PMFermiCOLNPEm Resource

From: Lemont, Stephen
Sent: Tuesday, September 22, 2009 9:34 AM
To: 'Randall D Westmoreland'
Cc: tylendac@dteenergy.com; 'LaGory, Kirk E.'; 'Hayse, John'; 'jquinn@anl.gov'; 'skamboj@anl.gov'; 'tallison@pnl.gov'; 'changy@anl.gov'; 'Snyder, Natasha B.'; 'Guerin, Jone'; FermiCOL Resource
Subject: Notes from 9-11-09 Conference Call to Discuss Requests for Additional Information (RAIs)
Attachments: Status of 7-31-09 RAI Responses as of 9-11-09 v2.doc; RAIs to be Discussed with Detroit Edison 081309.docx

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Randy,

The notes from the subject conference call are provided below. Please distribute to your staff and consultants. Also, please review and let me know as soon as possible if you have any comments or suggested changes; and take note of the various Black & Veatch (B&V) and Detroit Edison action items highlighted in yellow, and take action as necessary.

Conference Call to Discuss Requests for Additional Information (RAIs)
for the Fermi 3 COL Environmental Review
September 11, 2009

Purpose

To discuss (1) responses to RAIs submitted by Detroit Edison on July 31, 2009; (2) selected future RAI responses; and (3) miscellaneous items related to RAIs.

Participants

- U.S. Nuclear Regulatory Commission (NRC): Stephen Lemont
- Argonne National Laboratory (Argonne): Kirk LaGory, John Quinn, Sunita Kamboj, Tim Allison, Adrianne Carr, Young Soo Chang
- Ecology and Environment (E&E): Natasha Snyder, Jone Guerin
- Detroit Edison: Bob Peters, Randy Westmoreland, Joe Laprad, LaShawn Green, Jamie Capellari, Chris Becker, Craig Tylenda, Bethany Brooks
- Black and Veatch (B&V): Dave O'Rourke, Steve Thomas, Lisa Fewins, Adam Liebergen, Ed Meyer, Bryce Weinand, Dusty Miller, Brian O'Neil, Jeff Szymanski, Linda Davis, Greg Johnson, John Wynne
- AECOM: Claire Garvin

Summary of RAI Discussions and Associated Action Items

The Summary of RAI discussions during the conference call is presented below. Action items for the various parties, as specified, are identified below where followed by **"[ACTION ITEM]"**.

1. NRC General Comments Regarding RAI Responses

- Where references are cited in RAI responses, unless we already have them or they are readily publicly available, we need those references to be submitted by Detroit Edison for docketing for reference in the Draft EIS. This applies to all RAI response submittals in which such references are cited.

- Where references are being withheld from docketing by Detroit Edison because they are related to contentions, they must be provided all or in part (as will be specified by NRC) because issues in admitted contentions must be fully addressed in the Draft EIS.
- NRC and Detroit Edison must work cooperatively to identify what documentation currently provided in reading rooms only needs to be submitted for docketing.
- For any RAIs that we show as incomplete, Detroit Edison should update future submittal schedules (doesn't apply to references not provided for docketing).

2. July 31st RAI Responses

A summary of the discussions of Detroit Edison's July 31, 2009, RAI responses is documented in the attachment, "7-31-09 RAI Responses as of 9-11-09 v2.doc". Somewhat more detailed discussion information is presented below. The comments in the attachment were provided in writing to Detroit Edison on September 10, 2009.

GE1.1-1
- NRC: NRC is looking for about a sentence or two. The "Need" part of the response was acceptable. The "Purpose" statement is crucial because it affects other parts of the EIS, especially the alternatives analysis. NRC needs to provide an identification of the quantity (in Megawatts, baseload) of electrical generation for the proposed facility and for what timeframe and service area.
- Detroit Edison: Agreed to provide the information requested above by NRC. **[ACTION ITEM]**

AE2.4.2-1
- NRC/Detroit Edison: The form in which the requested information will be submitted for docketing will be discussed at a later time. **[ACTION ITEM]**

CR4.1.3-1
- NRC/Detroit Edison: The form in which the requested information will be submitted for docketing will be discussed at a later time. **[ACTION ITEM]**

CR4.1.3-2
- E&E: Section 106 requires identification of cultural resources, including historic properties, prior to construction of the transmission lines.
- Detroit Edison: The response was directed at the specific RAI, i.e., to describe the procedures ITCTransmission (ITC) would follow to identify and protect cultural resources during construction and maintenance activities.
- NRC/E&E: Will provide a supplementary RAI to Detroit Edison, requesting a description of the procedures ITC would follow to identify and protect cultural resources prior to construction of the transmission lines. **[ACTION ITEM]**

HH5.3.4-1
- NRC/Detroit Edison: The form in which the requested information will be submitted for docketing will be discussed at a later time. **[ACTION ITEM]**

HY2.3.1-5
- B&V: B&V chose the Butler method as representative of high connectivity conditions and understands that it is not for unconfined aquifers. It was assumed that the method, although developed for confined aquifers, is appropriate for very short slug tests (B&V provided references to that affect).
- Argonne: Aqtesolv describes a method (Springer-Gelhar) applicable to unconfined aquifers that would be the more appropriate method to use in the calculations. Therefore, Argonne requested that B&V re-run the analysis using the Springer-Gelhar method, or perform calculations using that approach to confirm that the Butler method approach used provides reasonable results.
- B&V/Detroit Edison: Will discuss the above mentioned approaches to decide on a path forward, and will get back to NRC with their proposed approach. **[ACTION ITEM]**

HY4.6-1

- NRC: We understand that the Soil Erosion and Sedimentation Control (SESC) plan would not be available until just prior to construction; however, some sort of synopsis of the SESC procedures in needed for the Draft EIS.
- Detroit Edison: Requested an example of what is needed.
- Argonne: ER Section 2.6.5 includes information focused mainly on excavated stockpiles. Additional information should be provided regarding the planned location(s) of the stockpiles, and the overall site design plans for limiting the duration of the soil disturbing activities, for removing sediment from site runoff, and for temporary and permanent erosion and sedimentation controls. Additional information is available at www.michigan.gov/deq/0,1607,7-135-3311_4113---,00.html. Also, Detroit Edison could use the Fermi 2 SESC plan to develop a summary of the SESC procedures for Fermi 3.
- Detroit Edison: Agreed to provide the information requested above by Argonne. **[ACTION ITEM]**

HY4.6-2
- NRC: Some sort of synopsis of the Storm Water Pollution Prevention (SWPP) plan procedures is needed for the Draft EIS.
- Detroit Edison: Requested an example of what is needed.
- Argonne: An acceptable approach would be to use the current SWPP plan for Fermi 2 to develop a summary for Fermi 3.
- Detroit Edison: Agreed to provide the information requested above by Argonne. **[ACTION ITEM]**

SE2.5.2-3
- NRC: Some of the requested data were not provided.
- B&V/Detroit Edison: Will provide an inventory of hotels and motels in the Detroit/Toledo area. **[ACTION ITEM]**

SE4.4.2-9
- NRC: Information provided at the site audit differed from that provided in the RAI response, so clarification is needed.
- Detroit Edison: The information provided in the response is docketed and is the correct information. Comments at the site audit should not be considered official.
- E&E: This is really a U.S. Army Corps of Engineers (USACE) issue and could be addressed in Detroit Edison's response to the USACE RAIs.
- Detroit Edison: There will be a significant amount of material that will be brought in by barge, but the amount is difficult to quantify at this point. That information will be included in the traffic study and in the response to the USACE RAIs, as appropriate. **[ACTION ITEM]**

TE2.4.1-3
- NRC/Detroit Edison: The form in which the requested information will be submitted for docketing will be discussed at a later time. **[ACTION ITEM]**

TL4.1.2-1
- Argonne: Information is needed that describes the procedures that will be employed by ITC during operations and maintenance, to protect natural and cultural resources. Although we would prefer the actual manuals used by ITC, a synopsis of the information in those manuals would be acceptable.
- Detroit Edison: Will provide the information synopsis requested above by Argonne. **[ACTION ITEM]**

TL4.1.2-2
- Argonne: From the information provided, we could not understand how the transmission line route was selected.
- Detroit Edison: We described the overall system planning process employed by ITC.
- Argonne: That system planning process identifies only the excess capacity of the existing system and where the connection to the grid is possible. It does not identify the transmission line route and how it was selected. We need to have a description of how Detroit Edison/ITC chose the route for Fermi 3. Also, the information provided in the ER relates to the process used in 1973, and that information needs to be updated to determine if it is still applicable. We also need ITC's *"Transmission Planning Criteria"* document.

- Detroit Edison: Agreed to provide the information and document requested above by Argonne. **[ACTION ITEM]**
- NRC/Argonne: Will look into the matter of how transmission line routing issues are being handled on COL environmental reviews for other projects. **[ACTION ITEM]**

3. Future RAI Responses

These discussions, as summarized below, were limited to RAIs in the attachment, "RAIs to be Discussed with Detroit Edison 081309.docx", to which Detroit Edison has indicated it would provide responses in September or October 2009. However, RAIs SE4.4.2-10 and TR3.8-5 were discussed in previously documented conference calls.

Detroit Edison's responses to the RAIs in the attachment shown with an August 31 response date have already been received and are under review by NRC. Detroit Edison's future responses to the remaining RAIs listed in the attachment will be discussed in one or more future conference calls.

BC10.4.2-2
- Detroit Edison: Plans to reference independent spent fuel storage facility (ISFSI) construction and operating costs that are presented in a Nuclear Energy Institute (NEI) fact sheet *("Safely Managing Used Nuclear Fuel"*) available on NEI's website.
- Argonne: Will review the NEI fact sheet. **[ACTION ITEM]** However, since Detroit Edison does not know what ISFSI technology would be used, it would be best to provide a range of costs.
- NRC: The requested cost range would be for the various ISFSI technologies that Detroit Edison might consider using for Fermi 3.
- Detroit Edison: Would likely not build an ISFSI until 2030 at earliest.
- Detroit Edison: Will determine if providing the cost range information requested above by Argonne is doable, and will get back to NRC on this matter. **[ACTION ITEM]**

HH5.11.7-1
- B&V: The Radiological Effluent Monitoring Program (REMP) covers doses from all sources. B&V will examine REMP reports for Fermi 2 and Davis Besse. Monitors at 10 miles and 5 miles from each, respectively, are considered control locations. All monitors measure cumulative dose.
- Argonne: We are looking for a statement that dose from all sources is being monitored.
- B&V: Agrees that they can provide a statement to the effect that dose from all sources is being monitored. **[ACTION ITEM]**

HY2.3.1-8
- B&V: We contacted the Michigan Department of Environmental Quality (MDEQ) to obtain the methodology they used. Peak flow data in the ER were published by MDEQ, and were developed from flood insurance data not related to Plum Brook Creek. Monthly flow data presented in the ER were based on data from Plum Brook Creek. MDEQ chose Plum Brook as representative of Swan Creek because of similar geology. MDEQ did not pick a closer stream because flow data were not complete. MDEQ is satisfied with their analysis.
- B&V: A description of the MDEQ approach and rationale will be provided in the response to this RAI. **[ACTION ITEM]**
- Argonne: Agrees that that is an acceptable approach.

NO4.4.1-1
- B&V: Will use information in the ER for a typical day and add noise from pile driving to represent the worst case. **[ACTION ITEM]**
- Argonne: Agrees that this is an acceptable approach.

NO4.4.1-2
- B&V: Blasting noise would be limited by OSHA standards protective of workers and, therefore, it is assumed that these limits would be protective of health offsite. The blasting program would be limited

to protect onsite structures. Design and planning for the blast program would be done by the contractor prior to construction. Much of this information is presented in the FSAR, Section 2.5.4.5.3.2.

- Argonne: Will check the information in FSAR Section 2.5.4.5.3.2 and determine if sufficient information is provided in the FSAR. If sufficient information is not provided, a conference call to discuss the issue with Detroit Edison will be arranged. **[ACTION ITEM]**

NO5.8.1-1

- B&V: Analysis for new cooling tower location has been completed. Onsite transmission lines, transformers, etc. are already included in the onsite noise model. The cooling tower is the largest noise source.
- Argonne: Agrees that this is an acceptable approach.

General

- Detroit Edison: Will very soon inform NRC of possible dates/times for one or more conference calls to discuss the remainder of the future RAI responses. **[ACTION ITEM]**

4. Discussion on Miscellaneous RAIs

HY2.3.1-15

- Detroit Edison: The response to this RAI will be provided in the September 31, 2009 RAI response submittal. Detroit Edison has thousands of records related to discharges at Fermi 2. Does Argonne really need to see all of these records or are there specific records that are of interest?
- Argonne: We do not need to see all of the discharge reports, but would like to see notices of violation for Fermi 2. We want this for both NPDES and radwaste discharges.
- Detroit Edison: Up to 1994, Fermi had routine radwaste discharges. After the Fermi 2 turbine accident in 1994, routine radwaste discharges were no longer allowed. There are some gaps in the radwaste information.
- Argonne: Would also like to see the radwaste discharge information.
- Detroit Edison: Will provide records for all notices of violation for Fermi 2. Will also provide information on radwaste discharges that were part of routine operations up to 1994. **[ACTION ITEM]**

AQ2.7-5:

- NRC: In its August 31 response to this RAI, Detroit Edison noted that the X/Q values used in the analysis to determine the Exclusion Area Boundary (EAB) and Low Population Zone (LPZ) have been changed. Although the response to RAI AQ2.7-5 is acceptable, NRC is concerned that the changes in the X/Q values may affect air quality, human health, and/or accidents analyses that would need to be revised by Detroit Edison.
- B&V: New X/Q values and a revised accident analysis will be provided in response to RAI 7.1-1. The X/Q values used in Section 5.4 (human health) are not affected by this change.
- Argonne: Believes the changed X/Q values will not affect other, non-accident portions of the environmental review.
- B&V: The revised analysis using the new X/Q values, as discussed above, are scheduled to be submitted by the end of September 2009. **[ACTION ITEM]**

****

Please contact me if you have any questions or need additional information.

Thanks,
Steve

Stephen Lemont, Ph.D.

Environmental Project Manager
United States Nuclear Regulatory Commission

Office of New Reactors
Mail Stop: T-7E30
Washington, DC 20555-0001
Telephone: 301-415-5163
Fax: 301-415-5397
Email: Stephen.Lemont@nrc.gov

Hearing Identifier: Fermi_COL_NonPublic
Email Number: 688

Mail Envelope Properties (7732D2CAE130E84D91CCFD69571DE943B691800438)

Subject: Notes from 9-11-09 Conference Call to Discuss Requests for Additional Information (RAIs)
Sent Date: 9/22/2009 9:34:20 AM
Received Date: 9/22/2009 9:34:00 AM
From: Lemont, Stephen

Created By: Stephen.Lemont@nrc.gov

Recipients:
"tylendac@dteenergy.com" <tylendac@dteenergy.com>
Tracking Status: None
"'LaGory, Kirk E.'" <lagory@anl.gov>
Tracking Status: None
"'Hayse, John'" <hayse@anl.gov>
Tracking Status: None
"'jquinn@anl.gov'" <jquinn@anl.gov>
Tracking Status: None
"'skamboj@anl.gov'" <skamboj@anl.gov>
Tracking Status: None
"'tallison@pnl.gov'" <tallison@pnl.gov>
Tracking Status: None
"'changy@anl.gov'" <changy@anl.gov>
Tracking Status: None
"'Snyder, Natasha B.'" <NSnyder@ene.com>
Tracking Status: None
"'Guerin, Jone'" <JGuerin@ene.com>
Tracking Status: None
"FermiCOL Resource" <FermiCOL.Resource@nrc.gov>
Tracking Status: None
"'Randall D Westmoreland'" <westmorelandr@dteenergy.com>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

Files	**Size**	**Date & Time**
MESSAGE	16342	9/22/2009 9:34:00 AM
Status of 7-31-09 RAI Responses as of 9-11-09 v2.doc	159738	
RAIs to be Discussed with Detroit Edison 081309.docx	32376	

Options
Priority: High
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received: Follow up

Status of July 31, 2009, Detroit Edison Responses to
U.S. Nuclear Regulatory Commission (NRC) Requests for Additional Information (RAIs)
Fermi Nuclear Power Plant, Unit 3 (Fermi 3)
Combined License Application - Environmental Report

RAI Number[1]	Response Date/ ADAMS Accession No.	Status of Response	Question Summary (RAI)	Full Text (supporting information)	Comments
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	7/31/09 ML092290713	Partially Complete	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	[9/10/09] Response unacceptable. As described in the preceding column, Detroit Edison needs to provide the "Purpose" part of the Purpose and Need statement that establishes a clear need for a facility that will generate a specified quantity of electricity (in Megawatts, baseload or otherwise) within a specified service area and timeframe. [9/11/09] Detroit Edison agreed to develop a revised "Purpose" statement with the requested information. The "Need" part of the response was acceptable.

[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).

				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 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."	
GE2-1 ESRP Sections 2, 3, 4, and 5	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
GE2-2 ESRP Sections 2, 3, 4, and 5	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
AE2.4.2-1 ESRP 2.4.2 10 CFR 51.71(d)	7/31/09 ML092290713	Partially complete	Provide copies of correspondence with Federal and State agencies (U.S. Fish and Wildlife Service [USFWS], Michigan Department of Natural Resources [DNR], Ohio	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,	[9/10/09] Response unacceptable. NRC requires that the discussions/correspondence identified in the RAI response (or an acceptable summary of those

			DNR, Canadian agencies, etc.) regarding potential impacts to aquatic species and monitoring studies for Fermi 3.	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.	discussions) be submitted for docketing (under oath or affirmation) because they will be cited as references in the EIS.
AQ3.6.3-3 ESRP 3.6.3 10 CFR 51.71(d)	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
BC10.4.2-1 ESRP 10.4.2 10 CFR 51.45 10 CFR 51.71	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
CR4.1.3-1 ESRP 4.1.3 ESRP 5.1.3 10 CFR 51.71 (d) 36 CFR 800 36 CFR 63	7/31/09 ML092290713	Partially Complete	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.	[9/10/09] Response unacceptable. Regarding the three additional documents placed in reading rooms on or before August 7, 2009, and any future correspondence and documentation to be provided, NRC requires that these items (or an acceptable summary of the content of these items) be submitted for docketing (under oath or affirmation) because they will be cited as references in the EIS.
CR4.1.3.-2	7/31/09	Complete	Provide a document describing	This information will be used to	[9/10/09] Response unacceptable.

ESRP 4.1.3 and ESRP 5.1.3 10 CFR 51.71 (d) 36 CFR 800 43 CFR 10	ML092290713		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.	complete the NEPA analysis and to support compliance with the Section 106 process.	ITC's measures for archaeological and cultural resources indicate that if archaeological materials are identified during construction, then the project would stop and ITC and the SHPO would be notified. Typically, cultural resource investigations are conducted prior to construction, to identify and avoid any NRHP-eligible historic properties (i.e., archaeological sites). In this regard, we need to be provided with something for cultural resources that is similar to the first four measures for Wetland Protection provided in the response to RAI TL4.1.2-1. Furthermore, the response does not include a description of the plans for unanticipated discoveries of archaeological resources and of human remains beyond the contractor contacting ITC and the SHPO. What is needed to satisfy both of the above requirements is a document describing how ITC would identify and/or protect cultural resources prior to right-of-way construction and maintenance, as well as plans that describe procedures that will be implemented in the event that unanticipated archaeological resources or human burials are identified during construction. The procedures regarding human burials would be those required by applicable State and Federal laws, which include: • National Historic Preservation Act of 1966, as amended (36 CFR 800.13), • Section 2853 of the Public

					Health Code (Act 368 of 1978), Michigan Compiled Laws (MCL) 333.2853; Michigan Statutes Annotated (MSA) 14.15(2853) • 1982 Annual Administrative Code Supplement (AACS), R 325.8051 • Section 160 of the Michigan Penal Code, MCL 750.160; MSA 28.357 • 1988 Public Act (PA) 452; MCL299.51 [9/11/09] Response acceptable. Detroit Edison pointed out that their response was directed at the specific RAI, i.e., to describe the procedures ITC would follow to identify and protect cultural resources during construction and maintenance activities. Therefore, NRC will request the information identified above in a supplementary RAI that asks for a description of measures to be employed by ITC prior to construction.
CR4.1.3-5 ESRP 4.1.3 10 CFR 51.71 (d) 36 CFR 800	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
HH5.3.4-1 ESRP 5.3.4 40 CFR 141.70	7/31/09 ML092290713	Partially Complete	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.	[9/10/09] Response unacceptable. NRC requires that the information identified in the RAI response (or an acceptable summary of that information) be submitted for docketing (under oath or affirmation) because it will be cited

				Documentation related to the consultation with the Michigan Department of Community Health is needed for the staff to perform this assessment.	as a reference(s) in the EIS.
HH5.4.1-1 ESRP 5.4.1 10 CFR 20.1301 10 CFR 50 App. I 40 CFR 190	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
HH5.4.1-2 ESRP 5.4.1 10 CFR 20.1301	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
HH5.4.2-1 ESRP 5.4.2 10 CFR 50, App. I 10 CFR 20.1301 40 CFR 190	7/31/09 ML092290713	Complete	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	[9/10/09] Response acceptable.

				confirmatory analyses. Provide the basis for any factors other than defaults used as input to the computer codes.	
HY2.3.1-5 ESRP 2.3.1 10 CFR 51.70(b)	7/31/09 ML092290713	Partially Complete	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.	[9/10/09] Response unacceptable. Some of the requested information was provided; however, as stated in the previous column, it is unclear whether or not the same formula is used to interpret data obtained from the rock fill which is under unconfined conditions. The response did not provide the requested clarification. [9/11/09] Argonne pointed out that Aqutesolv describes a method (Springer-Gelhar) applicable to unconfined aquifers that would be the more appropriate method to use in the calculations. Argonne requested that B&V/Detroit Edison re-run the analysis using the Springer-Gelhar method or perform calculations using that approach to confirm that the Butler method approach used provides reasonable results. B&V and Detroit Edison will discuss these approaches to decide and report back to NRC on a path forward.
HY2.3.1-6 ESRP 2.3.1 10 CFR 51.70(b)	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
HY2.3.1-9 ESRP 2.3.1	7/31/09 ML092290713	Complete	Identify the elevation of the proposed discharge structure and provide detailed bathymetry in the	Elevation information and detailed bathymetry are needed to evaluate dredging impacts,	[9/10/09] Response acceptable.

10 CFR 51.70(b)			vicinity of the structure.	thermal discharge impacts, and erosion/sedimentation.	
HY2.3.1-11 ESRP 2.3.1 10 CFR 51.70(b)	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
HY2.3.1-12 ESRP 2.3.1 10 CFR 51.70(b)	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
HY2.3.1-13 ESRP 2.3.1 10 CFR 51.70(b)	7/31/09 ML092290713	Complete	Provide written statements that: • Frenchtown Township supplies potable and demineralized water demands of Fermi 2 and will also be adequate to meet those 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.	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 accurate.	[9/10/09] Response acceptable.
HY4.6-1 ESRP 4.6	7/31/09 ML092290713	Incomplete	Provide the Soil Erosion and Sedimentation Control (SESC) plan for the construction of Fermi	Detroit Edison has indicated that a SESC plan will be developed after the layout of Fermi 3 is finalized.	[9/10/09] Response unacceptable. Detroit Edison stated that the SESC plan was not provided

10 CFR 51.50			3.	This plan will provide an important basis for the assessment of construction impacts in the EIS.	because it will not be completed until just prior to construction. However, information on SESC procedures and planning is needed for the Draft EIS. BMPs for soil erosion and sedimentation control are presented in the ER, but additional information that would be included in the SESC plan is needed. To ensure inclusion in the Draft EIS, this information must be provided on or before December 30, 2009. [9/11/09] ER Section 2.6.5 includes information focused mainly on excavated stockpiles. Additional information should be provided regarding the planned location(s) of the stockpiles, and overall site design plans for limiting the duration of the soil disturbing activities, for removing sediment from site runoff, and for temporary and permanent erosion and sedimentation controls. Additional information is available at www.michigan.gov/deq/0,1607,7-135-3311_4113---,00.html. Also, Detroit Edison could use the Fermi 2 SESC plan to develop a summary of the SESC procedures for Fermi 3. Detroit Edison agreed to provide the requested information.
HY4.6-2 ESRP 4.6 10 CFR 51.50	7/31/09 ML092290713	Incomplete	Provide the Storm Water Pollution Prevention Plan (SWPPP) 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.	[9/10/09] Response unacceptable. Detroit Edison stated that the SWPPP was not provided because it will not be completed until after completion of construction. However, information on SWPPP procedures must be included in the Draft EIS, which is anticipated

					to be completed a number of years prior to the start of construction. Therefore, on or before December 30, 2009, Detroit Edison should provide either the SWPPP or a complete summary description of the SWPP procedures to be employed. [9/11/09] An acceptable approach would be to use the current SWPPP for Fermi 2 to develop a summary for Fermi 3. Detroit Edison agreed to provide the requested information.
HY4.6-3 ESRP 4.6 10 CFR 51.50	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
HY5.3.2-1 ESRP 5.3.2 10 CFR 51.45	7/31/09 ML092290713	Complete	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	[9/10/09] Response acceptable.

				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.	
HY5.3.2-3 ESRP 5.3.2 10 CFR 51.45	7/31/09 ML092290713	Complete	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	[9/10/09] Response acceptable.

				extent of the thermal plume.	
HY5.3.2-4 ESRP 5.3.2 10 CFR 51.45	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
HY5.3.2-5 ESRP 5.3.2 10 CFR 51.45	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
LU1.2-1c ESRP 1.2 10 CFR 51.45 10 CFR 51.71 10 CFR 100.11	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
SE2.5.1-1 ESRP 2.5.1	7/31/09 ML092290713	Complete	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	[9/10/09] Response acceptable.

10 CFR 51.45 10 CFR 51.70				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.	
SE2.5.2-3 ESRP 2.5.2 10 CFR 51.45 10 CFR 51.70	7/31/09 ML092290713	Partially Complete	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.	[9/10/09] Response unacceptable. Requested data on other temporary housing (e.g., hotels/motels) was not provided. [9/11/09] B&V/Detroit Edison will provide an inventory of hotels and motels in the Detroit/Toledo area.
SE4.4.2-5 ESRP 4.4.2 ESRP 5.8.2 10 CFR 51.45 10 CFR 51.70	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
SE4.4.2-9	7/31/09	Complete	Provide a written statement that	A statement was made during the	[9/10/09] Response unacceptable.

ESRP 4.4.2 10 CFR 51.45 10 CFR 51.70	ML092290713		minimal to no construction materials would be transported to the project site by water.	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.	The information in this response differs from that provided at the site audit (reflected in previous column). As applicable, Detroit Edison needs to further explain its response or indicate that the statement provided at the audit was made prematurely and that a decision has not yet been made regarding the mode of transportation to be used to bring construction materials to the site. [9/11/09] Response acceptable. Detroit Edison indicated that the information provided in the response is docketed and is the correct information. Comments at the site audit should not be considered official. Further information on transportation by water would be included in Detroit Edison's response to the USACE RAIs and in the traffic study.
TE2.4.1-3 ESRP 2.4.1 10 CFR 51.71 (d)	7/31/09 ML092290713	Partially Complete	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).	[9/10/09] Response unacceptable. NRC requires that the items provided in the reading rooms only—the email from USFWS and the two MDNR correspondence records (or an acceptable summary of the discussions in those items)--be submitted for docketing (under oath or affirmation) because they will be cited as references in the EIS.
TE2.4.1-7 ESRP 2.4.1 10 CFR 51.71 (d)	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.

TE4.3.1-3 ESRP 4.3.1 10 CFR 51.71 (d)	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
TE4.3.1-7 10 CFR 51.71 (d)	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.
TL4.1.2-1 ESRP 4.1.2 ESRP 5.1.2 10 CFR 51.71(d) 10 CFR 51, App. A(7)	7/31/09 ML092290713	Incomplete	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.	[9/10/09] Response unacceptable. Insufficient detail is provided in the response to address information requested in this RAI related to BMPs for operations and maintenance. Descriptions of BMPs for operations and maintenance related to protection of aquatic habitats, wetlands, cultural resources, invasive species control, threatened and endangered species, wildlife management, and habitat maintenance must be provided. BMPs may include, but are not necessarily limited to setbacks, resource-specific vegetation management techniques (e.g., manual controls, special herbicides, application techniques), selective invasive species control, native species plantings, worker education programs, etc. The information on the BMPs to be employed will form the basis, in part, for

					determining the magnitude of impacts. [9/11/09] Detroit Edison agreed to provide the information requested above. Although NRC/Argonne would prefer the actual manuals used by ITC, a synopsis of that information would be acceptable.
TL4.1.2-2 ESRP 4.1.2 ESRP 5.1.2 10 CFR 51.71(d) 10 CFR 51, App. A(7)	7/31/09 ML092290713	Incomplete	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.	[9/10/09] Response unacceptable. The response does not provide the requested description of how the route from the Fermi 3 site to the Milan substation was determined. Also, ITC's "Transmission Planning Criteria," mentioned in the response as being included with the response, was not provided. We request this document be submitted for docketing, under oath or affirmation, for our use and reference in the EIS. [9/11/09] Detroit Edison agreed to provide the information and document requested above.
TL4.1.2-3 ESRP 4.1.2 ESRP 5.1.2 10 CFR 51.71(d) 10 CFR 51, App. A(7)	7/31/09 ML092290713	Complete	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.	[9/10/09] Response acceptable.

Fermi 3 RAIs to Be Discussed with Detroit Edison

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
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.	12/30	The staff wants be sure that all changes to environmental impacts resulting from the site layout modifications are considered in the analysis and in sufficient detail to permit completion of the EIS on schedule.
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	11/23	The staff wants to discuss the assumptions and conclusions presented in the ER and ensure that sufficient information is provided in the RAI response to address the needs of the EIS.

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).

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
		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.		
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.	11/23	The staff wants to discuss the necessary components of the conformity analysis, and how that information will be presented in NRC's air conformity determination that may be required and included as an appendix to the EIS.
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	8/31	The staff wants know how Detroit Edison is addressing the evaluation requested in this RAI, and wants to be sure that all impacts at alternative sites are considered in the analysis, all at sufficient detail to permit completion of a defensible alternatives analysis in the EIS.

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
		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.		
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.	10/30	The staff wants to discuss the costs for an ISFSI and the proper characterization of the relationship to Fermi 2 and Fermi 3 operations.
HH5.4.2-2	Provide a description of the	In Section 5.4.1.2 on page 5-108 of	11/23	The staff needs to

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
ESRP 5.4.2 10 CFR 50.34a	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.	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.		determine if the methodology being used by Detroit Edison is correct and that all relevant values will be provided for inclusion in the EIS.
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.	11/23	The staff wants to ensure that occupational doses include doses from Fermi 1 and Fermi 2 operations, as well as from Fermi 3 operations.
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.	10/30	The staff needs to determine if the methodology being used by Detroit Edison is correct and that a reasonable explanation is provided for the EIS.
HY2.3.1-1	Provide maps and descriptions of the	As determined during the site audit,	12/30	The staff wants to discuss

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
ESRP 2.3.1 10 CFR 51.70(b)	areal extent, cross section, and depth of all existing clay dikes installed during the construction of Fermi 1 and 2.	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.		the level of detail that will be provided by Detroit Edison regarding the information requested for the clay dikes.
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.	12/30	The staff wants to determine if sufficient detail will be provided by Detroit Edison in contour maps and descriptions of gravel fills for inclusion in the EIS.
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.	9/30	The staff wants to discuss the approach that is planned by Detroit Edison to address this RAI, including but not limited to which watershed will be used as a surrogate and the basis of using that watershed.
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	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	12/30	The staff wants to discuss the approach that will be used by Detroit Edison for making these calculations.

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
	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.	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.		
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	11/23	The staff wants to determine if the assumptions and inputs for the model would be defensible.

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
		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.	12/30	The staff needs to determine if the methodology to be used by Detroit Edison is correct.
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	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	12/30	The presentation in the ER was unclear and the details of this RAI are somewhat complicated. The staff wants the opportunity to answer questions and explain the request.

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
	derived. Provide information on the locations and elevations of the drains in the drainage cells within the excavation areas used in the MODFLOW model.	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.		
HY4.2.1-11 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 be used to evaluate the impacts of construction on groundwater.	12/30	The staff wants to determine if we concur with the proposed monitoring programs and if all required information will be provided for inclusion 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.	11/23	The staff wants to determine if we concur with the proposed monitoring program and if all required information will be provided for inclusion in 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.	9/30	The staff wants to discuss the assumptions being used by Detroit Edison for typical and worst day analyses.

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
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.	10/30	The staff wants to discuss the assumptions being used by Detroit Edison for typical and worst day analyses.
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.	9/30	The staff wants to discuss the objectives of the modeling exercise and modeling approach.
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	10/30	The staff wants to discuss the modeling approach and results, pending our review of materials provided in the reading room and the Emergency Plan.

RAI Number1	Question Summary (RAI)	Full Text (supporting information)	Date Response to be Provided	Purpose of Discussion
		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.		
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.	10/30	The staff wants to discuss the approach and assumptions to be used by Detroit Edison in the revised transportation analysis.