the process used to identify the transmission line corridors for Fermi 3. The criteria identified in the ER (Section 2.2.2.2) are very general and describe the process used in the siting of transmission lines for Fermi 2 in 1972. The methodology used to select the current proposed corridor route is needed.
TL4.1.2-3 ESRP 4.1.2 ESRP 5.1.2 10 CFR 51.71(d) 10 CFR 51, App. A(7)	Provide a statement regarding the need to upgrade roads and, if applicable, plans to upgrade roads for transmission line construction from Fermi 3 to the Milan substation.	The ER did not provide adequate description of the need to upgrade roads for transmission line construction to the Milan substation. This information is needed to complete the analysis of transmission line impacts.

TRANSPORTATION (TR)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
TR4.8.3-1 EIS Section 4.8.3	Provide a list of the major types and quantities of construction materials required to construct the proposed 1600 MWe reactor similar to that provided in Section 10.2.2.1 of the ER for a 1300 MWe reactor.	This information provides the basis for estimation of the transportation impacts of construction material shipments for presentation in Section 4.8.3 of the EIS.
TR4.8.3-2 EIS Sections 4.8.3 and 5.8.6	Provide an estimate of the average distances that will be travelled to work by Fermi 3 construction and operations employees.	This information provides the basis for estimation of construction worker and operations personnel transportation impacts for presentation in Sections 4.8.3 and 5.8.6 of the EIS.
TR3.8-1 ESRP 3.8 10 CFR 51.52	Provide an analysis for the estimation of the heat load expected in a spent fuel shipping cask for comparison with that in 10 CFR 51.52 Table S-4 (250,000 Btu/hr).	Shipping cask heat loads must be evaluated per 10 CFR 51.52 requirements
TR3.8-2 ESRP 3.8 10 CFR 51.52	Provide assurance of compliance of irradiated fuel and other waste shipments with 10 CFR 51.52 Table S-4 with respect to shipment weight limits (73,000 lbs per truck).	Shipment weights must be shown to be in compliance with 10 CFR 51.52 requirements.

TRANSPORTATION (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
TR3.8-3 ESRP 3.8 10 CFR 51.52	Provide estimates of the number of annual shipments of unirradiated fuel, irradiated fuel, and waste for comparison with the truck traffic density of less than 1 per day in 10 CFR 51.52 Table S-4. Include all supporting calculations.	Estimated number of radiological shipments to and from the facility must be evaluated per 10 CFR 51.52 requirements.
TR3.8-4 ESRP 3.8 10 CFR 51.52	Provide a comparison of the non-radiological transportation impacts for Fermi 3 with Table S-4 in 10 CFR 51.52 (i.e., non-radiological accidents result in one fatal injury per 100 reactor years, 1 non-fatal injury in 10 reactor years, and $475 in property damage per year). Include supporting input such as the number of shipments of each type, shipment distances, and accident and injury rates.	Estimated non-radiological impacts must be evaluated per 10 CFR 51.52 requirements.

TRANSPORTATION (Continued)

RAI Number	Question Summary (RAI)	Full Text (supporting information)
TR3.8-5 ESRP 3.8 ESRP 5.7.2 ESRP 7.4 10 CFR 51.52(b)	Provide a full description and detailed analysis of the environmental effects of the transportation of fuel and waste to and from Fermi-3 and alternative sites that meets the intent of 10 CFR 51.52(b). Conduct a site-specific analysis using an acceptable methodology, such as RADTRAN 5. The transportation risk assessment must describe key input parameters and assumptions and provide justification that the best available information has been used in developing the RADTRAN 5 input values. Provide the RADTRAN and any additional software input and output files (in electronic form) that support the analysis.	The ER contains an assertion that Fermi-3 transportation impacts are bounded by those in a previous NRC EIS for the Grand Gulf ESP. However, this does not adequately address the intent of 10 CFR 51.52(b) which requires a detailed analysis for the reactor should all conditions under 10 CFR 51.52(a) not be met.
TR7.4-1 ESRP 7.4	Provide documentation that supports the contention that “the ESBWR design incorporates provisions to minimize crud buildup” as stated in Section 7.4.2 of the ER.	Development of the source term for transportation accidents in the ER assumes that crud buildup in the ESBWR design will not exceed that in existing BWR reactors, but no supporting evidence was given.