

PMFermiCOLPEm Resource

From: Nicholas A Latzy [latzyn@dteenergy.com]
Sent: Wednesday, July 13, 2011 4:08 PM
To: Hale, Jerry; Anand, Raj; Muniz, Adrian
Subject: Courtesy Copy RAI Letter 62
Attachments: NRC3-11-0027.pdf

Here is a courtesy copy of RAI Letter 62
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10 CFR 52.79

July 13, 2011
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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
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References: 1) Fermi 3
Docket No. 52-033
2) Letter from Jerry Hale (USNRC) to Jack M. Davis (Detroit Edison), "Request for Additional Information Letter No. 62 Related to Section 1.0 for the Fermi 3 Combined License Application," dated July 7, 2011

Subject: Detroit Edison Company Response to NRC Request for Additional Information
Letter No. 62

In Reference 2, the NRC requested additional information to support the review certain portions of the Fermi 3 Combined License Application (COLA). The response to the Request for Additional Information (RAI) associated with Reference 2 is provided as Attachment 1 of this letter. Information contained in this response will be incorporated into a future COLA submission as described in the attachment.

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

I state under penalty of perjury that the foregoing is true and correct. Executed on the 13th day of July 2011.

Sincerely,

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

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

Attachment: 1) Response to RAI Letter No. 62, RAI Question No. 01-5

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

Attachment 1
NRC3-11-0027
(10 pages)

Response to RAI Letter No. 62
(eRAI Tracking No. 5867)

RAI Question No. 01-5

NRC RAI 01-5

A new Interim Staff Guidance (ISG) - 22 is being issued to assist the staff with the evaluation of combined license (COL) applicant's compliance with the requirements of 10 CFR 52.79(a)(31). This regulation requires, in part, applicants for a COL intending to construct and operate new nuclear power plants on multi-unit sites to provide an evaluation of the potential hazards to the structures, systems, and components (SSCs) important to safety for operating units resulting from construction activities on the new units. The requirement in 10 CFR 52.79(a)(31) can be viewed as having two subparts:

- 1. The COL applicant must evaluate the potential hazards from constructing new plants on SSCs important to safety for existing operating plants that are located at the site.*
- 2. The COL applicant must evaluate the potential hazards from constructing new plants on SSCs important to safety for newly constructed plants that begin operation at the site.*

The applicant is requested to provide a construction impact evaluation plan that contains the following elements discussed in the ISG:

- A discussion of the construction activity identification process and the impact evaluation criteria used to evaluate the construction activities that may pose potential hazards to the SSCs important to safety for operating unit(s).*
- A table of those construction activities and the potential hazards that are identified using that construction impact evaluation plan, the SSCs important to safety for the operating unit potentially impacted by the construction activity, and proposed mitigation methods.*
- Identification of the managerial and administrative controls, such as proposed license conditions that may involve construction schedule constraints or other restrictions on construction activities, that are credited to manage the safety/security interface and to preclude and/or mitigate the impacts of potential construction hazards to the SSCs important to safety for the operating unit(s).*
- A discussion of the process for communications and interactions planned and credited between the construction organization and the operations organization to ensure appropriate coordination and authorization of construction activities and implementation of the prevention or mitigation activities as necessary.*
- A memorandum of understanding or agreement (MOU or MOA) between the COL applicant and the operating unit(s) licensee as a mechanism for communications, interactions, and coordination to manage the impact of the construction activities.*
- An implementation schedule corresponding to construction tasks or milestones to ensure the plan is reviewed on a recurring basis and maintained current as construction progresses.*

Response

Fermi 3 FSAR Section 1.12, "Impact of Construction Activities on Fermi 2," presents an evaluation of the potential hazards to the structures, systems, and components (SSCs) important to safety of Fermi 2 resulting from construction activities of Fermi 3, as well as a description of the managerial and administrative controls utilized to provide assurance that Fermi 2 limiting conditions for operation are not exceeded as a result of Fermi 3 construction activities. The elements of a construction impact evaluation plan as described in the six bullet points above are discussed individually below.

- A discussion of the construction activity identification process and the impact evaluation criteria used to evaluate the construction activities that may pose potential hazards to the SSCs important to safety for operating unit(s).

The process and criteria used to evaluate potential Fermi 3 construction hazards associated with Fermi 2 SSCs important to safety are discussed in FSAR Section 1.12; specifically Section 1.12.1 outlines a series of sequential steps which are discussed in further detail in FSAR Sections 1.12.2 through 1.12.6. This includes description of the Fermi 3 construction activities identification process (FSAR Section 1.12.2 "Potential Construction Activity Hazards"), as well as the evaluation criteria utilized to assess potential impacts to Fermi 2 (FSAR Section 1.12.5 "Impacted Structures, Systems and Components and Limiting Conditions for Operation"). FSAR Section 1.12 also describes processes which will be implemented as work progresses on site, to identify Fermi 3 construction activities and evaluate potential impacts to Fermi 2 (FSAR Section 1.12.6 "Managerial and Administrative Controls" and commitment COM 1.12-001).

- A table of those construction activities and the potential hazards that are identified using that construction impact evaluation plan, the SSCs important to safety for the operating unit potentially impacted by the construction activity, and proposed mitigation methods.

Table 1.12-201, "Potential Hazards to Fermi 2 from Fermi 3 Construction Activities," delineates the Fermi 3 construction activities and the potential hazards identified by this evaluation, and describes the Fermi 2 structures, systems, and components that are potentially impacted. Table 1.12-202, "Potential Consequences to Fermi 2 Due to Potential Hazards Resulting from Fermi 3 Construction Activities," describes the potential hazards specifically related to Fermi 2 SSCs, and potential consequences to those SSCs. The proposed mitigation methods established to address these potential hazards are discussed in Section 1.12.6, "Managerial and Administrative Controls," and Table 1.12-203, "Managerial and Administrative Controls for Fermi 3 Construction Activity Hazards."

- Identification of the managerial and administrative controls, such as proposed license conditions that may involve construction schedule constraints or other restrictions on construction activities, that are credited to manage the safety/security interface and to preclude and/or mitigate the impacts of potential construction hazards to the SSCs important to safety for the operating unit(s).

The managerial and administrative controls to manage the safety/security interface and to mitigate the impacts of potential Fermi 3 construction hazards to the Fermi 2 SSCs important to safety and security are discussed in Section 1.12.6, "Managerial and Administrative Controls," and Table 1.12-203, "Managerial and Administrative Controls for Fermi 3 Construction Activity Hazards." Further detail, as shown in the attached Fermi 3 COLA markups, will be incorporated into FSAR Section 1.12.6 and 13.AA.1.9. In addition, both Fermi 2 and Fermi 3 will comply with the requirements of 10 CFR 73.58, "Safety/security interface requirements for nuclear power reactors," throughout Fermi 3 construction.

- A discussion of the process for communications and interactions planned and credited between the construction organization and the operations organization to ensure appropriate coordination and authorization of construction activities and implementation of the prevention or mitigation activities as necessary.

The preventative and mitigative controls which are identified in Table 1.12-203 and discussed in Section 1.12.6, describe Fermi 2 and Fermi 3 planned interactions. Further detail, as shown in the attached Fermi 3 COLA markups, will be incorporated into FSAR Section 1.12.6 and 13.AA.1.9 to describe the process for Fermi 2 and Fermi 3 communications and interactions to ensure organizational coordination and authorization requirements for construction activities with potential Fermi 2 impacts, as well as implementation plans for the mitigation controls described.

- A memorandum of understanding or agreement (MOU or MOA) between the COL applicant and the operating unit(s) licensee as a mechanism for communications, interactions, and coordination to manage the impact of the construction activities.

The Fermi 3 COL applicant and the Fermi 2 operating unit licensee are the same entity, thus, no MOU or MOA is considered necessary.

- An implementation schedule corresponding to construction tasks or milestones to ensure the plan is reviewed on a recurring basis and maintained current as construction progresses.

FSAR Section 1.12.6 describes that the process (identification of activities, potential impacts, and managerial and administrative controls) will be developed and implemented as work progresses on site, while Table 1.12-201 describes the work progression via identification of construction activities. An example is provided in Section 1.12.6 which describes how the evaluation and controls will be tailored to the specific construction activity prior to commencement of that activity. Further detail, as shown in the attached Fermi 3 COLA markups, will be incorporated into FSAR Section 1.12.6 and 13.AA.1.9 to describe the implementation schedule corresponding to construction tasks, as well as impact plan maintenance and review requirements as construction progresses.

Proposed COLA Revision

FSAR Section 1.12.6, "Managerial and Administrative Controls," and Section 13AA.1.9 "Management and Review of Construction Activities," will be updated as shown on the attached markups.

Markup of Detroit Edison COLA
(following 4 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA. However, the same COLA content may be impacted by other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

The applicable LCOs are found in the Fermi 2 Technical Specifications ([Reference 1.12-202](#)).

1.12.5 Impacted Structures, Systems and Components and Limiting Conditions for Operation

The information described in [Subsection 1.12.2](#) through [Subsection 1.12.4](#) was evaluated to identify Fermi 2 SSCs and LCOs that might be impacted by Fermi 3 construction activities. For example, internal/in-plant Fermi 2 LCO parameters such as “Control Rod OPERABILITY,” “Shutdown Margin,” and “RCS Specific Activity” were eliminated by examination. Similarly, SSCs both internal and specific to Fermi 2 are not affected. These include items such as the Hydraulic Control Units, Fuel Storage Racks and Control Rod Drive Assemblies.

For each of the potential hazards listed in [Table 1.12-201](#), [Table 1.12-202](#) presents the potential consequences to the SSCs of the existing unit that were identified in the above process.

1.12.6 Managerial and Administrative Controls

[START COM 1.12-001] Managerial and administrative controls are utilized to identify preventive and mitigative measures and provide notification of hazardous activity initiation in order to prevent or minimize exposure of SSCs to the identified hazards. Applicable managerial and administrative controls are listed in [Table 1.12-203](#). **[END COM 1.12-001]**

including safety/
security interfaces

Specific hazards, impacted SSCs, and managerial and administrative controls will be developed and implemented as work progresses on site. For example, prior to construction activities that involve the use of large construction equipment such as cranes, managerial and administrative controls will be in place to prevent adverse impacts on Fermi 2 overhead power lines, switchyard, security boundary, etc., by providing the necessary restrictions on the use of large construction equipment.

Additional controls are established during construction as addressed in Appendix 13AA, Subsection 13AA.1.9, “Management and Review of Construction Activities.” Periodic assessment during construction is addressed in Appendix 13AA, Subsection 13AA.1.9.

1.12.7 References

- 1.12-201 Enrico Fermi Unit 2, Updated Final Safety Analysis Report, Revision 14, November 2006.
- 1.12-202 Enrico Fermi Unit 2 Technical Specifications.

13AA.1.4 **Environmental Effects**

Impact to the surrounding environment from construction and operating activities is fully addressed in the separately submitted [Environmental Report](#).

13AA.1.5 **Security Provisions**

The Physical Security Plan is designed with provisions that meet the applicable NRC regulations. See [Section 13.6](#) and the Security Plan, which was submitted under separate transmittal.

13AA.1.6 **Development of Safety Analysis Reports**

Information regarding the development of the FSAR is found in [Chapter 1](#).

13AA.1.7 **Review and Approval of Material and Component Specifications**

Safety-related material and component specifications of SSCs designed by the reactor technology vendor are reviewed and approved in accordance with the reactor technology vendor quality assurance program and [Section 17.1](#). Review and approval of items not designed by the reactor technology vendor are controlled for review and approval by [Section 17.5](#) and the QAPD (incorporated into [Section 17.5](#)).

13AA.1.8 **Procurement of Materials and Equipment**

Procurement of materials during the construction phase is the responsibility of the reactor technology vendor and the EPC organization. The process is controlled by the construction QA programs of these organizations. Oversight of the inspection and receipt of materials process is the responsibility of the Fermi 3 Quality Assurance Project Manager ([Appendix 17AA](#), Subsection 1.2.3.2.1.1).

13AA.1.9 **Management and Review of Construction Activities**

Overall management and responsibility for construction activities is assigned to the site executive. The site executive is accountable to the Sr. VP, Major Enterprise Projects. See [Figure 13.1-201](#), Construction Organization.

Monitoring and review of construction activities by utility personnel is a continuous process at the plant site. Contractor performance is monitored to provide objective data to utility management in order to identify problems early and develop solutions. Monitoring of construction

activities verifies that the contractors are in compliance with contractual obligations for quality, schedule, and cost. To maintain independence from the construction organization, the oversight organization has functional access to the Senior VP, Major Enterprise Projects.

Monitoring and review of construction activities is divided functionally across the various disciplines of the Major Enterprise Projects, i.e. electrical, mechanical, instrument and control, etc., and tracked by schedule based on system and major plant components/areas.

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After each system is turned over to operating and technical support staff the EPC organization relinquishes responsibility for that system. At that time the EPC organization will be responsible for completion of construction activities as directed by operating and technical support staff and available to provide support for start-up testing as necessary.

13AA.2 Preoperational Activities

This section describes the activities required to transition the unit from the construction phase to the operational phase. These activities include turnover of systems from construction, preoperational testing, schedule management, test procedure development, fuel load, integrated startup testing, and turnover of systems to operating and technical support staff.

The plant manager, with the aid of those managers that report to the plant manager (see), the technical support staff (see [Figure 13.1-205](#)), and the aid of the manager in charge of the Startup group (see [Figure 14AA-201](#)), is responsible for the activities related to the transition from the construction phase to the operational phase. These activities include preoperational testing, schedule management, procedure development for tests, fuel load, integrated startup testing, and turnover of systems to the operations staff.

During construction initial testing, the Engineering, Procurement and Construction (EPC) contractor is responsible for equipment maintenance. To ensure equipment operability and reliability, plant maintenance programs such as preventative and corrective maintenance are developed prior to system turnover and become effective as each system is turned over from the EPC contractor to the operating and technical staff with approved administrative procedures under the direction of the manager in charge of maintenance, the Engineering Director, and work control.

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Fermi 3 Site Executive and the Fermi 2 Site Executive have reporting responsibilities to the Sr. VP / CNO as shown on Figure 13.1-201, "Design and Construction Organization." Fermi 2 and Fermi 3 organizations coordinate construction plans and Fermi 2 impact assessments. Communications and interactions ensure organizational coordination and authorization for construction activities with potential Fermi 2 impacts as needed, as well as implementation plans for mitigation controls identified. Periodic assessment involving both the Fermi 3 and Fermi 2 organizations identify Fermi 2 SSCs that could reasonably be expected to be impacted by scheduled construction activities. Appropriate administrative and managerial controls are then established as necessary. Assessments are performed to facilitate an implementation schedule for the administrative and managerial controls which corresponds with scheduled construction activities. Specific hazards, impacted SSCs, and managerial and administrative controls are reviewed on a recurring basis and, if necessary, controls are developed, revised, implemented, and maintained current as work progresses on the Fermi 3 site. For example, prior to construction activities that involve the use of large construction equipment such as cranes, managerial and administrative controls are in place to prevent adverse impacts on any operating unit(s) overhead power lines, switchyard, security boundary, etc., by providing the necessary restrictions on the use of large construction equipment.