



10 CFR 52.79

July 09, 2010
NRC3-10-0026

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

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. 33 Related to the SRP Section 14.2 for the Fermi 3 Combined License Application," dated May 27, 2010

Subject: Detroit Edison Company Response to NRC Request for Additional Information Letter No. 33

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

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 9th day of July 2010.

Sincerely,

A handwritten signature in black ink, appearing to read "PWS", written over a horizontal line.

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

DO95
MRO

Attachments: 1) Response to RAI Letter No. 33 (RAI Question No. 14.02-4)

cc: Adrian Muniz, NRC Fermi 3 Project Manager
Jerry Hale, NRC Fermi 3 Project Manager
Bruce Olson, NRC Fermi 3 Environmental Project Manager
Fermi 2 Resident Inspector
NRC Region III Regional Administrator
NRC Region II Regional Administrator
Supervisor, Electric Operators, Michigan Public Service Commission
Michigan Department of Environmental Quality
Radiological Protection and Medical Waste Section

Attachment 1
NRC3-10-0026

Response to RAI Letter No. 33
(eRAI Tracking No. 4733)

RAI Question No. 14.02-4

NRC RAI 14.02-4

Consistent with the guidance in RG 1.206, Regulatory Position C.III.4.3, "Combined License Information Items That Cannot Be Resolved Before the Issuance of a License," the COL applicant identified in Fermi Units 3 FSAR Table 13.4-201, "Operational Programs Required by NRC Regulation," Item 19, Initial Test Program (ITP), activities that will be subject to a license condition. In addition to the ITP activities identified in Table 13.4-201, the NRC staff identified the following post COL items in FSAR Sections 14.2.9, "Site Specific Preoperational and Startup Tests," and 14.2.10, "COL Information Items" as license conditions:

License Conditions for Post Combined License (COL) Items

License Condition for the Startup Administrative Manual, Standard (STD) COL 14.2.2-A (COM 14.2-001)

Prior to initiating the plant's ITP, a site specific startup administration manual (SAM) (procedures), which includes administrative procedures and requirements that govern the activities associated with the plant ITP is to be provided to on-site NRC inspectors 60 days prior to their intended use.

License Condition for Preoperational and Startup Test Procedures, STD COL 14.2.3-A (COM 14.2-002)

During the post-licensing period, preoperational and startup test procedures will be subject to a license condition for NRC inspections to verify that the licensee implements the ITP. This process will allow for the performance of necessary plant as-built inspections and walk downs. The licensee will make available to on-site NRC inspectors preoperational and startup test procedures 60 days prior to their intended use.

License Condition for Site-Specific Preoperational and Startup Test Procedures, Enrico Fermi Unit 3 (EF3) COL 14.2-6-A (COM 14.2-004)

During the post-licensing period, site-specific preoperational and startup test procedures will be subject to a license condition for NRC inspections to verify that the licensee implements the ITP. This process will allow for the performance of necessary plant as-built inspections and walk downs. The licensee will make available to on-site NRC inspectors site-specific preoperational and startup test procedures 60 days prior to their intended use.

License Condition for the Test Program Schedule and Sequence, STD COL 14.2-4-A
(COM 14.2-003)

Prior to initial fuel load, the licensee shall submit a schedule, no later than 12 months after issuance of the COL, and updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the operational program for the ITP in Fermi Units 3 COL FSAR Table 13.4-201, Item 19, has been fully implemented or the plant has been placed in commercial service, whichever comes first. This schedule shall support implementation details of the ITP and planning for the conduct of NRC inspections of operational programs listed in the operational program Fermi COL FSAR Table 13.4-201, Item 19.

License Condition for the Power Ascension Test Phase Reports, STD SUP 14.2.2-A
(COM 14.2-005)

Certain milestones in the startup testing phase of the ITP (e.g., pre-critical testing, criticality testing, and low-power testing) should be controlled through this license condition to ensure that the designated licensee management reviews, evaluates, and approves relevant test results before proceeding to the power ascension test phase. Accordingly, the licensee shall perform the following:

- (a) Complete all pre-critical and criticality testing and confirm that the test results are within the range of values predicted in the FSAR acceptance criteria. After completing and evaluating criticality test results, the licensee will conduct low-power tests and will operate the facility at reactor steady-state core power levels not in excess of 5 percent power, in accordance with the conditions of the license.*
- (b) Complete all low-power testing and confirm that the test results are within the range of values predicted in the acceptance criteria in the facility's FSAR. After completing and evaluating low-power test results, the licensee will conduct power ascension testing and will operate the facility at reactor steady-state core power levels not in excess of 100 percent power, in accordance with the conditions of the license.*

The licensee is responsible for the review and evaluation of the adequacy of test results in these reports, as well as final review of overall test results in these reports. Test results, which do not meet acceptance criteria, are identified and corrective actions and retests are performed. These reports shall be made available to on-site NRC inspectors.

License Condition for Test Changes

Within one month of any ITP changes described in Fermi Units 3 FSAR Section 14.2, the licensee shall evaluate these changes in accordance with the provisions of 10 CFR 50.59 or the change process defined in the ESBWR Appendix to 10 CFR Part 52 for the certification design and report them in accordance with 10 CFR 50.59(d).

Please inform the NRC staff as to whether or not the proposed license conditions are considered appropriate to support the Fermi Unit 3 COL.

Response

License Conditions for Post Combined License (COL) Items

License Condition for the Startup Administrative Manual, Standard (STD) COL 14.2.2-A (COM 14.2-001)

Prior to initiating the plant's ITP, a site specific startup administration manual (SAM) (procedures), which includes administrative procedures and requirements that govern the activities associated with the plant ITP is to be provided to on-site NRC inspectors 60 days prior to their intended use.

This proposed license condition is considered appropriate as requested.

License Condition for Preoperational and Startup Test Procedures, STD COL 14.2.3-A (COM 14.2-002)

During the post-licensing period, preoperational and startup test procedures will be subject to a license condition for NRC inspections to verify that the licensee implements the ITP. This process will allow for the performance of necessary plant as-built inspections and walk downs. The licensee will make available to on-site NRC inspectors preoperational and startup test procedures 60 days prior to their intended use.

This proposed license condition is considered appropriate as requested.

License Condition for Site-Specific Preoperational and Startup Test Procedures, Enrico Fermi Unit 3 (EF3) COL 14.2-6-A (COM 14.2-004)

During the post-licensing period, site-specific preoperational and startup test procedures will be subject to a license condition for NRC inspections to verify that the licensee implements the ITP. This process will allow for the performance of necessary plant as-built inspections and walk downs. The licensee will make available to on-site NRC inspectors site-specific preoperational and startup test procedures 60 days prior to their intended use.

This proposed license condition is considered appropriate as requested.

License Condition for the Test Program Schedule and Sequence, STD COL 14.2-4-A
(COM 14.2-003)

Prior to initial fuel load, the licensee shall submit a schedule, no later than 12 months after issuance of the COL, and updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the operational program for the ITP in Fermi Units 3 COL FSAR Table 13.4-201, Item 19, has been fully implemented or the plant has been placed in commercial service, whichever comes first. This schedule shall support implementation details of the ITP and planning for the conduct of NRC inspections of operational programs listed in the operational program Fermi COL FSAR Table 13.4-201, Item 19.

This proposed license condition is considered appropriate as requested.

License Condition for Test Changes

Within one month of any ITP changes described in Fermi Units 3 FSAR Section 14.2, the licensee shall evaluate these changes in accordance with the provisions of 10 CFR 50.59 or the change process defined in the ESBWR Appendix to 10 CFR Part 52 for the certification design and report them in accordance with 10 CFR 50.59(d).

This proposed license condition is considered appropriate as requested.

License Condition for the Power Ascension Test Phase Reports, STD SUP 14.2.2-A
(COM 14.2-005)

The following proposed license condition is modified as indicated:

Certain milestones in the startup testing phase of the ITP (e.g., pre-critical testing, criticality testing, and low-power testing) should be controlled through this license condition to ensure that the designated licensee management reviews, evaluates, and approves relevant test results before proceeding to the power ascension test phase. Accordingly, the licensee shall perform the following:

- (a) *Following completion of ~~Complete~~ all pre-critical and criticality testing and the licensee shall confirm that the test results are within the range of values predicted in the FSAR acceptance criteria. After completing and evaluating criticality test results, the licensee will may conduct low-power tests and will operate the facility at reactor steady-state core power levels not in excess of 5 percent power, in accordance with the conditions of the license.*
- (b) *Following completion of ~~Complete~~ all low-power testing and the licensee shall confirm that the test results are within the range of values predicted in the acceptance criteria in the facility's FSAR. After completing and evaluating low-power test results, the licensee will may conduct power ascension testing and will operate the facility at reactor steady-state core power levels not in excess of 100 percent power, in accordance with the conditions of the license.*

The licensee is responsible for the review and evaluation of the adequacy of test results in these reports, as well as final review of overall test results in these reports. Test results, which do not meet acceptance criteria, are identified and corrective actions and retests are performed. These reports shall be made available to on-site NRC inspectors.

This license condition was modified as indicated above to clarify that the ability to proceed with the next phase of testing is based on the licensee reviews and conformance with the pre-specified acceptance criteria. These changes are consistent with similar license conditions proposed by other applicants.

Proposed COLA Revision

FSAR Subsection 14.2 will be revised as shown in the attached mark-up to remove commitments.

COLA Part 10 will be revised as shown in the attached mark-up to include the proposed license conditions.

Note: Insert # 1 for NRC RAI 13.03-07 and NRC RAI 13.03-13 shown in the attached mark-up was provided in letter NRC3-10-0028 sent in response to NRC Letter No. 32 on June 25, 2010.

Markup of Detroit Edison COLA
(following 3 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 revisions to the ESBWR DCD, responses to 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.

Chapter 14 Initial Test Program

14.1 Initial Test Program for Preliminary Safety Analysis Reports

This section of the referenced DCD is incorporated by reference with no departures or supplements.

14.2 Initial Plant Test Program for Final Safety Analysis Reports

This section of the referenced DCD is incorporated by reference with the following departures and/or supplements.

14.2.1.4 Organization and Staffing

Add the following at the end of this section.

EF3 SUP 14.2-1

Section 13.1 provides additional information regarding responsibilities, qualifications, and organization for implementing the pre-operational and startup testing program.

14.2.2.1 Startup Administrative Manual

Replace the first two paragraphs with the following.

STD COL 14.2-1-A

STD COL 14.2-2-A

~~[START COM 14.2-001]~~ A description of the Initial Test Program (ITP) administration is provided in **Appendix 14AA**. The Startup Administrative Manual (SAM) will be developed and made available for review 60 days prior to scheduled start of the preoperational test program. ~~[END COM 14.2-001]~~

14.2.2.2 Test Procedures

Replace the last sentence in this section with the following.

STD COL 14.2-3-A

~~[START COM 14.2-002]~~ Approved test procedures for satisfying the commitments of this section will be developed and available for review no later than 60 days prior to their intended use for preoperational tests and

~~no later than 60 days prior to scheduled fuel loading for power ascension tests. [END COM 14.2-002]~~ initial startup tests.

14.2.2.5 Test Records

Add the following at the end of this section.

STD SUP 14.2-2

~~[START COM 14.2-005]~~ Startup test reports are prepared in accordance with RG 1.16. ~~[END COM 14.2-005]~~

14.2.7 Test Program Schedule And Sequence

Replace the last paragraph with the following.

STD COL 14.2-4-A

~~[START COM 14.2-003]~~ The detailed testing schedule will be developed and made available for review prior to actual implementation. The schedule may be updated and continually optimized to reflect actual progress and subsequent revised projections. ~~[END COM 14.2-003]~~. The implementation milestones for the Initial Test Program are provided in Section 13.4.

14.2.8.1.36 AC Power Distribution System Preoperational Test General Test Methods and Acceptance Criteria

Add the following at the end of this section.

STD-SUP 14.2-4

Proper operation of the automatic transfer capability of the normal preferred power source to the alternate preferred power source.

14.2.8.1.51 Plant Service Water System Preoperational Test Purpose

Replace the first paragraph with the following.

EF3 SUP 14.2-4

The objective of this test is to verify proper operation of the PSWS including the AHS and its ability to supply design quantities of cooling water to the RCCWS and TCCWS heat exchangers.

14.2.9 **Site-Specific Preoperational and Startup Tests**

Replace the second and third paragraphs with the following.

EF3 COL 14.2-5-A This section describes the site specific preoperational and initial startup tests not addressed in DCD Section 14.2.8.

EF3 COL 14.2-6-A ~~[START COM 14.2-004]~~ Specific testing to be performed and the applicable acceptance criteria for each preoperational and startup test are documented in test procedures to be made available to the NRC approximately 60 days prior to their intended use for preoperational tests, and not less than 60 days prior to scheduled fuel load for initial startup tests. Sites-specific preoperational tests are in accordance with the system specifications and associated equipment specifications for equipment in those systems provided by the licensee that are not part of the standard plant described in DCD Section 14.2.8. The tests demonstrate that the installed equipment and systems perform within the limits of these specifications. ~~[END COM 14.2-004]~~

14.2.9.1 **Site-Specific Pre-Operational Tests**

Replace this section with the following.

EF3 SUP 14.2-3 14.2.9.1.1 **Station Water System Pre-Operation Test**

Purpose

The objective of this test is to verify proper operation of the SWS and its ability to supply design quantities and quality of water to the CIRC, PSWS cooling tower basin, MWS, and FPS.

Prerequisites

The construction tests have been successfully completed and the SCG has reviewed the test procedure and approved the initiation of testing. Electrical power, the CIRC, PSWS, MWS and FPS, instrument air, Chemical Storage and Transfer System, and other required interfacing systems are available, as needed, to support the specified testing.

General Test Methods and Acceptance Criteria

Performance is observed and recorded during a series of individual component and integrated system tests to demonstrate the following:

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 revisions to the ESBWR DCD, responses to 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.

2.4.13 METEOROLOGICAL MONITORING SYSTEM

No entry for this system.

← Insert New Text Here (Insert #1)
(13.03-07, 13.03-13)

Insert #1
for
NRC RAI 13.03-07
NRC RAI 13.03-13

New Text for COL Application, Part 10

3. Fermi 3 Proposed License Conditions

3.1 Emergency Planning Actions:

The COL Application does not contain final versions of some implementation aspects of emergency planning such as Letters of Agreement because these Agreements will not be executed until it is necessary to implement those aspects of the plan. Thus the COL applicant is proposing the following License Condition.

Proposed License Condition:

Prior to loading fuel, Detroit Edison shall execute formal Letters of Agreement with the following entities:

1. Michigan State Police
2. Monroe County Emergency Management Division
3. Wayne County Department of Homeland Security & Emergency Management
4. Frenchtown Charter Township Fire Department
5. Mercy Memorial Hospital Corporation
6. Monroe Community Ambulance
7. Oakwood Southshore Medical Center
8. Ohio Emergency Management Agency
9. Monroe County Community College

These Letters of Agreement will identify the specific nature of arrangements in support of emergency preparedness for operation of the proposed new nuclear unit. The Emergency Plan shall be revised to include these Letters of Agreement after they have been executed.

← Insert 1 goes here
for
NRC RAI 14.02-4

New Text for COL Application, Part 10

3.2 License Conditions for Initial Test Program

There are Initial Test Program COL information items that cannot be resolved prior to issuance of the Combined License. Therefore, in accordance with the guidance in Regulatory Guide 1.206, section C.III.4.3, the following License Conditions are proposed to address these COL items.

3.2.1 Startup Administrative Manual, STD COL 14.2.2-A

Prior to initiating the plant's initial test program (ITP), a site specific startup administration manual (SAM) (procedures), which includes administrative procedures and requirements that govern the activities associated with the plant ITP is to be provided to on-site NRC inspectors 60 days prior to their intended use.

3.2.2 Preoperational and Startup Test Procedures, STD COL 14.2.3-A

During the post-licensing period, preoperational and startup test procedures will be subject to a license condition for NRC inspections to verify that the licensee implements the ITP. This process will allow for the performance of necessary plant as-built inspections and walk downs. The licensee will make available to on-site NRC inspectors preoperational and startup test procedures 60 days prior to their intended use.

3.2.3 Program Schedule and Sequence, STD COL 14.2-4-A

Prior to initial fuel load, the licensee shall submit a schedule, no later than 12 months after issuance of the COL, and updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the operational program for the ITP in FSAR Table 13.4-201, Item 19, has been fully implemented or the plant has been placed in commercial service, whichever comes first. This schedule shall support implementation details of the ITP and planning for the conduct of NRC inspections of operational programs listed in FSAR Table 13.4-201, Item 19.

3.2.4 Site-Specific Preoperational and Startup Test Procedures, Enrico Fermi Unit 3 EF3 COL 14.2-6-A

During the post-licensing period, site-specific preoperational and startup test procedures will be subject to NRC inspections to verify that the licensee implements the ITP. This process will allow for the performance of necessary plant as-built inspections and walk downs. The licensee will make available to on-site NRC inspectors site-specific preoperational and startup test procedures 60 days prior to their intended use.

3.2.5 Power Ascension Test Phase Reports, STD SUP 14.2.2-A

Certain milestones in the startup testing phase of the ITP (e.g., pre-critical testing, criticality testing, and low-power testing) should be controlled to ensure that the designated licensee management reviews, evaluates, and approves relevant test results before proceeding to the power ascension test phase. Accordingly, the licensee shall perform the following:

- (a) Following completion of all pre-critical and criticality testing, the licensee shall confirm that the test results are within range of values predicted in the acceptance criteria in the facility's FSAR. Following these licensee confirmations; the licensee may conduct low-power testing and operate the facility at reactor steady-state core power levels not in excess of 5 percent power, in accordance with the conditions of the license.
- (b) Following completion of all low-power testing the licensee shall confirm that the test results are within the range of values predicted in the acceptance criteria in the facility's FSAR. After completing and evaluating low-power test results, the licensee may conduct power ascension testing and will operate the facility at reactor steady-state core power levels not in excess of 100 percent power, in accordance with the conditions of the license.

The licensee is responsible for the review and evaluation of the adequacy of test results presented in the Power Ascension Test Phase reports, as well as final review of overall test results in these reports. Test results, which do not meet acceptance criteria, are identified and corrective actions and retests are performed. The Power Ascension Test Phase reports shall be made available to on-site NRC inspectors.

3.2.6 Test Changes

Within one month of any ITP changes described in Fermi Units 3 FSAR Section 14.2, the licensee shall evaluate these changes in accordance with the provisions of 10 CFR 50.59 or the change process defined in the ESBWR Appendix to 10 CFR Part 52 for the certification design and report them in accordance with 10 CFR 50.59(d).