

June 23, 2009

Mr. Peter W. Smith
Director, Nuclear Development-Licensing 337 WCB
DTE Energy
One Energy Plaza
Detroit, MI 48226-1279

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 7 RELATED TO
THE SRP SECTIONS 03.07.01-1, 12.03-12.04-3, 05.03.01-1, 03.07.01-2,
03.07.02-1, 12.02-3, AND 12.02-4 FOR THE FERMI 3 COMBINED LICENSE
APPLICATION

Dear Mr. Smith:

By letter dated September 18, 2008, Detroit Edison Company (Detroit Edison) submitted for approval a combined license application pursuant to 10 CFR Part 52. The U.S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter. To support the review schedule, you are requested to respond within 45 days of the date of this letter, except for RAI # 2651, for which Detroit Edison has requested a 90-day response period. Please note that a 90-day RAI response period may negatively affect the safety review schedule. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, I can be reached at 301-415-8148 or by e-mail at jerry.hale@nrc.gov.

Sincerely,

/RA/

Jerry Hale, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 052-033

eRAI Tracking Nos. 2651, 2658, 2698, 2783, 2785, 2884, and 2885

Enclosure:
Request for Additional Information

June 23, 2009

Mr. Peter W. Smith
Director, Nuclear Development-Licensing 337 WCB
DTE Energy
One Energy Plaza
Detroit, MI 48226-1279

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 7 RELATED TO THE SRP SECTIONS 03.07.01-1, 12.03-12.04-3, 05.03.01-1, 03.07.01-2, 03.07.02-1, 12.02-3, AND 12.02-4 FOR THE FERMI 3 COMBINED LICENSE APPLICATION

Dear Mr. Smith:

By letter dated September 18, 2008, Detroit Edison Company (Detroit Edison) submitted for approval a combined license application pursuant to 10 CFR Part 52. The U.S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter. To support the review schedule, you are requested to respond within 45 days of the date of this letter, except for RAI # 2651, for which Detroit Edison has requested a 90-day response period. Please note that a 90-day RAI response period may negatively affect the safety review schedule. If changes are needed to the safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, I can be reached at 301-415-8148 or by e-mail at jerry.hale@nrc.gov.

Sincerely,
/RA/

Jerry Hale, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 052-033

eRAI Tracking Nos. 2651, 2658, 2698, 2783, 2785, 2884, and 2885

Enclosure:
Request for Additional Information

ADAMS Accession No. ML091730464

NRO-002

OFFICE	CHPB/BC	CIB2/BC	SEB2/BC	NGE1/PM	OGC	NGE1/LPM
NAME	T.Frye	SDowney	JXu	JHale	MCarpentier	MTonacci
DATE	5/18/2009	5/19/2009	5/6/2009	6/22/09	6/1/2009	6/22/2009

*Approval captured electronically in the electronic RAI system.

OFFICIAL RECORD COPY

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 7 RELATED TO THE SRP SECTIONS 03.07.01-1, 12.03-12.04-3, 05.03.01-1, 03.07.01-2, 03.07.02-1, 12.02-3, AND 12.02-4 FOR THE FERMI 3 COMBINED LICENSE APPLICATION DATED JUNE 23, 2009

Distribution:

PUBLIC

NGE 1/2 R/F

JCruz, NRO

CPatel, NRO

SGreen, NRO

JXu, NRO

SDowney, NRO

MCarpentier, OGC

RidsNroDsraSbbp

RidsNroDnrINge2

Request for Additional Information No. 2651 Revision 0
Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 03.07.01 - Seismic Design Parameters
Application Section: 03.7.1.1

QUESTIONS for Structural Engineering Branch 2 (SEB2)

03.07.01-1

10 CFR 50 Appendix S requires that the Safe Shutdown Earthquake (SSE) Ground Motion for the site be characterized by both horizontal and vertical free-field ground motion response spectra at the free ground surface. For application to engineering designs, site-specific GMRS determined at the foundation level of seismic category I structures are bounded by CSDRS. However, a site-specific SSE should be established as free-field ground motion response spectra that would be used to determine whether the plant shutdown would be required following a seismic event. The NRC staff requests that the applicant specify in FSAR Section 3.7.1 both the site-specific SSE and the corresponding OBE which would be required for operating the plant and setting up the seismic instrumentation as required in FSAR Section 3.7.4.

Request for Additional Information No. 2658 Revision 0
Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 12.03-12.04 - Radiation Protection Design Features
Application Section: 10 CFR Part 20.1301, 12.4

QUESTIONS for Health Physics Branch (CHPB)

12.03-12.04-3

Section 12.4 of the EF3 COLA refers to the EF3 Environmental report for dose to Construction Workers. Upon reviewing the Construction Worker Dose, as reported in Section 4.5 of the EF3 Environmental report, it was noted that additional information should be included in Section 12.4 of the COL:

Provide the basis and rationale for using 2001 data for thyroid and whole body dose calculations.

Provide information to address these needs:

- specific construction activities and the number of workers used in construction worker dose calculations.
- effects of future decommissioning activities of Fermi 1 on Fermi 3 construction worker dose.
- plans for radiological monitoring of the Fermi 3 construction site to verify construction worker dose calculations.

Some of the information requested above is also being requested by the Environmental Review team under RAIs 4.5-1 and 4.5-3.

Request for Additional Information No. 2698 Revision 0
Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 05.03.01 - Reactor Vessel Materials
Application Section: 05.03.01

QUESTIONS for Component Integrity, Performance, and Testing Branch 2 (CIB2)

05.03.01-1

The purpose of the reactor vessel surveillance capsule program (RVSP), as described in ASTM E 185, is to monitor radiation effects on RV materials under operating conditions. Section C.III.1, Chapter 5, C.I.5.3.1.6 of Regulatory Guide (RG) 1.206 states, "because the material surveillance program is an operational program, as discussed in SECY-05-0197, the applicant must describe the program and its implementation in sufficient scope and level of detail for the staff to make a reasonable assurance finding on its acceptability." ESBWR DCD Section 5.3.1.6 "Material Surveillance" provides general information about the RVSP. The Fermi 3 COL FSAR Section 5.3.1.8, "COL Information for Reactor Vessel Material Surveillance Program," contains some information on this program. To enable the staff to complete its review of the adequacy of the RVSP, please provide amplifying information as follows:

- a. Provide the detailed locations of the capsules in the core beltline region and their associated lead factors.
- b. Describe in detail the process for preparing the capsule specimens (i.e., how ASTM E 185 be implemented).
- c. Specify the number and type of specimens in each capsule.

Request for Additional Information No. 2783 Revision 0
Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 03.07.01 - Seismic Design Parameters
Application Section: 0.3.7.1.1

QUESTIONS for Structural Engineering Branch 2 (SEB2)

03.07.01-2

FSAR Section 3.7.1.1, Design Ground Motion, lists a supplemental information item EF3 SUP 3.7-2, which states: 3.7.1.1.5 Site-Specific Design Ground Motion Time History EF3 SUP 3.7-2. The site-specific earthquake ground motion time history is described in Subsection 2.5.4. The staff review appears to indicate that such information is not included in Section 2.5.4. Please identify the appropriate FSAR texts and associated figures in Section 2.5.4 that describe the site-specific earthquake ground motion time history.

Request for Additional Information No. 2884 Revision 0
Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 12.02 - Radiation Sources
Application Section: FSAR Section 12.2.2.2

QUESTIONS for Health Physics Branch (CHPB)

12.02-3

Fermi 3, FSAR Subsection 12.2.2.2 is used to show compliance with dose criteria for members of the public due to gaseous effluent releases under Appendix I to Part 50. As described in the FSAR, the reported doses cannot be independently verified by the staff without access to site specific factors used by the applicant. The applicant is requested to provide the input and output files or data used in GASPARD II computer code analyses in generating dose estimates to members of the public associated with the operation of Fermi 3. Specifically, describe all assumptions and basis for the use of factors that are different than default values noted in Regulatory Guide 1.109 and/or GASPARD II code. Note that the response to this RAI should be consistent with the information requested under related RAI No. 5.4.2-1, submitted by the Environmental Review team.

Request for Additional Information No. 2785 Revision 0
Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 03.07.02 - Seismic System Analysis
Application Section: 3.7.2.8

QUESTIONS for Structural Engineering Branch 2 (SEB2)

03.07.02-1

FSAR Section 3.7.2.8, Interaction of Non-Category I Structures with Seismic Category I Structures, incorporates by reference the ESBWR DCD with supplement EF3 SUP 3.7-5. EF3 SUP 3.7-5 references Figure 2.1-204 for the locations of structures. The staff review identified that neither Section 3.7.2.8 nor Figure 2.1-204 includes all the information identified in Regulatory Guide 1.206 (C.I.3.7.2.8) to verify protection of seismic Category I structures from failure of non-seismic Category I structures as a result of seismic effects. Please provide identification and location of each seismic Category I, II, and non-seismic structure, including the distance between structures and the height of each structure.

Request for Additional Information No. 2885 Revision 0
Fermi Unit 3
Detroit Edison
Docket No. 52-033
SRP Section: 12.02 - Radiation Sources
Application Section: FSAR Section 12.2.2.4

QUESTIONS for Health Physics Branch (CHPB)

12.02-4

Fermi 3, FSAR Subsection 12.2.2.4 is used to show compliance with dose criteria for members of the public due to liquid effluent releases under Appendix I to Part 50. As described in the FSAR, the reported doses cannot be independently verified by the staff without access to site specific factors used by the applicant. The applicant is requested to provide the input and output files or data used in LADTAP II computer code analyses in generating dose estimates to members of the public associated with the operation of Fermi 3. Specifically:

- a. provide justification for transit times and dilution factors used in LADTAP II code dose calculations for liquid effluent discharges for different intake locations (commercial fish and invertebrate catch locations, drinking water intake locations. Also, provide a discussion describing the impact of thermal variations on applied dilution factors.
- b. provide estimates of the amount of invertebrate stocks caught from waters within 50 miles downstream of the facility's radwaste discharge line that is consumed locally and regionally.
- c. provide discussions describing local wildlife game, plants, agricultural practices, game harvests, and food processing operations having the potential to contribute 10 percent or more to either individual or population doses in areas affected by liquid effluents, such as irrigation, livestock watering, and food-processing operations, involving local and regional water use.
- d. describe all assumptions and basis for the use of factors that are different than the default values noted in Regulatory Guide 1.109 and/or LADTAP II code.

Note that the response to this RAI should be consistent with the information requested under related RAI No. 5.4.1-1, 5.4.1-2, 5.4.1-3, and 5.4.2-1, submitted by the Environmental Review team.