PMFermiCOLPEm Resource

From: Govan, Tekia
Sent: Friday, June 28, 2013 3:00 PM
To: FermiCOL Resource
Subject: FW: NRC3-13-0020
Attachments: NRC3-13-0020.pdf

From: Ryan C Pratt [mailto:prattrc@dteenergy.com]
Sent: Friday, June 28, 2013 2:48 PM
To: Govan, Tekia
Cc: Eudy, Michael; Muniz, Adrian; Michael K Brandon
Subject: NRC3-13-0020

Tekia,

Attached is a courtesy copy of letter NRC3-13-0020, "DTE Electric Company Supplemental Response to NRC Request for Additional Information Letter No. 69," dated June 28, 2013, which provides the supplemental response regarding 10 CFR 30/40/70 and Cf-252. Please let me know if you have any questions.

Thanks,
Ryan Pratt
Nuclear Development - Licensing
313.235.0109

Hearing Identifier: Fermi_COL_Public
Email Number: 1230

Mail Envelope Properties (F5A4366DF596BF458646C9D433EA37D70100EBEA5AB3)

Subject: FW: NRC3-13-0020
Sent Date: 6/28/2013 2:59:47 PM
Received Date: 6/28/2013 2:59:49 PM
From: Govan, Tekia

Created By: Tekia.Govan@nrc.gov

Recipients:
"FermiCOL Resource" <FermiCOL.Resource@nrc.gov>
Tracking Status: None

Post Office: HQCLSTR01.nrc.gov

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MESSAGE	605	6/28/2013 2:59:49 PM
NRC3-13-0020.pdf	615238	

Options
Priority: Standard
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DTE Energy
One Energy Plaza, Detroit, MI 48226-1279

10 CFR 52.79

June 28, 2013
NRC3-13-0020

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. 69 Related to Chapter 1.0 for the Fermi 3 Combined License Application," dated November 9, 2011
3) Letter from Peter W. Smith (Detroit Edison) to USNRC, "Detroit Edison Company Response to NRC Request for Additional Information Letter No. 69," NRC3-11-0044, dated December 7, 2011

Subject: DTE Electric Company Supplemental Response to NRC Request for Additional Information Letter No. 69

In Reference 2, the NRC requested additional information to support the review of certain portions of the Fermi 3 Combined License Application (COLA). Request for Additional Information (RAI) 01-7 in Reference 2 is related to licensing of byproduct, source, and special nuclear material under 10 CFR Parts 30, 40, and 70, respectively. The initial response to RAI 01-7 was provided in Reference 3.

During a public conference call on May 30, 2013, the staff provided feedback on DTE Electric's initial response to RAI 01-7 (Reference 3). In order to address the feedback provided by the staff, a supplemental response to RAI 01-7 is provided in Attachment 1.

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 28th day of June 2013.

Sincerely,

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

Attachment: 1) Supplemental Response to RAI Letter No. 69 (Question No. 01-7)

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

Attachment 1
NRC3-13-0020
(7 pages)

Supplemental Response to RAI Letter No. 69
(eRAI Tracking No. 6146)

RAI Question No. 01-7

NRC RAI 01-7

Provide specifics types of sources, byproducts, and special nuclear material (SNM), the chemical or physical form, and the maximum amount at any one time for the requested material license under Title 10, Code of Federal Regulations (10 CFR) Parts 30, 40, and 70. Provide specific material information in accordance with requirements for 10 CFR 30.32, 10 CFR 40.31, and 10 CFR 70.21 and 70.22. Specific to the request for a SNM licensed pursuant to 10 CFR 70, identify the category or class of SNM (Category I – strategic, Category II – moderate strategic significance, Category III – low strategic significance) based on the requested types, form, and maximum total quantities of SNM.

(U) Regulatory Basis: The applicant requests a material license pursuant to 10 CFR 30, 10 CFR 40, and 10 CFR 70 to receive posses, and use byproduct, source, and SNM. The applicant is required to provide specific descriptions of the nuclear materials to include the types, chemical or physical form, and the maximum quantities, in accordance with the applicable requirements of 10 CFR 30, 10 CFR 40, and 10 CFR 70 for the license requested. 10 CFR 30.32 and 10 CFR 40.31 for license of byproduct and source material requires the applicant to include specific information of nuclear material requested and their use or purpose for the license. In accordance with 10 CFR 70.22(a)(4), applicants must include, the name, amount, and specifications (including the chemical and physical form and, where applicable, isotopic content) of the special nuclear material the applicant request to possess and use for a 10 CFR Part 70 license.

Supplemental Response

DTE Electric Company initially responded to RAI 01-7 in letter NRC3-11-0044, dated December 7, 2011 (ML11343A014). The initial response to RAI 01-7 provided information regarding licensing of byproduct, source, and special nuclear material under 10 CFR Parts 30, 40, and 70, respectively.

In the initial response to RAI 01-7, Cf-252 was classified as 10 CFR 70 non-fuel special nuclear material. During recent conference calls with the NRC, the staff indicated that Cf-252 is more appropriately classified as 10 CFR 30 byproduct material. As such, FSAR Section 12.2 is being revised to facilitate the reclassification of Cf-252 as 10 CFR 30 material. FSAR Table 12.2-209 is being revised to remove the entry for Cf-252. New FSAR Subsection 12.2.1.1.2, “Other Radioactive Sources,” is being added to provide details regarding the Cf-252 reactor startup source.

Revised summaries of 10 CFR Parts 30, 40, and 70 materials are provided below.

10 CFR Part 30 Material

Byproduct materials to be licensed under 10 CFR 30 are identified in FSAR Table 12.2-208 and the *Reactor Startup Source* portion of FSAR Subsection 12.2.1.1.2. The quantities of materials identified in FSAR Table 12.2-208 and the *Reactor Startup Source* portion of FSAR Subsection 12.2.1.1.2 are less than the quantities in Schedule C in 10 CFR 30.72.

10 CFR Part 40 Material

No 10 CFR Part 40 specifically licensed material, including natural uranium, depleted uranium, and uranium hexafluoride, will be received, possessed, or used during the period between issuance of the COL and the 10 CFR 52.103(g) finding.

10 CFR Part 70 Material

Non-fuel special nuclear material to be licensed under 10 CFR 70 is identified in FSAR Table 12.2-209. The special nuclear material identified in FSAR Table 12.2-209 is of low strategic significance (Category III), as defined in 10 CFR 70.4.

Proposed COLA Markups

FSAR Section 12.2 is revised as shown on the attached markup.

Markup of Fermi 3 COLA
(following 3 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.

and Appendix 12BB.

12.1.4 **COL Information**

12.1-1-A **Regulatory Guide 8.10**

STD COL 12.1-1-A This COL item is addressed in Subsection 12.1.1.3.2.

12.1-2-A **Regulatory Guide 1.8**

STD COL 12.1-2-A This COL item is addressed in Subsection 12.1.1.3.3.

12.1-3-A **Operational Considerations**

STD COL 12.1-3-A This COL item is addressed in Subsection 12.1.3.

12.1-4-A **Regulatory Guide 8.8**

STD COL 12.1-4-A This COL item is addressed in Subsection 12.1.1.3.1.

12.2 Plant Sources

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

EF3 DEP 11.4-1 Replace Table 12.2-22 with Table 12.2-22R.

12.2.1.5 **Other Contained Sources**

Insert 1

Replace this section with the following.

STD COL 12.2-4-A In addition to the contained sources identified above, additional contained sources which contain by-product, source, or special nuclear materials may be maintained onsite. These contained sources are used as calibration, check, or radiography sources. These sources are not part of the permanent plant design, and their control and use are governed by plant procedures. The procedures consider the guidance provided in RG 8.8 to ensure that occupational doses from the control and use of the sources are as low as is reasonably achievable (ALARA).

Various types and quantities of radioactive sources are employed to calibrate the process and effluent radiation monitors, the area radiation monitors, and portable and laboratory radiation detectors. Check sources that are integral to the area, process, and effluent monitors consist of small quantities of by-product material and do not require special handling, storage, or use procedures for radiation protection purposes.

Insert 1

	12.2.1.1.2 **Other Radioactive Sources**
	Add the following at the end of this section.
STD SUP 12.2-1	The Cf-252 reactor startup source is a sealed source. Each source capsule contains 0.5 to 0.822 mg Cf-252. Six sources are required, resulting in a total of 3 to 5 mg (1.6 to 2.7 Ci) Cf-252.

Table 12.2-208 Radioactive Sources Used for Radiation Monitoring and Laboratory and Portable Monitoring Instrumentation[1]

Radioactive Licensee Material (Element and Mass Number)[1]	Chemical and/or Physical Form[1]	Maximum Quantity that Licensee May Posses at Any One Time[1]
Any byproduct material with atomic numbers 1 through 93	Sealed Sources[2]	No single source to exceed 100 millicuries 5 Curies total
Americium – 241	Sealed Sources[2]	No single source to exceed 300 millicuries 500 millicuries total

Notes:

1. This information remains in effect between issuance of the COL and the 10 CFR 52.103(g) finding and will be designated historical information after that time.

2. Includes calibration and reference sources.

Table 12.2-209 Non-Fuel Special Nuclear Material for Use

The radioactive material identified below represents nominal values of known non-fuel special nuclear material specifically required for use at Fermi 3.

(a) Element and Mass Number	(b) Chemical or Physical Form	(c) Maximum Amount
U-234 (approx. 78%) U-235 (approx. 22%)	Local Power Range Monitor Assemblies – Each Assembly includes Four Fission Chambers - (64 assemblies and 4 spares)	0.0104 grams of Uranium per assembly. Total of approx. 0.71 grams
U-234 (approx. 78%) U-235 (approx. 22%)	Startup Range Nuclear Monitor Assemblies – Fission Chambers (12 installed assemblies and 1 spare)	0.0129 grams of Uranium per assembly. Total of approx. 0.17 grams.
Cf-252	Neutron Source Wire (Total of six sources)	0.5 to 0.822 mg per source capsule. Total of 3 to 5 mg of material.