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DTE Energy



10 CFR 52.79
10 CFR 73.58

July 2, 2014
NRC3-14-0007

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

References: 1) Fermi 3
Docket No. 52-033
2) Letter from David Misenhimer (USNRC) to Peter W. Smith (DTE Electric),
"Request for Additional Information Letter Number 90 Related to Chapter
13.06.01 for the Fermi 3 Combined License Application," dated June 11, 2014

Subject: DTE Electric Company Response to NRC Request for Additional Information
Letter Number 90

In Reference 2, the NRC requested additional information to support the review of certain portions of the Fermi 3 Combined License Application (COLA). The Request for Additional Information (RAI) in Reference 2 is related to the evaluation of plant changes relative to the Fermi 3 security and emergency preparedness programs during the plant design and construction period. The response to RAI 13.06.01-57 is provided in the attachment to this letter. Information contained in this response will be incorporated into a future COLA submittal as described in the RAI response.

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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 2nd day of July 2014.

Sincerely,



Peter W. Smith, Director
Nuclear Development – Licensing and Engineering
DTE Electric Company

Attachment: Response to RAI Letter Number 90 (Question No. 13.06.01-57)

cc: Adrian Muniz, NRC Fermi 3 Project Manager
Tekia Govan, NRC Fermi 3 Project Manager
David Misenhimer, NRC Fermi 3 Project Manager
Lynnea Wilkins, NRC Fermi 3 Project Manager
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NRC Region II Regional Administrator (w/o attachment)
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Michigan Department of Natural Resources and Environment
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Regina A. Borsh, Dominion Energy, Inc.
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**Attachment to
NRC3-14-0007
(9 pages)**

**Response to RAI Letter Number 90
(eRAI Tracking No. 7548)**

RAI Question No. 13.06.01-57

NRC RAI 13.06.01-57

Introduction:

In Section 13.6, Final Safety Analysis Report (FSAR), the applicant incorporated by reference the ESBWR Design Control Document (DCD).

ESBWR Design Control Document, Section 13.6 Security states:

“The Security Plan consists of the Physical Security Plan, Training and Qualification Plan, and the Safeguards Contingency Plan. The Security Plan is submitted to the Nuclear Regulatory Commission as a separate licensing document in order to fulfill the requirements of 10 CFR 52.79. The Security Plan meets the requirements contained in 10 CFR 26 and 10 CFR 73 and will be maintained in accordance with the requirements of 10 CFR 52.98. The Security Plan is categorized as Security Safeguards Information and is withheld from public disclosure pursuant to 10 CFR 73.21.”

In a letter dated September 23, 2011, Detroit Edison submitted their Security Plans revision 5 to the Nuclear Regulatory Commission as a separate licensing document in order to fulfill the requirements for 10 CFR 52.79(a)(35) and 10 CFR 52.79(a)(36).

Section 7 of the Safeguards Contingency Plan, provides a description that the Fermi 3 methodology used by GEH to develop the target sets for Fermi 3 is described in NEDE-33391, Revision 3, “The ESBWR Safeguards Assessment Report” (GEH Licensing Topical Report).

The ESBWR Safeguards Assessment Report, Revision 3, (GEH Licensing Topical Report) (NEDE-33391) describes the ESBWR physical protection system and analyzes the ability of the ESBWR security design to provide protection against malevolent attempts to commit radiological sabotage using elements of the Design Basis Threat (DBT) as contained in 10 CFR 73.1(a)(1). The NEDE-33391 report is intended to support the licensing of the portion of the ESBWR security system that is within the scope of the Design Certification (DC). NEDE-33391, Section 3.0, describes how the process of the target set identification for the ESBWR was established by using the standard methodology to determine those structures, systems and components (SSC) that require protection in order to meet the performance objectives of the ESBWR physical protection system.

The NRC staff requests clarification pertaining to how the applicant, once licensed, will analyze and identify changes in the site-specific conditions related to the ESBWR’s structures, systems, and components (SSCs) (described in certain technical reports), resulting from changes made to the Fermi 3 COL between issuance of the COL and the security program implementation milestones provided in FSAR Table 13.4-201 to ensure that the security plan continues to meet 10 CFR 73.55(b)(4). Also, clarify how the applicant, once licensed, will ensure that the as-built plant continues to meet all physical protection program design and performance criteria in 10 CFR 73.55 at the time the physical protection program is implemented.

The applicant’s response should:

- a. Describe how all changes of SSCs and related design information are reviewed for any impact on the physical protection program.*

- b. *Describe how the physical protection program, to include the security plans (consisting of the physical security plan, training and qualification plan, safeguards contingency plan, and cyber security plan), will be revised to address changes that affect (both beneficial and adverse) the protective strategy with the as-built configuration.*

Regulatory Basis:

The provisions of 10 CFR 73.55(b)(4), require, in part, that, “(1) The licensee shall establish and maintain a physical protection program, to include a security organization, which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety.

(2) To satisfy the general performance objective of paragraph (b)(1) of this section, the physical protection program must protect against the design basis threat of radiological sabotage as stated in § 73.1.

(3) The physical protection program must be designed to prevent significant core damage and spent fuel sabotage. Specifically, the program must:

(i) Ensure that the capabilities to detect, assess, interdict, and neutralize threats up to and including the design basis threat of radiological sabotage as stated in § 73.1, are maintained at all times.

(ii) Provide defense-in-depth through the integration of systems, technologies, programs, equipment, supporting processes, and implementing procedures as needed to ensure the effectiveness of the physical protection program.

(4) The licensee shall analyze and identify site-specific conditions, including target sets, that may affect the specific measures needed to implement the requirements of this section and shall account for these conditions in the design of the physical protection program.

The provisions of 10 CFR 50.54(p)(1) require, in part, that, “The licensee shall prepare and maintain safeguards contingency plan procedures in accordance with appendix C of part 73 of this chapter for affecting the actions and decisions contained in the Responsibility Matrix of the safeguards contingency plan. The licensee may not make a change which would decrease the effectiveness of a physical security plan, or guard training and qualification plan, or cyber security plan prepared under § 50.34(c) or § 52.79(a), or part 73 of this chapter, or of the first four categories of information (Background, Generic Planning Base, Licensee Planning Base, Responsibility Matrix) contained in a licensee safeguards contingency plan prepared under § 50.34(d) or § 52.79(a), or part 73 of this chapter, as applicable, without prior approval of the Commission. A licensee desiring to make such a change shall submit an application for amendment to the licensee’s license under § 50.90.

(2) The licensee may make changes to the plans referenced in paragraph (p)(1) of this section, without prior Commission approval if the changes do not decrease the safeguards effectiveness of the plan. The licensee shall maintain records of changes to the plans made without prior Commission approval for a period of 3 years from the date of the change, and shall submit, as specified in § 50.4 or § 52.3 of this chapter, a report containing a description of each change within 2 months after the change is made. Prior to the safeguards contingency plan being put into effect, the licensee shall have:

(i) All safeguards capabilities specified in the safeguards contingency plan available and functional;

(ii) Detailed procedures developed according to appendix C to part 73 of this chapter available at the licensee's site; and

(iii) All appropriate personnel trained to respond to safeguards incidents as outlined in the plan and specified in the detailed procedures.

Response

After issuance of the combined license for Fermi 3, DTE Electric fully intends to design and construct the plant as it was licensed. However, DTE Electric can make changes to the facility or procedures, if necessary. Existing regulations (e.g., 10 CFR 52.98, 10 CFR 50.54, 10 CFR 50.59) require that such changes be evaluated to determine if NRC approval is required to implement the proposed changes. As such, change evaluation procedures and programs will be in place upon issuance of the Fermi 3 combined license.

The existing regulations also contain requirements for updating the Fermi 3 licensing basis documents such that they will be maintained current. Consequently, procedures and programs to update the Fermi 3 licensing basis documents will be in place upon issuance of the Fermi 3 combined license. The change evaluation and licensing basis document update procedures and programs will use currently accepted industry guidance documents (e.g., NEI 11-08, "Guidance on Submitting Security Plan Changes," NEI 96-07, Appendix C, "Guideline for Implementation of Change Control for New Nuclear Power Plants Licensed Under 10 CFR Part 52") in their development, as they apply.

In the case of the Fermi 3 Security Plan, proposed plant changes will be evaluated and the plan will be updated using the criteria provided in 10 CFR 50.54 (p). If NRC approval for the change is required, a license amendment request would be submitted. If NRC approval for the change is not required, the Security Plan would be updated and submitted to the NRC within 2 months of implementing the change. Similar change evaluation and licensing basis document update requirements exist for the Emergency Plan, the Quality Assurance Plan, and the Fermi 3 FSAR.

The Fermi 3 FSAR also contains information and commitments addressing the evaluation of the effects of changes made during the time period between the issuance of the combined license and the authorization to operate the plant. These are described below.

First, in response to ESBWR DCD COL Item 13.6-20-A, Fermi 3 FSAR Subsection 13.6.2, "Security Plan," contains the following information:

Features of the physical security system are covered, in part, by the standard ESBWR design, while other features are plant and site specific. Accordingly, the ESBWR standard ITAAC cover the physical plant security system and address those features that are part of the standard design. NRC guidance provides suggested ITAAC that cover both the standard design and the plant and site specific features. The plant and site-specific Physical Security ITAAC not covered by the ESBWR Tier 1, Section 2.19, are contained in Part 10, "ITAAC", Section 2.2.1, "Site-Specific Physical Security ITAAC."

Thus, the adequacy of plant changes that affect the security system design will be confirmed through the Inspection, Tests, Analyses and Acceptance Criteria (ITAAC) closure process, which must be completed prior to NRC authorization to operate the plant.

Second, in response to ESBWR DCD COL Item 13.6-19-A, Fermi 3 FSAR Subsection 13.6.2, "Security Plan," contains the following information:

Prior to the milestone for Physical Security Plan implementation (Table 13.4-201), the security plan will be updated with an analysis of the ESBWR Safeguards Assessment Report (DCD Reference 13.6-6) reflecting site-specific locations of engagement positions including fields of fire. This applies for the external Bullet Resisting Enclosures as well as any internal positions that have external engagement responsibilities. This will include an implementation analysis of the Security Strategy described in the report, focusing on the effectiveness of neutralization of adversaries before significant radiological sabotage can occur.

Thus, prior to fuel being allowed on site, the adequacy of plant changes that affect the Security Strategy described in the ESBWR Safeguards Assessment Report must be evaluated and the Physical Security Plan must be updated with the results of the evaluation. The milestone for completion of these activities is prior to NRC authorization to operate the plant.

On April 3, 2014, a public teleconference was held between the NRC staff and the Duke Energy staff regarding the applicability of 10 CFR 73.58 for 10 CFR Part 52 licensees between the issuance of a combined license and the time the NRC makes a finding, in accordance with 10 CFR 52.103(g), that will allow the licensee to operate the plant. According to 10 CFR 73.58, each operating nuclear power reactor with a license issued under 10 CFR Part 52 shall assess and manage the effects of changes on safety, security, and emergency preparedness before implementing the changes. The NRC has interpreted the applicability of 10 CFR 73.58 to 10 CFR Part 52 licensees that have been authorized to operate (i.e., the NRC has made a 10 CFR 52.103(g) finding).

In response to NRC Request for Additional Information (RAI) 13.06.01-47 (Reference: Letter from Peter W. Smith (DTE Electric) to USNRC, "Detroit Edison Company Response to NRC Request for Additional Information Letter No. 29," NRC3-10-0021, dated May 17, 2010), DTE Electric provided the following commitment in Fermi 3 FSAR Subsection 13.6.2, "Security Plan.":

Administrative procedures have been implemented that meet the requirements of 10 CFR 73.58 for managing the safety/security interface.

In the RAI response, the administrative procedures described above are to be implemented prior to the issuance of the Fermi 3 combined license, and thus the commitment was written in past tense. The use of past tense in this text is consistent with Section 1.1.1.12, "Tense" of the Fermi 3 FSAR. Furthermore, DTE intends to implement this commitment, as presently written, irrespective of the NRC interpretation of the applicability of 10 CFR 73.58 mentioned above.

In developing the administrative procedures to implement the 10 CFR 73.58 program for the time period from issuance of the Combined License until plant operation, the guidance contained in Regulatory Guide (RG) 5.74, "Managing the Safety/Security Interface," will be used, as it applies. As is the case for 10 CFR 73.58, this RG was generally written for operating plants and uses terminology and concepts that may not be applicable to plants during construction. Some examples are provided below.

- The term “compensatory actions” used in 10 CFR 73.58 and RG 5.74 is understood to refer to those actions specified in the Security Plan, which is not required to be implemented for much of the plant construction period. Thus, if all or a portion of a security system is temporarily removed from service during a time where the Security Plan is not required to be implemented, the compensatory measures specified in the Security Plan would not be taken.
- If a permanent plant design change is being considered that could affect the response capabilities of the security force, such as the relocation of a door or passage way within the plant, that change would be evaluated and mitigative actions would be taken, if necessary, even though the Security Plan may not yet be implemented. The mitigative actions may include a change to the Security Plan.
- If a temporary condition is identified that disables an emergency response facility or feature and the Emergency Plan has not yet been implemented, then mitigative actions would not be taken.
- If a permanent plan design change is being considered that alters the capabilities of an emergency response facility, that change would be evaluated and mitigative actions would be taken, if necessary, even though the Emergency Plan may not yet be implemented. The mitigative actions may include a change to the Emergency Plan.

Therefore, the procedures, programs and commitments described above contain sufficient requirements for evaluation of plant changes and confirmation of the adequacy of the physical security program prior plant operation.

Proposed COLA Revision

The Fermi 3 COLA will be revised as shown in the attached markup. Information clarifying the description of the content of the administrative procedures implementing the 10 CFR 73.58 program is being added to FSAR Subsection 13.6.2.

Markup of Fermi 3 COLA
(following 2 pages)

The following markup represents how DTE Electric intends to reflect this RAI response in the next submittal of the Fermi 3 COLA. However, the same COLA content may be impacted by 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.

STD COL 13.6-18-A Prior to the milestone for Physical Security Plan implementation (Table 13.4-201), the security plan will be updated with an analysis to determine if armed responders require ammunition greater than the amount normally carried to provide reasonable assurance of successful engagement of adversaries from various engagement positions, including the development of necessary procedures to assure adequate ammunition is available.

STD COL 13.6-19-A Prior to the milestone for Physical Security Plan implementation (Table 13.4-201), the security plan will be updated with an analysis of the ESBWR Safeguards Assessment Report (DCD Reference 13.6-6) reflecting site-specific locations of engagement positions including fields of fire. This applies for the external Bullet Resisting Enclosures as well as any internal positions that have external engagement responsibilities. This will include an implementation analysis of the Security Strategy described in the report, focusing on the effectiveness of neutralization of adversaries before significant radiological sabotage can occur.

STD COL 13.6-20-A Features of the physical security system are covered, in part, by the standard ESBWR design, while other features are plant and site specific. Accordingly, the ESBWR standard ITAAC cover the physical plant security system and address those features that are part of the standard design. NRC guidance provides suggested ITAAC that cover both the standard design and the plant and site specific features. The plant and site-specific Physical Security ITAAC not covered by the ESBWR Tier 1, Section 2.19, are contained in Part 10, "ITAAC", Section 2.2.1 "Site-Specific Physical Security ITAAC."

STD SUP-13.6-2 **[START COM 13.6-002]** Administrative procedures have been implemented that meet the requirements of 10 CFR 73.58 for managing the safety/security interface **[END COM 13.6-002]** ← Insert 1

13.6.3 **COL Information**

13.6-6-A **Key Control**

STD COL 13.6-6-A This COL item is addressed in Subsection 13.6.1.1.5.

13.6-7-A **Redundancy and Equivalency of the CAS and Secondary Alarm Station**

Insert 1:

These procedures are in effect at the time of issuance of the combined license and were developed using currently accepted industry guidance.