The Detroit Edison Company
One Energy Plaza, Detroit, MI 48226-1279

DTE Energy
Detroit Edison

10 CFR 52.79

July 15, 2011
NRC3-11-0021

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. 61 Related to the SRP Sections 1.0 for the Fermi 3 Combined License Application," dated June 21, 2011

Subject: Detroit Edison Company Response to NRC Request for Additional Information Letter No. 61

In Reference 2, the NRC requested additional information to support the review of certain portions of the Fermi 3 Combined License Application (COLA). The responses to the Request for Additional Information (RAI) associated with Reference 2 are 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 15th day of July 2011.

Sincerely,

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

D095
NRO

Attachment: 1) Response to RAI Letter No. 61, RAI Question No. 01-4

cc: Adrian Muniz, NRC Fermi 3 Project Manager
Jerry Hale, NRC Fermi 3 Project Manager
Raj Anand, 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 & Environment, Radiological Protection Section (w/o attachments)

Attachment 1
NRC3-11-0021

Response to RAI Letter No. 61
(eRAI Tracking No. 5833)

RAI Question No. 01-4

RAI 01-4

The Fermi combined license application includes license requests associated 10 CFR Parts 30, 40, and 70. The applicant is requested to complete the attached tables in order to provide a cross-reference of regulations and regulatory guidance in support of the staff's review.

Response

Attached are the completed tables providing a cross-reference of regulations and regulatory guidance applicable to 10 CFR Part 30, 40, and 70 to specific chapters and sections in the Fermi 3 COLA.

As a result of this review, changes to the Fermi 3 COLA are proposed below to address identified gaps.

Proposed COLA Revision

The following markups for the COLA are provided:

1. Update to FSAR Table 13.4-201 to include a milestone for implementation of the special nuclear material (SNM), material control and accounting (MC&A) Program.

2. Update to include a new FSAR Section 13.5.2.2.11 to include the SNM MC&A Procedures.

3. Update to include a new description of the SNM MC&A Program as Appendix 13CC in FSAR Chapter 13.

4. Update COLA Part 7 to include an exemption request from 10 CFR 70.22(b), 70.32(c), 74.31, 74.41, and 74.51. 10 CFR 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 contain exceptions for nuclear reactors licensed under 10 CFR Part 50 as related to the description of the MC&A program and certain SNM programs and procedures. This exemption request is to extend the exceptions allowed in these regulations for nuclear reactors licensed under 10 CFR Part 50 to the Fermi 3 facility which is being licensed under 10 CFR Part 52.

NRC3-11-0021
Response to RAI Letter No. 61
(eRAI Tracking No. 5833)

RAI Question 01-4

Enclosure 1

Cross-Reference Tables
of Regulations and Regulatory Guidance
in Support of Review of Parts 30, 40, and 70
License Application VS. Part 52 COLA Content
(following 15 pages)

CROSS-REFERENCE OF REGULATIONS AND REGULATORY GUIDANCE IN SUPPORT OF REVIEW OF PART 30/40 LICENSE APPLICATION VS. PART 52 COLA CONTENT

Review Area	Regulations	Regulatory Guidance	COLA Chapter
License Action Type	10 CFR Parts 30 and 40	Section 8.1 and Appendix D.1, Item No. 1 of NUREG-1556, Volume 7	The license action type for Fermi 3 is described in Part 1, Section 2(e), and Part 2 (FSAR), Section 1.1.2.2.
Legal Identity	10 CFR Parts 30.32, 30.34, 40.3, 40.21, and 40.31	Section 8.2 and Appendix D.2, Item No. 2 of NUREG-1556, Volume 7	The legal identity of the applicant is described in Part 1, Section 2(a-d).
Address	10 CFR Parts 30.32 and 40.31	Section 8.3 and Appendix D.3 Item Nos. 2 and 3 of NUREG-1556, Volume 7	Part 1, Section 2(a-d) provides the Detroit Edison corporate address. FSAR, Section 1.1.2.4, provides the reactor location.
Person to be Contacted About this Application	10 CFR Parts 30.32 and 40.31	Section 8.4 and Appendix D.4, Item No. 4 of NUREG-1556, Volume 7	Peter W. Smith, Director Nuclear Development – Licensing & Engineering Detroit Edison Company (313) 235-3341
Materials to be Possessed and Proposed Uses	10 CFR Parts 30.4, 30.14, 30.15, 30.18, 30.19, 30.21, 30.32(g), 30.32(i), 30.33(a)(1), 30.33, 31.5, 31.8, 31.11, 32.210, 40.1, 40.3, 40.4, 40.34, 40.32, 40.35, 51.21, and 51.22	Section 8.5.1, 8.6, Appendix C, and Appendix D.5, Item Nos. 5 and 6 of NUREG-1556, Volume 7	The materials to be possessed and proposed uses are described in Part 1, Section 2(e), and FSAR, Chapter 12, including the portions ESBWR DCD Chapter 12 incorporated by reference. As described in the response to RAI 13.03-64 [ML110900094], the request for a Part 30 and 40 license does not involve

Review Area	Regulations	Regulatory Guidance	COLA Chapter
			authorization to possess uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total, or in excess of 2 curies of plutonium in unsealed form or on foils or plated surfaces. Also, no by-product will be received, possessed, or used in a physical form that is in unsealed form, on foils or plated surfaces, of sealed in glass, that exceeds the quantities in Schedule C in 10 CFR 30.72. COLA Part 10, Section 3.3, provides license conditions for byproduct, source and special nuclear material.
Financial Assurance and Recordkeeping for Decommissioning (if applicable)	10 CFR Parts 30.35, 30.32(h), 40.31(i), and 40.36	Section 8.5.2, Appendix C, and Appendix G of NUREG-1556, Volume 7; and Chapter 4 and Appendix A of NUREG-1757, Volume 3	Financial assurance and recordkeeping for decommissioning required for 10 CFR Parts 30 and 40 are not required. However, the financial assurance and recordkeeping for decommissioning of the Station are described in the Decommissioning Funding Report provided in Part 1, Attachment C and Quality Assurance Program Description

Review Area	Regulations	Regulatory Guidance	COLA Chapter
			in FSAR Appendix 17AA.
Individual(s) Responsible for Radiation Safety Program and Their Training and Experience and Authorized User	10 CFR Parts 20.1101 30.33(a)(3), and 40.32(b)	Section 8.7.1, 8.7.2, Appendix C, and Appendix D.6, Item No. 7 of NUREG-1556, Volume 7	The radiation protection program for Fermi 3 is described in FSAR Section 12.5, and Appendix 12AA and 12BB. Appendix 12AA and 12BB incorporate NEI 07-08A and 07-03A by reference. The job description and function for Radiation Protection Manager, Radiation Protection Supervisors, and Radiation Protection Technicians are described in FSAR Sections 13.1.2.1.1.10, 13.1.2.1.1.11, and 13.1.2.1.1.12, respectively. Qualifications of the managers, supervisors, and technicians meet the requirements for education and experience described in ANSI/ANS-3.1, as endorsed and amended by Regulatory Guide 1.8. Training criteria for site personnel are consistent with the guidance in Regulatory Guide 1.8. Qualifications and training are described in FSAR Sections 13.1 and 13.2.

Review Area	Regulations	Regulatory Guidance	COLA Chapter
Training for Individuals Working in or Frequenting Restricted Areas (Occupationally Exposed Individuals and Ancillary Personnel)	10 CFR Parts 19.11, 19.12, 19.13, 20.1801, 20.1802, 30.7, 30.9, 30.10, 30.33(a)(3), 30.34(e), 40.32(b), and 40.41	Section 8.8, Appendix C, and Appendix D.6, Item No. 8 of NUREG-1556, Volume 7	The radiation protection program is described in FSAR Section 12.5, Appendix 12AA, and Appendix 12BB. Training criteria is discussed in FSAR Section 13.2.
Facilities and Equipment	10 CFR Parts 20.1101(b), 20.1406, 30.33(a)(2), 30.35(g), and 40.32(b)	Section 8.9, Appendix C, and Appendix D.6, Item No. 9 of NUREG-1556, Volume 7	Physical arrangement of the facility is described in FSAR Section 12.3. The radiation protection program is described in FSAR Section 12.5, Appendix 12AA, and Appendix 12BB, including the ALARA program. Appendix 12BB incorporates NEI 07-03A by reference. NEI 07-03A, Section 12.5.3, describes facilities, instrumentation, and equipment provided to support implementation of the radiation protection program. Radiation record retention requirements are contained in the QAPD, in FSAR Appendix 17AA.
Radiation Safety Program	10. CFR Parts 20.1101, 20.2102, 21.21(a), and 40.32(b)	Section 8.10, Appendix C, and Appendix D.6, Item No. 10 of NUREG-1556, Volume 7	FSAR Table 13.4-201 provides a commitment to implement the radiation protection program.

Review Area	Regulations	Regulatory Guidance	COLA Chapter
			The radiation protection program as described in NEI 07-03A, FSAR Section 12.5, describes the elements that need to be implemented. Qualifications of the managers, supervisors, and technicians meet the requirements for education and experience described in ANSI/ANS-3.1, as endorsed and amended by Regulatory Guide 1.8. Training criteria for site personnel are consistent with the guidance in Regulatory Guide 1.8. Qualifications and training are described in FSAR Sections 13.1 and 13.2. Radiation record retention requirements and 10 CFR 21 reporting information are contained in the QAPD, in FSAR Appendix 17AA.
Waste Management	10 CFR Parts 20.1904, 20.2001, 20.2002, 20.2003, 20.2004, 20.2005, 20.2006, 20.2007, 20.2108, 30.51, and 61.52	Section 8.11, Appendix C, and Appendix D.6, Item No. 11 of NUREG-1556, Volume 7	FSAR Sections 11.2 and 11.4, including the portions of ESBWR DCD Sections 11.2 and 11.4 incorporated by reference, discuss liquid and solid radwaste storage and processing systems, respectively.

Review Area	Regulations	Regulatory Guidance	COLA Chapter
			FSAR Section 12.2 discusses dose rates and limits for Fermi 3. This addresses the liquid waste that is disposed of directly to the environment. The radiation protection program is discussed in FSAR Section 12.5.
Security of IAEA Category I and 2 Sources	10 CFR 20.2207 and Increased Controls Orders	Contact FSME/MSSA for information	The physical security program is described in FSAR Section 13.6.
Fees	10 CFR Part 170.31	Section 8.12 and Appendix B of NUREG-1556, Volume 7	Detroit Edison will assume full cost of associated 30, 40, and 70 application fees in conjunction with review of COLA.
Certification	18 U.S.C. 1001	Section 8.13 and Appendix B of NUREG-1556, Volume 7	The form will be signed when submitted.
Amendments and Renewals	10 CFR Parts 2.109, 30.37, 30.38, 40.43, and 40.44	Section 9 of NUREG-1556, Volume 7	Not Applicable – The Fermi 3 application is for a new license.
Applications for Exemptions	10 CFR Parts 19.31, 20.2301, and 30.11	Section 10 of NUREG-1556, Volume 7	Not Applicable – The Fermi 3 application does not request any exemptions for 10 CFR Part 30 or Part 40.
Termination of Activities	10 CFR Parts 20.1402, 20.1403, 30.34(b), 30.35(g), 30.36(d), 30.36(g), 30.36(h), 30.36(j), 30.51(f), and 40.42	Section 11 of NUREG-1556, Volume 7	Not Applicable – The Fermi 3 application is for a new license; therefore, termination of activities does not apply.

CROSS-REFERENCE OF REGULATIONS AND REGULATORY GUIDANCE IN SUPPORT OF REVIEW OF PART 70 LICENSE APPLICATION VS. PART 52 COLA CONTENT

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
General Information	10 CFR 70.22(a)(1) – (a)(4) 10 CFR 70.23(a)(5)	Chapter 1 of NUREG-1520	Sections 1.1.4, 1.2.4, and 1.3.4 of NUREG-1520	COLA Part 1 provides relevant corporate information, including identity, full name and physical address. Also, as described in COLA Part 1, the purpose of the application is to seek a class 103 license which will be used to generate electricity for commercial purposes. The application also seeks licenses to receive, possess and use source, special nuclear, and by-product material, in connection with the operation of Fermi 3. As described in the response to RAI 13.03-64 [ML110900094], including the markup for FSAR Section 12.2 attached therein, the request for a Part 70 license does not involve authorization to possess enriched uranium for which a criticality accident alarm system is required, uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total, or in excess of 2 curies of plutonium in unsealed form or on foils or plated surfaces. COLA Part 1 also provides a description of the financial qualification of Detroit Edison for construction, operation, and decommissioning of Fermi 3. COLA Part 10, Section 3.3, provides license conditions for byproduct, source and special nuclear material. A request for an exemption from 10 CFR 70.22(b), 70.32(c), 74.31, 74.41, and 74.51, is included in

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
				COLA Part 7. 10 CFR 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 contain exceptions for nuclear reactor licensed under 10 CFR Part 50 as related to the description of the MC&A program and certain SNM programs and procedures. The request for exemption extends these exceptions to the Fermi 3 facility which is being licensed under 10 CFR Part 52. A description of the facility location is provided in COLA, Part 2 (FSAR) Section 1.1.2.4. The facility layout is described in FSAR Section 2.1, including the property boundary shown on Figure 2.1-203 and site layout (showing principal plant structures) on Figure 2.1-204. Site geography and population information is provided in FSAR Section 2.1. The location of nearby industrial, transportation, and military facilities is described in FSAR Section 2.2. Meteorological description and data is provided in FSAR Section 2.3. Site hydrology data, including the design basis flood, is provided in FSAR Section 2.4. Site geology data, including seismicity, is provided in FSAR Section 2.5.
Organization and Administration	10 CFR 70.22(a)(6) and (a)(8) 10 CFR 70.23(a)(2) and (a)(4)	Chapter 2 of NUREG-1520 Reg Guide 1.8	Section 2.4.3 of NUREG-1520	The organizational structure, including organizational charts, is described in FSAR, Section 13.1, and Appendix 17AA. The description of the organization in FSAR Section 13.1 provides functional descriptions of specific organizational groups, including those responsible for managing the design, construction, operations, and modifications of the facility. Responsibilities

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
				and reporting hierarchy are clearly defined, providing for clear, unambiguous controls and communications among the organizational units. As described in FSAR Section 13.1.1.4, personnel of the technical support organization meet the education and experience qualifications for those described in ANSI/ANS-3.1 as endorsed and amended by Regulatory Guide 1.8. In addition, as described in FSAR 13.1.3, qualifications of managers, supervisors, and technicians of the operating organization meet the requirements for education and experience described in ANSI/ANS-3.1, as endorsed and amended by Regulatory Guide 1.8. FSAR, Appendix 13AA, Section 13AA.2.4, 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.
ISA	N/A pursuant to 10 CFR 70.60	N/A	N/A	N/A
Radiation Protection	10 CFR Part 19 10 CFR Part 20	Chapter 4 of NUREG-1520, Reg Guide 1.8, 8.8, 8.10, 8.15,	Section 4.4 of NUREG-1520	The radiation protection program is described in FSAR Section 12.5, Appendix 12AA, and Appendix 12BB. As described in the FSAR, NEI 07-03A and 07-08A are incorporated by reference.

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
	10 CFR 70.22(a)(6) – (a)(8) 10 CFR 70.23(a)(2) – (a)(4) 10 CFR Part 70, Subpart G	etc.		NEI 07-03A describes the details of the radiation protection program and NEI 07-08A describes the details for the ALARA program. The radiation protection program describes the organization, facilities, instrumentation and equipment, and procedures. Qualification and training criteria for site personnel are consistent with the guidance in Regulatory Guide 1.8 and are described in FSAR Sections 13.1 and 13.2. As described in FSAR Table 13.4-201, the Fermi 3 COLA includes a commitment to implement elements of the radiation protection program necessary to support receipt and storage of fuel onsite prior to fuel receipt. In addition, as described in FSAR Table 13.4-201, the Fermi 3 COLA includes a commitment to implement elements of the radiation protection program applicable to radioactive material prior to initial receipt of byproduct source, or special nuclear materials (excluding exempt quantities as described in 10 CFR 30.18). The radiation protection program as described in NEI 07-03A, Section 12.5, describes the elements need to be implemented.
Criticality Safety	70.22(a)(6) – (a)(8). 70.24(d)(1) includes an exemption from	Chapter 5 of NUREG-1520	Section 5.4.3 of NUREG-1520	As described in the radiation protection program (NEI 07-03A, Section 12.5), "prior to receiving fuel under this license, and thereafter, when reactor fuel is possessed under this license, plant procedures on criticality accident requirements will be established, implemented and maintained

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
	crit. alarms. 70.23(a)(2) – (a)(4) 10 CFR 70.52			and radiation monitoring will be provided in accordance with 10 CFR 50.68." As described in FSAR Section 13.5.2.1.7, fuel handling operations are performed in accordance with written procedures; including procedures to prevent inadvertent criticality. DCD Section 9.1 is incorporated by reference in the FSAR. DCD Section 9.1.1.7 describes that new fuel storage racks criticality control meets the requirements of 10 CFR 50.68(b). DCD Section 9.1.2.8 describes that spent fuel storage racks criticality control meets the requirements of 10 CFR 50.68(b). Thus, as allowed by 10 CFR 70.24(d)(1) a criticality accident alarm system is not required. As described in the response to RAI 13.03-64 [ML110900094], the request for a Part 70 license does not involve authorization to possess enriched uranium for which a criticality accident alarm system is required, uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total, or in excess of 2 curies of plutonium in unsealed form or on foils or plated surfaces.
Chemical Safety	N/A since the Part 70 license does not involve the use of	N/A	N/A	N/A

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
	chemicals			
Fire Safety	70.22(a)(6) – (a)(8) 70.23(a)(2) – (a)(4)	Chapter 7 of NUREG-1520	Section 7.4.3 of NUREG-1520	The fire protection program is addressed in FSAR Section 9.5.1.15, including incorporating DCD Section 9.5.1.15 by reference. The fire protection program identifies organization and responsibilities, staffing requirements, training requirements, control of combustible materials, and quality assurance requirements. As described in FSAR Table 13.4-201, the Fermi 3 COLA includes a commitment to implement elements of the fire protection program necessary to support receipt and storage of fuel onsite prior to fuel receipt. As described in FSAR Table 13.4-201, the Fermi 3 COLA includes a commitment to implement elements of the fire protection program applicable to radioactive material prior to initial receipt of byproduct source, or special nuclear materials (excluding exempt quantities as described in 10 CFR 30.18). In addition to the fire protection program, FSAR Section 9.5, including incorporating DCD Section 9.5 by reference, describes the fire protection systems, fire barrier requirements, and building ventilation requirements. DCD Table 9.5-1 and FSAR Table 9.5-201 identify the codes and standards (including NFPA

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
				Codes) that are applicable for fire protection for Fermi 3. FSAR, Appendix 9A, including incorporating DCD Appendix 9A by reference, describes the fire hazards analysis for Fermi 3.
Emergency Preparedness	10 CFR 70.22(i)(1)(i) or 70.22 (i)(1)(ii). 10 CFR 70.22(i)(3), if an emergency plan is required	Chapter 8 of NUREG-1520	Section 8.4.3 of NUREG-1520	Emergency planning is described in FSAR Section 13.3. The Emergency Plan, prepared in accordance with 10 CFR 50.79(d) is provided in COLA Part 5. Commitments for implementation of the Emergency Plan are provided in FSAR Table 13.4-201. As described in the response to RAI 13.03-64 [ML110900094], the request for a Part 70 license does not involve authorization to possess enriched uranium for which a criticality accident alarm system is required, uranium hexafluoride in excess of 50 kilograms in a single container or 1000 kilograms total, or in excess of 2 curies of plutonium in unsealed form or on foils or plated surfaces. Because the above quantities are less than the values stipulated in 10 CFR 50.72(i) are not exceeded, consistent with 10 CFR 70.22(i)(1)(ii), an emergency plan that meets 10 CFR 70.22(i)(3) is not required. As part of the response to RAI 13.03-64, a requirement was added to FSAR Section 12.2.1.5 to implement these limitations prior to implementation of the

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
				Emergency Plan.
Environmental Protection	10 CFR Part 20 70.22(a)(7) – (a)(8) 70.23(a)(3) – (a)(4) Selected portions of Part 51, such as 10 CFR 51.52.	Chapter 9 of NUREG-1520 NUREG-1748 for preparing the EA + FONSI related to the possession, inspection, and handling of SNM, if needed. Otherwise, document the review of these activities as part of the EIS being prepared by the NRC staff under NUREG-1555.	Section 9.4.3 of NUREG-1520 (safety review only)	COLA Part 3, Environmental Report (ER), addresses environmental reviews and environmental protection. The ER was developed for the 10 CFR Part 52 COL application consistent with the guidance in NUREG-1555 to support NRC development of the Environmental Impact Statement (EIS).
Decommissioning	N/A pursuant to 10 CFR 70.25 (a)	N/A	N/A	N/A
Management Measures	N/A pursuant to 10 CFR 70.60	N/A	N/A	N/A
Material Control and Accounting (MC&A)	10 CFR 20.2201 70.22(b) includes an exemption from an FNMCP for SNM used at a Part 50 reactor site.	Currently, there is no regulatory guidance (i.e., NUREG or RegGuide) to evaluate the possession, inspection, and handling of SNM	Currently, there is no regulatory guidance (i.e., NUREG or RegGuide) to evaluate the possession, inspection, and handling of SNM	The description of the Material Control & Accounting (MC&A) Program for special nuclear material (SNM) is included in COLA Part 11. The procedures for SNM MC&A are identified in FSAR Section 13.5.2.2.11. A request for an exemption from 10 CFR 70.22(b), 70.32(c), 74.31, 74.41, and 74.51, is included in COLA Part 7. 10 CFR 70.22(b), 70.32(c), 74.31,

Review Area	Regulations	Regulatory Guidance	Acceptance Criteria	COLA Chapter
	10 CFR 74, Subpart B	at a reactor site. Regulations in 10 CFR 74, Subpart B are currently used as guidance to perform the review in this area.	at a reactor site. Regulations in 10 CFR 74, Subpart B are currently used as guidance to perform the review in this area.	74.41, and 74.51 contain exceptions for nuclear reactor licensed under 10 CFR Part 50 as related to the description of the MC&A program and certain SNM programs and procedures. The request for exemption extends these exceptions to the Fermi 3 facility which is being licensed under 10 CFR Part 52.
Physical Security	10 CFR 73.55 and 73.67	Section 13.6.1 of NUREG-0800	Subsection II of Section 13.6.1 of NUREG-0800.	The physical security program is described in FSAR Section 13.6. As described in FSAR Table 13.4-201, portions of the security program applicable to radioactive material will be implemented prior to initial receipt of byproduct source, or special nuclear materials (excluding exempt quantities as described in 10 CFR 30.18).

Markup of Detroit Edison COLA Part 2
(following 13 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.

Table 13.4-201 Operational Programs Required by NRC Regulations (Sheet 9 of 9) [STD COL 13.4-1-A] [STD COL 13.4-2-A]

Item	Program Title	Program Source (Required by)	Section	Implementation	
				Milestone	Requirement
	Preservice Thermal Movement Inspection	10 CFR 50.55a(g) 10CFR 50.55a(b)(3)(v)	3.9.3.7.1(3)e	During intial heatup and cooldown	10 CFR 50.55a(g) ASME OM Code, ISTD (Reference 13.4-202)
	Preservice Testing Program	10 CFR 50.55a(g) 10CFR 50.55a(b)(3)(v)	3.9.3.7.1(3)e	Prior to fuel load	License condition **[COM 13.4-042]**
Notes: a. Snubber inservice examination is intially performed not less than two months after attaining 5% reactor power operation and will be completed within 12 calendar months after attaining 5% reactor power.					
21.	Mitigative Strategies Description and Plans	10 CFR 50.54(hh)(2) 10CFR 52.80	13.6	Prior to fuel load authorization per 10 CFR 52.103(g)	License Condition **[COM 13.4-033]**
22.	Lifecycle Minimization of Contamination	10 CFR 20.1406	12.3	Prior to fuel load	License Condition **[COM13.4-034]**
23.	SNM Material Control and Accounting Program	10 CFR 74 Part B (74.11-74.19, excl. 74.17)	13.5.2.2.11	Prior to receipt of SNM	License Condition [COM13.4-043]

STD SUP 13.5-40

13.5.2.2.10 **Procedure related to Refueling Cavity Integrity**

Procedures will be established and implemented for:

- Monitoring refueling cavity seal leakage,
- Responding to refueling cavity and buffer pool drain down events, and
- Performing periodic maintenance and inspection of the refueling cavity seal and the Main Steam and Isolation Condenser System plugs in accordance with vendor recommendations.

Insert 1 Here

13.5.3 **COL Information**

13.5-1-A **Administrative Procedures Development Plan**

STD COL 13.5-1-A This COL item is addressed in Subsection 13.5.1.

13.5-2-A **Plant Operating Procedures Development Plan**

STD COL 13.5-2-A This COL item is addressed in Subsection 13.5.2.

13.5-3-A **Emergency Procedures Development**

STD COL 13.5-3-A This COL item is addressed in Subsection 13.5.2.

13.5-4-A **Implementation of the Plant Procedures Plan**

EF3 COL 13.5-4-A This COL item is addressed in Section 13.5 and Subsection 13.5.2.

13.5-5-A **Procedures Included in Scope of Plan**

STD COL 13.5-5-A This COL item is addressed in Subsection 13.5.2.

13.5-6-A **Procedures for Calibration, Inspection, and Testing**

STD COL 13.5-6-A This COL item is addressed in Subsection 13.5.2.

13.5.4 **References**

13.5-201 American National Standards Institute, Overhead and Gantry Cranes, ANSI B30.2- 2001.

13.5-202 American Society of Mechanical Engineers, Quality Assurance Requirements for Nuclear Facility Applications, NQA-1-1994.

13.5-203 Nuclear Utilities Management and Resources Council, Guidelines for Industry Actions to Assess Shutdown Management, NUMARC 91-06, December 1991.

Insert 1

STD SUP 13.5-41	**13.5.2.2.11**	**Special Nuclear Material (SNM) Material Control and Accounting Procedures** A material control and accounting system consisting of special nuclear material accounting procedures is utilized to delineate the requirements, responsibilities, and methods of special nuclear material control from the time special nuclear material is received until it is shipped from the plant. These procedures provide detailed steps for SNM shipping and receiving, inventory, accounting, and preparing records and reports. The Special Nuclear Material (SNM) Material Control and Accounting (MC&A) Program description is provided in Appendix 13CC.

Recruiting of personnel to fill positions is the shared responsibility of the manager in charge of human resources and the various heads of departments. The training program is described in Section 13.2.

13AA.2.4 Transition to Operating Phase

The Senior Vice President, Major Enterprise Projects is responsible for developing and implementing a plan for the organizational transition from the construction phase to the operating phase. The plan is fully ilmplemented and transition completed prior to commencement of commercial operations with operational responsibility then fully under the direction of the Fermi 3 Site Executive (see Appendix 17AA, Subsection 1.2.2.1).

As the construction of systems, or portions thereof, are completed, control and authority, including oversight, configuration and operations, is transferred from the contractor to the cognizant department in the site organization (see Subsection 13AA.2).

During the transition, responsibilities will be clearly defined in instructions and procedures to ensure appropriate authority is maintained for each system, structure and component.

It is anticipated that even after fuel load, construction activities will be ongoing. Those positions required to support these activities will retain their applicable construction or preoperational responsibilities until it is deemed that they are no longer necessary.

Appendix 13BB Training Program

STD SUP 13.2-1
STD COL 13.2-1-A
STD COL 13.2-2-A

NEI 06-13A (Reference 13BB-201), Technical Report on a Template for an Industry Training Program Description, is incorporated by reference.

13.BB References

13BB-201 Nuclear Energy Institute (NEI), "Technical Report on a Template for an Industry Training Program Description," NEI 06-13A.

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Appendix 13CC **Special Nuclear Material (SNM) Material Control and Accounting Program Description**

1. Scope

The Special Nuclear Material (SNM) Material Control and Accounting Program establishes guidelines concerning control of and accounting for SNM at the Detroit Edison Company (DTE) Fermi Unit 3.

The criteria prescribed in the SNM Material Control and Accounting Program are applicable to SNM and various material mixtures containing SNM. Generally, the SNM involved is plutonium, ^{233}U or uranium enriched in the isotope ^{235}U. The ^{235}U content will vary depending on various reactor parameters. SNM is typically in the form of pellets encapsulated in fuel rods. Criteria are established for the SNM control and accounting system, including criteria for the receipt, internal control, physical inventory, and shipment of SNM.

In addition to the information provided in this program description, the following Fermi Unit 3 licensing basis documents provide the regulatory basis that describes how the applicable requirements for material control and accounting under 10 CFR 74 will be met:

- Information related to amounts of SNM as reactor fuel required for reactor operation is provided in FSAR Section 4.1.
- Information related to storage of SNM as reactor fuel is provided in FSAR Section 9.1.
- Information related to the organizational structure of the applicant, including those responsible for SNM material control and accounting, is provided in FSAR Section 13.1.
- Information related to training of personnel, including those responsible for SNM material control and accounting, is provided in FSAR Section 13.2.
- Information related to implementation of this SNM MC&A Program is provided in FSAR Table 13.4-201.
- Information related to plant procedures, including those used to control special nuclear material, is provided in FSAR Section 13.5.

2. Definitions

In this program description, the following definitions shall apply:

2.1 **book inventory (inventory of record).** A master database or listing of all SNM currently possessed, reflecting the input of all material control records.

2.2 **dry storage canister**. The smallest structurally discrete item containing fuel assemblies or fuel components, which is stored on an ISFSI pad within the area controlled by the owner.

2.3 **fuel assembly**. The grouping of fuel components combined as an integral unit for use in a nuclear reactor.

2.4 **fuel component.** The smallest structurally discrete part of a fuel assembly that contains SNM. This is normally a fuel rod for intact components, but includes rod fragments, or pellets (or significant fraction thereof) if the rod structural integrity is not maintained.

2.5 **fuel component container.** A container that provides protection to fuel components comparable to that afforded by an intact fuel assembly and that is held to the same accounting standards as a fuel assembly, in that the container has the following attributes:

- The container is specifically designed to contain rods/rod fragments;
- The container is stored in the fuel storage racks or as authorized in dry fuel storage containers; and
- The use of specialized handling tools and equipment is required to access the SNM stored in the container.

2.6 **Independent Spent Fuel Storage Installation (ISFSI).** A complex designed and constructed for dry interim storage of spent nuclear fuel.

2.7 **item.** Fuel assembly, fuel component container, non-fuel SNM container, sealed container, reassembled reactor vessel, dry storage canister, or a discrete piece of SNM (fuel or non-fuel) that is not stored in a container.

2.8 **item control area (ICA).** A defined area within the owner controlled area for which the SNM (fuel assemblies, fuel components, or non-fuel SNM) is maintained in such a way that, at any time, an item count and related SNM quantities can be obtained from the records for the SNM located within the area. ICAs have defined physical boundaries; these generally comprise fresh and irradiated fuel storage areas, including ISFSIs, reactor vessels, spent fuel pools, and non-fuel SNM storage areas.

2.9 **item count (piece count).** Visual verification that an item is in the location documented in the material control records. Verification of an item's identification number is not necessary for a piece count.

2.10 **material control records**. Records of SNM receipt, internal transfer, reconstitution, acquisition, inventory, and shipment (including disposal).

2.11 **non-fuel SNM**. Items containing SNM that are not intended for use as fuel, e.g., fission detectors.

2.12 **non-fuel SNM container**. A container used to store non-fuel SNM items, which has the following attributes:

- The container is specifically designed or evaluated for storage of SNM;
- The container is stored in an area with controlled access; and
- The use of specialized handling tools and equipment is required to access the SNM stored in the container.

2.13 **physical inventory**. Determination on a measured basis of the quantity of SNM on hand at a given time; a complete check of all material on hand. The methods of physical inventory and associated measurements will vary depending on the material to be inventoried and the process involved. The typical physical inventory at a power reactor plant consists of an item count (piece count) of SNM in each ICA.

2.14 **sealed container**. Container storing SNM that has been sealed with a tamper-safing device or other mechanical means, e.g., welding.

2.15 **special nuclear material (SNM).** Plutonium, uranium-233, uranium enriched in the isotope ^{233}U or in the isotope ^{235}U, and any other material which the Nuclear Regulatory Commission (NRC), pursuant to the provisions of Section 51 of the Atomic Energy Act of 1954, as amended, determines to be SNM.

2.16 **tamper-safing**. The use of a device on a container in a manner and at a time that ensures a clear indication of any violation of the integrity of the contents of the container.

3. Organizational Requirements

3.1 Delegation of Responsibilities and Authority

Material control functional and organizational relationships are set forth in writing in organizational directives, instructions, procedures, manuals, and other documents. Documentation includes position qualification requirements and definitions of authority, responsibilities, and duties. The assignment of SNM material control and accounting functions is such that the activities of one person or unit serve as a control over and a check of the activities of other persons or units. Activities involving handling, accounting, or control of SNM are verified by a second person. Specific assignments of responsibilities are prescribed for all facets of the SNM control system. Delegation of material control responsibilities and authority are in writing. Material control functions are assigned in accordance with 3.1.1 through 3.1.3.

Titles assigned to the positions are intended to be descriptive only. Organizations, specific titles, and related functions may vary.

3.1.1 Site VP

The site VP has overall physical control and physical inventory responsibilities for SNM at the plant site.

3.1.2 Plant Manager

The plant manager has overall responsibility for implementation of the SNM control and accounting function.

3.1.3 SNM Custodian

The SNM custodian is responsible for the performance of the functions that relate to the control of SNM.

3.2 Experience or Training

Personnel responsible for SNM control and accounting have experience or training applicable to their functions.

3.3 Accounting Group

The SNM accounting group maintains records for the SNM in the plant's possession as required in 10 CFR 74.19(b).

3.4 Vendor/Contractor Oversight

A program is established to provide adequate oversight of vendors/contractors conducting activities involving handling, accounting, and control of SNM.

4. Material Control and Accounting Program

4.1 Procedures

Written procedures are prepared and maintained covering the SNM control and accounting system, as required in 10 CFR 74.19(b). These procedures shall address, as a minimum, the following topics:

(1) Organization and personnel responsibilities and authorities;
(2) Designation and description of ICAs;
(3) Material control records and reporting;
(4) Notification for events concerning SNM;
(5) Receiving and shipping SNM;
(6) Internal transfer of SNM;
(7) Physical inventory of SNM;
(8) SNM element and isotopic calculation method; and
(9) Characterization and identification of items as SNM or non-SNM to preclude loss of control of SNM items.

4.2 Configuration Control

Provisions are made for written approval of revisions to the contents of the SNM material control and accounting procedures by the appropriate plant personnel, such as the plant manager.

4.3 Corrective Action Program

Discrepancies or program deficiencies are documented, investigated, reported, as required in 10 CFR 74.11 and 10 CFR 20.2201, and resolved using the plant corrective action program.

5. Input Control

5.1 Review of Fuel Supplier's Values

Nuclear Fuel Services reviews the adequacy of the fuel supplier's material control and accounting system used in establishing the quantities and assays of SNM. In the event of a significant discrepancy between the fuel supplier's values for SNM quantities and assays and those determined by DTE, the cause of such discrepancies are investigated with the fuel supplier and the differences are resolved and reconciled expeditiously.

5.2 Receipt of SNM

For SNM received at the plant site, DTE:

(1) Contacts the shipping vendor in the event the SNM does not arrive as scheduled; initiates an investigation and resolves, as required in 10 CFR 73.67 and 10 CFR 74.11;
(2) Verifies the integrity of the shipping container and tamper-safing devices and resolves any problems identified, as required in 10 CFR 73.67 and 10 CFR 74.11;
(3) Verifies that the quantity (item count) and unique identification numbers are in agreement with those indicated on the shipper's documents;

(4) Takes appropriate steps to resolve and reconcile any differences in quantities or identification numbers, as required in 10 CFR 73.67 and 10 CFR 74.11; and
(5) Notifies the regulatory body, as required in 10 CFR 73.67 and 10 CFR 74.11.

5.3 Documentation

The SNM custodian reports the receipt of each item containing SNM, by serial number or other unique identifier, to the accounting group. The receipt of SNM is documented in the material control records and the book inventory updated for the applicable ICA, as required in 10 CFR 74.19(a). A Nuclear Material Transaction Report is completed, as required in 10 CFR 74.15.

6. Internal Control

6.1 Unit of Control

Units of SNM that require control are the items defined in paragraph 2.7. Each of these units are identified in the material control records by its serial number or other unique identifier (e.g., a physical description of the item) and location, as required in 10 CFR 74.19(a).

6.2 Item Control Areas

ICAs are established for physical and administrative control of SNM. The number of ICAs is sufficient to establish control.

6.3 Internal Transfers

Transfers of SNM into, out of, or within an ICA are accomplished only upon written authorization of the SNM custodian or other individual(s) at the plant site responsible for the SNM program. Written authorization is obtained prior to the movement. All transfers of SNM are documented using a material control record by the responsible person involved in each operation, and the book inventory is updated for the applicable ICA.

6.4 Non-SNM items

Non-SNM items stored with items containing SNM are clearly identified as such to preclude SNM items from being mistaken for non-SNM items.

6.5 Sealed containers

A container with a tamper-safing device can be treated as a single item for inventory purposes; however, before the container is closed and the tamper-safing device is installed, the contents are physically inventoried. If the contents of a sealed container are accessed, the contents will be physically re-inventoried or administrative procedures will be in place to establish the integrity of the contents before it can be treated as a single item for inventory purposes.

6.6 Damaged Cladding

Severe damage to cladding, where rod structural integrity has not been maintained, has the potential to result in inadvertent physical separation and dispersal of fuel components from the fuel rod. Upon visual identification of inadvertent physical separation, an estimate of the SNM quantity and an engineering judgment concerning the origin of the SNM will be made and documented. The amount of irretrievable or

inadvertent loss will be reported, if the quantity is reportable, as required in 10 CFR 74.13. Methods used to estimate SNM quantities include, for example, engineering calculation, engineering judgment, physical measurement of length, destructive or non-destructive measurement, and count of the number of pellets retrieved or missing.

7. Physical Inventory

7.1 Conduct

Physical inventory is taken at intervals not to exceed 12 months, as required in 10 CFR 74.19(c). Physical inventory is conducted according to written inventory procedures, as required in 10 CFR 74.19(b).

7.2 Coverage

Physical inventory includes all SNM possessed under license and is conducted in all ICAs, including:

(1) New fuel storage areas;
(2) Irradiated fuel storage areas;
(3) Reactors;
(4) ISFSIs; and
(5) Areas containing non-fuel SNM.

7.3 Inventory Method

An item count is conducted of all SNM, as required in 10 CFR 74.19(c).

7.3.1 Assemblies and Fuel Component Containers

For fuel assemblies and fuel component containers, an item count is sufficient. If the contents of an assembly or a fuel component container are accessed, the contents are physically reinventoried before the assembly or container can be treated as a single item for inventory purposes.

7.3.2 Fuel Components

For fuel components that are not part of an intact assembly, physically captured in an assembly, stored in a sealed container, or stored in a fuel component container, each component is inventoried.

7.3.3 Sealed Containers

For sealed containers, verification of the integrity of the tamper-safing device is sufficient.

7.3.4 Reactor

Whenever fuel assemblies are loaded into a reactor, the unique identifier and location of each item is visually verified. When the reactor vessel is reassembled, the reactor is considered one item for inventory purposes.

7.3.5 Non-fuel SNM

For non-fuel SNM, the method of physical inventory depends on the method of storage and use:

- For installed components, verification is performed at the time of installation, and administrative procedures and controls are established so that records concerning the location and unique identity are accurate.

- For non-installed components stored in primary containment, administrative procedures and controls are established so that records concerning the location and unique identity are accurate when the reactor is at power, and verification is performed during refueling outages.

- For non-fuel SNM containers, item count of the containers is sufficient. If the contents of the container are accessed, the contents are physically re-inventoried or administrative procedures are in place to ensure the integrity of the contents before the container can be treated as a single item for inventory purposes.

7.4 Reconciliation and Resolution

The physical inventory is reconciled to the book inventory. Discrepancies between the physical inventory and the book inventory are investigated and addressed expeditiously. The book inventory shall be adjusted to agree with the result of the physical inventory.

7.5 Documentation

The results of the physical inventory of SNM are documented in the material control records of the applicable ICA and utilized as input to the isotopic calculations. A Material Balance Report and Physical Inventory Listing Report are completed, as required in 10 CFR 74.13.

8. SNM Calculations

8.1 Element and Isotopic Computations

Methods of computation are established and utilized for determining the total element and isotopic composition of SNM in irradiated nuclear fuel assemblies and fuel components. The computed values are the basis for shipment documents, as required in 10 CFR 74.15, and material status reports, as required in 10 CFR 74.13.

8.2 Analysis of Results

Refinement of the element and isotopic computations used in determining the SNM content of irradiated fuel are considered as new technologies evolve. For reprocessed fuel, this may include a collection and comparison of reprocessing plant measurement data with computed data for fuel assemblies.

9. Output Control

9.1 Shipment

Procedures are established, as required by 10 CFR 74.19(b), to provide for:

(1) Verification and recording of the serial number or unique identifier of each item containing SNM;
(2) Recording of the quantities of SNM contained in each item;
(3) Reporting the quantity of SNM shipped, if the quantity is reportable, as required in 10 CFR 74.15;

(4) Verification of compliance with regulations, including licensing, transportation, and security requirements for shipment; and
(5) Reporting the completion of each shipment to the accounting group

Care is taken to assure that SNM contained in fuel is not shipped inadvertently with shipments of' non-fuel SNM waste.

9.2 Documentation

The shipment of fuel assemblies, fuel components, or non-fuel SNM is documented in the material control records and the book inventory updated for the applicable ICA. Nuclear Material Transaction Reports are completed, as required in 10 CFR 74.15.

9.3 Review and Audit of Reprocessing (Recycling) Measurements

For SNM being reprocessed, DTE or its representative:

(1) Reviews the adequacy of the reprocessor's material control system used in establishing the quantities and assays of SNM, including written procedures;
(2) Audits the implementation of the reprocessor's material control system used in establishing the quantities and assays of SNM, including observation of measurement and material control activities;
(3) Audits the reprocessor's accounting activities, measurements, analyses, computations, and records affecting the determination of SNM quantities and assays; and
(4) In the event of a significant discrepancy between the reprocessor's values for SNM quantities and assays and those determined by audit, investigates and reconciles any differences expeditiously.

10. Records and Reports

Records are created and retained, as required in 10 CFR 74.19(a). The accounting records are the basis for the material control and accounting program. Quantitative data generated by DTE's calculations of changes in quantities and isotopic composition due to irradiation and decay are recorded and reported in accordance with DTE's standard recording and reporting procedures. The records and reports system include:

(1) An accounting system for maintaining the book inventory;
(2) Material control records maintained for each ICA;
(3) Reconciliation of the results of physical inventories to the book inventory;
(4) Recording the transfer of SNM into or out of each ICA;
(5) Recording movement of SNM between locations within an ICA, for ICAs where locations have been established;
(6) Recording the creation of items containing SNM, such as creation of a rod fragment;
(7) Recording the estimated quantity and origin of SNM which has been inadvertently separated from fuel upon the discovery of the separation;
(8) Reporting to the accounting group the transfer of SNM into, within, or out of an ICA, if applicable;
(9) Perpetual inventory records of each ICA, including the serial number or other unique identifier and location of each item in the ICA that contains SNM;
(10) Historical data of SNM in each nuclear fuel assembly, fuel component, or non-fuel SNM item while in DTE's possession; and
(11) Retention as required in 10 CFR 72 and 74.

11. System Review and Assessment

Reviews of the SNM program are conducted periodically. The results of the reviews are documented and reported in accordance with the requirements of the quality assurance or self assessment program.

12. Physical Security

Protection of SNM is in accordance with the requirements of 10 CFR 73.67 and DTE's Physical Security Plan.

Markup of Detroit Edison COLA Part 7
(following 5 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.

6. Create a possibility for a malfunction of an SSC important to safety with a different result than any evaluated previously in the plant-specific DCD;
7. Result in a design basis limit for a fission product barrier as described in the plant specific DCD being exceeded or altered; or
8. Result in a departure from a method of evaluation described in the plant-specific DCD use.

Therefore, this departure has no safety significance.

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EXEMPTIONS

Exemption 1 introduction:

Detroit Edison Company (DTE) requests an exemption from the requirements of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51. Section 70.22(b) requires an application for a license for special nuclear material (SNM) to contain a full description of the applicant's program for material control and accounting (MC&A) of special nuclear material under §§ 74.31, 74.33, 74.41, and 74.51 (While not containing an explicit exception for Part 50 reactors, § 74.33 applies only to uranium enrichment facilities and thus is not directly implicated in this exemption request). Section 70.32(c) requires a license authorizing the use of special nuclear material to contain and be subject to a condition requiring the licensee to maintain and follow a special nuclear material control and accounting program, measurement control program, and other material control procedures, including the corresponding records management requirements. However, §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 contain exceptions for nuclear reactors licensed under 10 CFR Part 50. The regulations applicable to the MC&A of special nuclear material for nuclear reactors licensed under 10 CFR Part 50 are provided in 10 CFR Part 74, Subpart B, §§ 74.11 through 74.19, excluding § 74.17. The purpose of this exemption request is to seek similar exceptions for this combined license (COL) under 10 CFR Part 52, such that the same regulations will be applied to the special nuclear material MC&A program as nuclear reactors licensed under 10 CFR Part 50.

Summary of Exemption

Applicable Regulation(s): As permitted by 10 CFR 70.17 and 10 CFR 74.7 exemptions are requested from the provisions of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 relating to SNM accountability. Specifically, this exemption request would extend the current exceptions embodied in these regulations applicable to 10 CFR Part 50 licensees to the requested Fermi 3 10 CFR Part 52 combined license.

Specific wording from which exemption is requested:

10 CFR 70.22(b), Contents of applications:

(b) Each application for a license to possess special nuclear material, to possess equipment capable of enriching uranium, to operate an uranium enrichment facility, to possess and use at any one time and location special nuclear material in a quantity exceeding one effective kilogram, except for applications for use as sealed sources and for those uses involved in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter and those involved in a waste disposal operation, must contain a full description of the applicant's program for control and accounting of such special nuclear material or enrichment equipment that will be in the applicant's possession under license to show how compliance with the requirements of §§ 74.31, 74.33, 74.41, or 74.51 of this chapter, as applicable, will be accomplished.

10 CFR 70.32, Conditions of licenses:

(c) (1) Each license authorizing the possession and use at any one time and location of uranium source material at an uranium enrichment facility or special nuclear material in a quantity exceeding one effective kilogram, except for use as sealed sources and those uses involved in the operation of a nuclear reactor licensed pursuant to part 50 of this chapter and those involved in a waste disposal operation, shall contain and be subject to a condition requiring the licensee to maintain and follow:

(i) The program for control and accounting of uranium source material at an uranium enrichment facility and special nuclear material at all applicable facilities as implemented pursuant to § 70.22(b), or §§ 74.31 (b), 74.33(b), 74.41 (b), or 74.51 (0) of this chapter, as appropriate;

(ii) The measurement control program for uranium source material at an uranium enrichment facility and for special nuclear material at all applicable facilities as implemented pursuant to §§ 74.31 (b), 74.33(b), 74.45(c), or 74.59(e) of this chapter, as appropriate; and

(iii) Other material control procedures as the Commission determines to be essential for the safeguarding of uranium source material at an uranium enrichment facility or of special nuclear material and providing that the licensee shall make no change that would decrease the effectiveness of the material control and accounting program implemented pursuant to § 70.22(b), or §§ 74.31 (b), 74.33(b), 74.41 (b), or 74.51 (c) of this chapter, and the measurement control program implemented pursuant to §§ 74.31 (b), 74.33(b), 74.41 (b), or 74.59(e) of this chapter without the prior approval of the Commission. A licensee desiring to make changes that would decrease the effectiveness of its material control and accounting program or its measurement control program shall submit an application for amendment to its license pursuant to § 70.34.

10 CFR 74.31, Nuclear material control and accounting for special nuclear material of low strategic significance:

(a) General performance objectives. Each licensee who is authorized to possess and use more than one effective kilogram of special nuclear material of low strategic significance, excluding sealed sources, at any site or contiguous sites subject to control by the licensee, other than a production or utilization facility licensed pursuant to part 50 or 70 of this chapter, or operations involved in waste disposal, shall implement and maintain a Commission approved material control and accounting system that will achieve the following objectives:

10 CFR 74.41, Nuclear material control and accounting for special nuclear material of moderate strategic significance:

(a) General performance objectives. Each licensee who is authorized to possess special nuclear material (SNM) of moderate strategic significance or SNM in a quantity exceeding one effective kilogram of strategic special nuclear material in irradiated fuel reprocessing operations other than as sealed sources and to use this material at any site other than a nuclear reactor licensed pursuant to part 50 of this chapter; or as reactor irradiated fuels involved in research, development, and evaluation programs in facilities other than irradiated fuel reprocessing plants; or an operation involved with waste disposal, shall establish, implement, and maintain a Commission-approved material control and accounting (MC&A) system that will achieve the following performance objectives:

10 CFR 74.51, Nuclear material control and accounting for strategic special nuclear material:

(a) General performance objectives. Each licensee who is authorized to possess five or more formula kilograms of strategic special nuclear material (SSNM) and to use such material at any site, other than a nuclear reactor licensed pursuant to part 50 of this chapter, an irradiated fuel reprocessing plant, an operation involved with waste disposal, or an independent spent fuel storage facility licensed pursuant to part 72 of this chapter shall establish, implement, and maintain a Commission-approved material control and accounting (MC&A) system that will achieve the following objectives:

Exemption Discussion

Nuclear reactors licensed under Part 50 are explicitly excepted from the requirements of §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51. There is no technical or regulatory reason to treat nuclear reactors licensed under Part 52 differently than reactors licensed under Part 50 with respect to the MC&A provisions in 10 CFR Part 74. As indicated in the Statement of Considerations for 10 CFR § 52.0(b) (72 Fed. Reg. 49352, 49372, 49436 (Aug. 28, 2007)), applicants and licensees under Part 52 are subject to all of the applicable requirements in 10 CFR Chapter I, whether or not those provisions explicitly mention a COL under Part 52. This regulation clearly indicates that plants licensed under Part 52 are to be treated no differently than plants licensed under Part 50 with respect to the substantive provisions in 10 CFR Chapter I (which includes Parts 70 and 74). In particular, the exception for nuclear reactors licensed under Part 50, as contained in §§ 70.22(b), 70.32(c), 74.31, 74.41, or 74.51, should also be applied to reactors licensed under Part 52.

An exemption from the requirements of §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 would not mean that a MC&A program would be unnecessary or that the COL application would be silent regarding MC&A. To the contrary, the MC&A requirements in Subpart B to Part 74 would still be applicable to the COL just as they are to licenses issued under Part 50. Additionally, the COL application describes the MC&A program for satisfying Subpart B to Part 74.

The exemption is being requested as permitted by 10 CFR 70.17(a) and 10 CFR 74.7. This exemption request is evaluated under 10 CFR § 52.7, which incorporates the evaluation criteria of § 50.12 and are extended to the evaluation of exemptions requested under 10 CFR 70.17(a) and 10 CFR 74.7. These sections allow the Commission to grant an exemption if 1) the exemption is authorized by law, 2) will not present an undue risk to the public health and safety, 3) is consistent with the common defense and security, and 4) special circumstances are present as specified in 10 CFR § 50.12(a)(2). The criteria in § 50.12 encompass the criteria for an exemption in 10 CFR §§ 70.17(a) and 74.7, the specific exemption requirements for Parts 70 and 74, respectively. Therefore, by demonstrating that the exemption criteria in § 50.12 are satisfied, this request also demonstrates that the exemption criteria in §§ 52.7, 70.17(a) and 74.7 are satisfied.

Evaluation Against Exemption Criteria

1) This exemption is not inconsistent with the Atomic Energy Act or any other statute and is therefore authorized by law.

2) An exemption from the requirements of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 would not present an undue risk to public health and safety. The exemption would extend to the requested Fermi 3 COL the exceptions currently included in these sections that are applicable to 10 CFR Part 50 licensees. Furthermore, the COL application contains a description of the applicant's MC&A program under Subpart B to Part 74. Therefore, the exemption from 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 would not present an undue risk to public health and safety.

3) An exemption from the requirements of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 would not be inconsistent with the common defense and security. The exemption would extend to the requested Fermi 3 COL the exceptions currently included in these sections that are applicable to 10 CFR Part 50 licensees. Furthermore, the COL application contains a description of the applicant's MC&A program under Subpart B to Part 74. Therefore, the exemption from §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 is consistent with the common defense and security.

4) The exemption request involves special circumstances under 10 CFR § 50.12(a)(2)(ii). That subsection defines special circumstances as when "[a]pplication of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." Since the Commission determined that the requirements in 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51 are unnecessary for Part 50 applicants, those requirements are also unnecessary for Part 52 applicants.

As demonstrated above, the exemption complies with the requirements of 10 CFR §§ 50.12, 52.7, 70.17, and 74.7. For these reasons, approval of the requested exemption is requested from the regulations of 10 CFR §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51, as described herein.