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

DTE Energy

Detroit Edison

10 CFR 52.79

June 25, 2010
NRC3-10-0028

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. 32 Related to the SRP Section 9.1.5 and 13.3 for the Fermi 3 Combined License Application," dated May 11, 2010

Subject: Detroit Edison Company Response to NRC Request for Additional Information Letter No. 32

In Reference 2, the NRC requested additional information (RAI) to support the review of certain portions of the Fermi 3 Combined License Application (COLA). The responses to these RAIs are provided in Attachments 1 through 11 of this letter. Information contained in these responses will be incorporated into a future COLA submission as described in the RAI response.

If you have any questions, or need additional information, please contact me at (313) 235-3341.

I state under penalty of perjury that the foregoing is true and correct. Executed on the 25th day of June 2010.

Sincerely,

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

D095
NRO

Attachments:
1) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-07)
2) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-08)
3) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-09)
4) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-10)
5) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-11)
6) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-12)
7) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-13)
8) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-14)
9) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-15)
10) Response to RAI Letter No. 32 (Supplemental Question No. 13.03-16)
11) Response to RAI Letter No. 32 (Supplemental Question No. 09.01.05-1)

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

Attachment 1
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-07

Supplemental NRC RAI 13.03-07

RAI 13.03-01-05 asked that the certification letters referenced in Appendix 2 be included in the Plan and that the applicant provide indication of the specific nature of emergency response arrangements to be established in the agreements. In response, the applicant stated the Letters of Agreement (LOA) supporting the proposed Fermi 3 COL Emergency Plan have not yet been executed and that the letters will be executed prior to operation as verified by Emergency Planning ITAAC item 1.0. A review of the applicants Emergency Planning ITAAC table was performed but did not note any ITAAC item(s) that described the execution of LOAs in support of Fermi Unit 3. The applicant provided copies of the LOA's executed for Fermi Unit 2 and state the Fermi 3 LOAs will be similar. The LOAs provided by the applicant do not include any reference to the potential new unit. Revise the Emergency Plan to include copies of the LOAs or signature pages that identify the potential Fermi 3 unit and describe concept of operations, emergency measures, implementation criteria and information exchange arrangements or provide a Licensee Condition that addresses the inclusion of the LOAs in the Emergency Plan prior to loading fuel.

Response

Appendix 2 of the Fermi 3 Emergency Plan contains a list of agreements between Detroit Edison and other organizations that may be required to provide support to Fermi 3 in the event of an emergency.

Regulatory Guide 1.206 section C.I.13.3.1 and Standard Review Plan (NUREG-0800) Acceptance Criterion 18 specify that "copies of letters of agreement (or other certifications)" reflecting contacts and arrangements made with State and local agencies with emergency planning responsibilities should be included in applications for construction permits, operating licenses, early site permits or combined licenses, and that the information should be up-to-date when the application is submitted.

Adequate emergency planning arrangements have been established between Detroit Edison and State and local government agencies and private sector organizations supporting the Fermi 2 emergency response effort. These arrangements will be extended to the new Fermi 3 unit. As described in the response to RAI Letter No. 14, Question No.13.03-02-07 (ML093440828), Detroit Edison has not yet executed Letters of Agreement specifically supporting the proposed Fermi 3 Emergency Plan. However, certification letters have been obtained from the Michigan State Police, Monroe County Emergency Management Division, Wayne County Department of Homeland Security and Emergency Management, Frenchtown Charter Township Fire Department, Mercy Memorial Hospital Corporation, Monroe Community Ambulance, Oakwood Southshore Medical Center, and the Ohio Emergency Management Agency stating that the proposed emergency plans are practicable; each organization is committed to participating in any further development of the plans, including any required field demonstrations; and each organization is committed to executing their responsibilities under the plans in the event of an emergency. Formal Letters of Agreement will be executed prior to loading fuel at Fermi 3.

Part 10 of the Combined License (COL) Application will be revised in a future revision of the COL Application to include the Proposed License Condition described below.

Proposed COLA Revision

See Attached proposed mark-up for Part 10.

Markup of Detroit Edison COLA
(following 2 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

2.4.13 METEOROLOGICAL MONITORING SYSTEM

No entry for this system.

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

Insert #1

New Text for COL Application, Part 10

3. Fermi 3 Proposed License Conditions

3.1 Emergency Planning Actions:

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

Proposed License Condition:

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

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

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

Attachment 2
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-08

Supplemental NRC RAI 13.03-08

RAI 13.03-02-07 asked the applicant to explain why Table II.B.1 "Minimum Staffing Requirements for Emergencies," describes the Notification/Communication function staffing as "may be provided by shift personnel assigned other functions and not included in the total." The applicant's response explained that Non-Licensed Operators are assigned the Notifications/ Communications function, and as Non-Licensed Operators, these individuals are assigned other functions. Clarify and document in the Fermi 3 Emergency Plan that one of the on-shift Non-Licensed Operators is dedicated to the Notification/Communication function and not assigned other emergency response functions.

Response

As described in the response to RAI Letter No. 14, Question No.13.03-02-07 (ML093440828), Detroit Edison's proposed on-shift staffing of Non-Licensed Operators (NLOs) exceeds the guidance provided in Table B-1 of NUREG-0654. NLOs are trained in the Notification/ Communications function. During each routine pre-shift briefing, one NLO is designated to perform the Control Room notifications/communications function until relieved by the Technical Support Center. A footnote will be added to Table II.B-1 indicating that an on-shift NLO is designated to perform this function.

Table II.B-1 and Figure II.B-1 of the Fermi Emergency Plan will be revised to indicate that an on-shift NLO is designated to perform the Notification/Communication function.

Proposed COLA Revision

See Attached proposed Emergency Plan mark-up for Table II.B-1 and Figure II.B-1.

Markup of Detroit Edison COLA
(following 3 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

Table II.**B-1** **Minimum Staffing Requirements for Emergencies (Sheet 1 of 2)**

Major Functional Area.	Major Tasks[1]	Locations	Emergency Response Organizational Title	Onshift	Alert (or higher) +30 min	Alert (or higher) +60 min
Plant Operations and Assessment of Operational Aspects	Plant Operations and Assessment, Accident Mitigation, Corrective Actions, Damage Assessment	CR	Control Room Supervisor	1		
		CR	Nuclear Supervising Operator	3		
		CR	Non-Licensed Operator	5		
Emergency Direction and Control		CR	Emergency Director	1		
		TSC	Emergency Director		1	
Notification/ Communication	Notify ERO, State, Local and Federal Authorities, Maintain Communications	CR	Communicator	1*		
		TSC	Communicator		1	
		EOF	Communicator			2
Radiological Accident Assessment and Support of Operational Accident Assessment	Emergency Officer	EOF	Emergency Officer			1
	Offsite Dose Assessment	CR/OSC	Chemistry Technician	1*		
		TSC	Radiation Protection Advisor		1	
		EOF	Radiation Protection Coordinator			1
	Offsite Surveys	OSC/EOF	RET Sampler or RP Technician		2	2
	Onsite (out of plant) Surveys	OSC	RET Sampler or RP Technician		1	1
	In plant Surveys	OSC	RP Technicians	2	1	1
	Chemistry/Radiochemistry	OSC	Chemistry Technician	1		

Add "***" (13.03-09)

Change to "**" (13.03-08)

Table II.B-1 Minimum Staffing Requirements for Emergencies (Sheet 2 of 2)

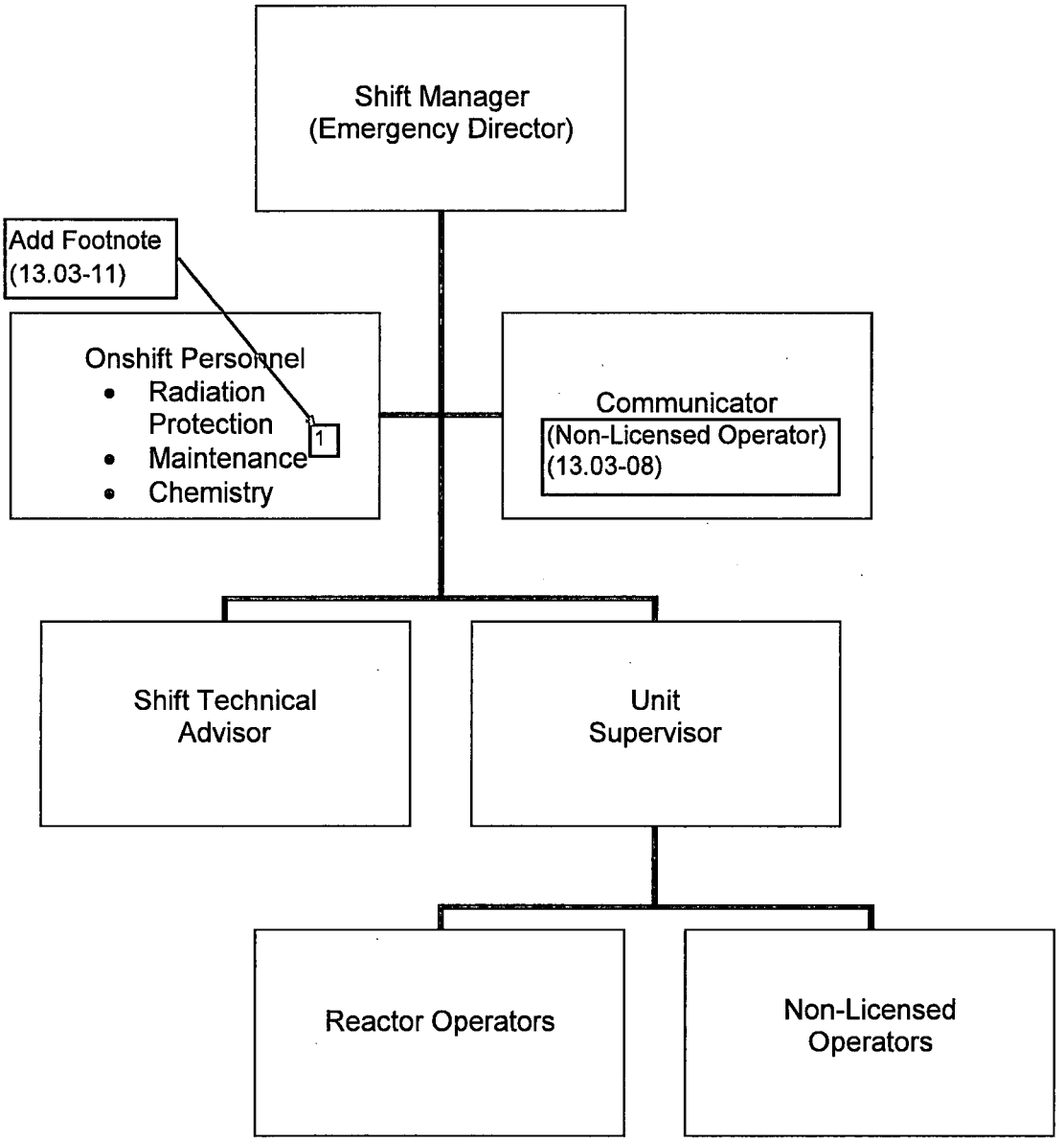
Major Functional Area	Major Tasks[1]	Locations	Emergency Response Organizational Title	Onshift	Alert (or higher) +30 min	Alert (or higher) +60 min
Plant System Engineering, Repair and Corrective Actions	Technical Support[2]	CR	Shift Technical Advisor	1		
		TSC	Technical Engineer or Nuclear Safety Advisor			1
		TSC	Support Engineer			1
	Repair and Corrective Actions	OSC	OSC Coordinator		1	
		OSC	Damage Control and Rescue Team Members[3]	2	2	3
Protective Actions (In Plant)	Radiation Protection: 1. Access Control 2. HP coverage for repair, corrective actions, search and rescue, first-aid and fire-fighting 3. Personnel monitoring 4. Dosimetry	OSC	RP Technicians	2*	2	2
Fire Fighting		OSC	Fire Brigade	FSAR		
Rescue Operations and First Aid		OSC	Damage Control and Rescue Teams	2*		
Site Access Control and Personnel Accountability	Security, firefighting communications (e.g., coordination with arriving offsite firefighting support) and personnel accountability	Per Security Plan	Nuclear Security Force	Per Security Plan		
			Total	16	12	15

* May be provided by shift personnel assigned other functions and not included in the total.

1. Table II.B-2 and emergency plan implementing procedures provide details regarding assignment and execution of major tasks.
2. Technical support includes support for core thermal/hydraulics and electrical and mechanical engineering analyses.
3. ~~Damage control and rescue teams include maintenance personnel as needed to support mechanical, electrical and instrumentation/controls maintenance activities.~~ Damage control and rescue teams consist of one individual qualified to provide mechanical maintenance support and one individual qualified to provide electrical maintenance support on-shift; one individual qualified to provide electrical maintenance support and one individual qualified to provide I&C maintenance support respond in +30 minutes; one individual qualified to provide mechanical maintenance support, one qualified Rad Waste Operator, and one individual qualified to provide electrical maintenance support respond in +60 minutes. (13.03-10)

** One on-shift Non-Licensed Operator is designated to perform this function.(13.03-08)
*** One on-shift Non-Licensed Operator is designated to perform Rad Waste Operator functions, as needed. (13.03-09)

Figure II.B-1 Control Room



[1]On-shift Maintenance personnel are assigned to the Damage Control and Rescue Teams identified in Table II.B-1. (13.03-11)

Attachment 3
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-09

Supplemental NRC RAI 13-03-09

RAI 13.03-02-09 asked the applicant to address the fact that Table II.B-1 "Minimum Staffing Requirements for Emergencies" did not list in the "Plant System Engineering, Repair and Corrective Actions" section expertise in Core/Thermal Hydraulics, maintenance expertise for Electrical, I&C, and Mechanical and Rad Waste Operator, or individuals to fill these functions. In response to the applicant explained that the staffing identified in Table II.B-1 is based on enhancements gained from years of experience from the operation of the existing Fermi Unit 2, and that the effectiveness of the proposed emergency response organization staffing has been proven through the organization's response to multiple drills, exercises, and emergency events. Provide a discussion that describes the enhancements resulting from experience and the effectiveness achieved by the response organization that justifies that the proposed reduced staffing is sufficient. In addition provide the effectiveness reduction evaluation(s) performed that describe how the reduced staffing does not reduce the effectiveness of the emergency response plan, or provide an acceptable justification for why this is not needed.

Response

The staffing provided in Major Functional Area "Plant System Engineering, Repair and Corrective Actions" of Table II.B-1 of the Fermi 3 COL Emergency Plan is consistent with the guidance provided in Table B-1 of NUREG-0654.

As described in the response to RAI Letter No. 14, Question No.13.03-02-12 (ML093440828), Detroit Edison Maintenance personnel are assigned to the Damage Control and Rescue Team as listed in Table II.B-1. The response included a revision of the Fermi 3 COL Emergency Plan Table II.B-1 to include the omitted "Major Tasks" consistent with Detroit Edison's Emergency Plan for Fermi 2. The proposed change to Table II.B-1 included the addition of Footnotes 2 and 3. Footnote 2 states that the "Major Task of Technical Support" includes support for core thermal/hydraulics and electrical and mechanical engineering analysis. Additionally, Footnote 3 states that maintenance personnel as needed to support mechanical, electrical and instrumentation/controls maintenance activities are included in the Emergency Response Organizational Title of "Damage Control and Rescue Team Members." Footnote 3 of Table II.B-1 will be revised for clarification as discussed in the response to Supplemental RAI 13.03-10, part b.

With regard to the "Rad Waste Operator," as indicated in FSAR Table 13.1-202, the Rad Waste Operator is not a member of the minimum shift organization for the ESBWR. The Non-Licensed Operators are qualified to perform radioactive waste operations during routine operations and emergencies. As described in the response to RAI Letter No. 14, Question No.13.03-02-07, Detroit Edison's proposed on-shift staffing of Non-Licensed Operators exceeds the guidance provided in Table B-1 of NUREG-0654. A footnote to Table II.B-1 will be added to clarify that one Non-Licensed Operator may be assigned the "Rad Waste Operator" duties to support emergency response or recovery activities, as needed.

Proposed COLA Revision

See Attached proposed Emergency Plan mark-up for Table II.B-1.

Markup of Detroit Edison COLA
(following 2 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

Table II.**B-1** **Minimum Staffing Requirements for Emergencies (Sheet 1 of 2)**

Major Functional Area.	**Major Tasks**[1]	**Locations**	**Emergency Response Organizational Title**	**Onshift**	**Alert (or higher) +30 min**	**Alert (or higher) +60 min**
Plant Operations and Assessment of Operational Aspects	Plant Operations and Assessment, Accident Mitigation, Corrective Actions, Damage Assessment	CR CR CR	Control Room Supervisor Nuclear Supervising Operator Non-Licensed Operator	1 3 5		
Emergency Direction and Control		CR TSC	Emergency Director Emergency Director	1	 1	
Notification/ Communication	Notify ERO, State, Local and Federal Authorities, Maintain Communications	CR TSC EOF	Communicator Communicator Communicator	1* 	 1 	 2
Radiological Accident Assessment and Support of Operational Accident Assessment	Emergency Officer Offsite Dose Assessment Offsite Surveys Onsite (out of plant) Surveys In plant Surveys Chemistry/Radiochemistry	EOF CR/OSC TSC EOF OSC/EOF OSC OSC OSC	Emergency Officer Chemistry Technician Radiation Protection Advisor Radiation Protection Coordinator RET Sampler or RP Technician RET Sampler or RP Technician RP Technicians Chemistry Technician	 1* 2 1	 1 2 1 1 	1 1 2 1 1

Add "***" (13.03-09)

Change to "**" (13.03-08)

Table II.B-1 Minimum Staffing Requirements for Emergencies (Sheet 2 of 2)

Major Functional Area	Major Tasks[1]	Locations	Emergency Response Organizational Title	Onshift	Alert (or higher) +30 min	Alert (or higher) +60 min
Plant System Engineering, Repair and Corrective Actions	Technical Support[2]	CR	Shift Technical Advisor	1		
		TSC	Technical Engineer or Nuclear Safety Advisor			1
		TSC	Support Engineer			1
	Repair and Corrective Actions	OSC	OSC Coordinator		1	
		OSC	Damage Control and Rescue Team Members[3]	2	2	3
Protective Actions (In Plant)	Radiation Protection: 1. Access Control 2. HP coverage for repair, corrective actions, search and rescue, first-aid and fire-fighting 3. Personnel monitoring 4. Dosimetry	OSC	RP Technicians	2*	2	2
Fire Fighting		OSC	Fire Brigade	FSAR		
Rescue Operations and First Aid		OSC	Damage Control and Rescue Teams	2*		
Site Access Control and Personnel Accountability	Security, firefighting communications (e.g., coordination with arriving offsite firefighting support) and personnel accountability	Per Security Plan	Nuclear Security Force	Per Security Plan		
			Total	16	12	15

* May be provided by shift personnel assigned other functions and not included in the total.

1. Table II.B-2 and emergency plan implementing procedures provide details regarding assignment and execution of major tasks.
2. Technical support includes support for core thermal/hydraulics and electrical and mechanical engineering analyses.
3. ~~Damage control and rescue teams include maintenance personnel as needed to support mechanical, electrical and instrumentation/controls maintenance activities.~~

Damage control and rescue teams consist of one individual qualified to provide mechanical maintenance support and one individual qualified to provide electrical maintenance support on-shift; one individual qualified to provide electrical maintenance support and one individual qualified to provide I&C maintenance support respond in +30 minutes; one individual qualified to provide mechanical maintenance support, one qualified Rad Waste Operator, and one individual qualified to provide electrical maintenance support respond in +60 minutes. (13.03-10)

** One on-shift Non-Licensed Operator is designated to perform this function.(13.03-08)
*** One on-shift Non-Licensed Operator is designated to perform Rad Waste Operator functions, as needed. (13.03-09)

Attachment 4
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-10

Supplemental NRC RAI 13.03-10

RAI 13.03-02-11 asked the applicant to explain the Table II.B-I asterisk footnote that describes its notation, in the table, to mean "May be provided by shift personnel assigned other functions and not included in the total" with no further description of who the other shift personnel would be or what their qualifications to allow them to perform the given function. In response, the applicant explained that the primary functions assigned to Damage Control and Rescue Teams are fulfilled by on-shift Operations and Maintenance personnel, with support provided by RP Technicians. On-shift Maintenance personnel are also assigned to complete the "Repair and Corrective Actions" task.

a. *Revise the emergency response plan to describe the On-shift Maintenance personnel as being qualified in first aid to perform the Table II.B-1 Damage Control and Rescue Team functions, or provide an acceptable justification for why this is not needed.*

b. *Clarify the apparent inconsistency between Table II.B-1 and footnote 3. The "Emergency Response Organizational Title" section of Table II.B-1 for "Damage Control and Rescue Team Members" describes the "OnShift" team as consisting of 2 personnel and foot note 3 to this same section describes the "Damage Control and Rescue Team Members" as consisting of maintenance personnel to support Mechanical, Electrical and Instrumentation/Controls, 3 personnel, or provide an acceptable justification for why this is not needed.*

Response

a. Table II.B-1 of the Fermi 3 Emergency Plan clearly indicates under the Major Functional Areas, "Protective Actions (In-Plant)" that the "Radiation Protection" provides the "Major Task" of "first aid," in addition to other emergency response tasks. The table indicates that two RP technicians are on-shift with the footnote indicating that they may be assigned other functions. Subsection II.H.1.c states, "The OSC is a location where survey, operations, and repair teams are dispatched into areas of the plant and is the staging area for individuals who may be assigned to first aid, search and rescue, and emergency repair and damage control activities." Subsection II.L.2 provides detailed information relative to "On-site First Aid Capability" and discusses how first aid response is staffed both during normal working hours and off-hours. Most importantly, this subsection specifically states that "Detroit Edison maintains at least two (2) personnel qualified in first aid at the site on a 24-hour basis.

   Subsection II.O.3 of the Fermi 3 Emergency Plan states that personnel assigned to emergency teams that provide first aid will complete a training course equivalent to Red Cross Multi-Media on a schedule compatible with the Red Cross requirements. These personnel include those that perform the Damage Control and Rescue Team functions identified in Table II.B-1.

   Additionally, subsection II.O.4 of the Fermi 3 Emergency Plan states that the onsite emergency response training program includes Fermi 3 and other Detroit Edison personnel who may be called upon to respond to an emergency. Each individual completes the required

initial training prior to assignment to a position in the Emergency Response Organization (ERO). The scope of the emergency response training program includes first aid and rescue team personnel. Detroit Edison implements a program to provide facility position-specific emergency response training for designated members of the ERO. The content of the training program is appropriate for the duties and responsibilities of the assigned position. Completion of training activities and evaluations is documented on ERO qualification guides.

No change to the Fermi 3 Emergency Plan is necessary.

b. Footnote 3 of Table II.B-1 will be revised to clarify that one individual qualified to provide mechanical maintenance support and one individual qualified to provide electrical maintenance support are on-shift; one individual qualified to provide electrical maintenance support and one individual qualified to provide I&C maintenance support would respond in 30+ minutes for an Alert or higher; and one individual qualified to provide mechanical maintenance support, one qualified Rad Waste Operator, and one individual qualified to provide electrical maintenance support would respond in 60+ minutes for an Alert or higher.

Proposed COLA Revision

See Attached proposed Emergency Plan mark-up for Table II.B-1.

Markup of Detroit Edison COLA
(following 1 page)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

Table II.B-1 Minimum Staffing Requirements for Emergencies (Sheet 2 of 2)

Major Functional Area	Major Tasks[1]	Locations	Emergency Response Organizational Title	Onshift	Alert (or higher) +30 min	Alert (or higher) +60 min
Plant System Engineering, Repair and Corrective Actions	Technical Support[2]	CR	Shift Technical Advisor	1		
		TSC	Technical Engineer or Nuclear Safety Advisor			1
		TSC	Support Engineer			1
	Repair and Corrective Actions	OSC	OSC Coordinator		1	
		OSC	Damage Control and Rescue Team Members[3]	2	2	3
Protective Actions (In Plant)	Radiation Protection: 1. Access Control 2. HP coverage for repair, corrective actions, search and rescue, first-aid and fire-fighting 3. Personnel monitoring 4. Dosimetry	OSC	RP Technicians	2*	2	2
Fire Fighting		OSC	Fire Brigade	FSAR		
Rescue Operations and First Aid		OSC	Damage Control and Rescue Teams	2*		
Site Access Control and Personnel Accountability	Security, firefighting communications (e.g., coordination with arriving offsite firefighting support) and personnel accountability	Per Security Plan	Nuclear Security Force	Per Security Plan		
			Total	16	12	15

* May be provided by shift personnel assigned other functions and not included in the total.

1. Table II.B-2 and emergency plan implementing procedures provide details regarding assignment and execution of major tasks.
2. Technical support includes support for core thermal/hydraulics and electrical and mechanical engineering analyses.
3. ~~Damage control and rescue teams include maintenance personnel as needed to support mechanical, electrical and instrumentation/controls maintenance activities.~~ Damage control and rescue teams consist of one individual qualified to provide mechanical maintenance support and one individual qualified to provide electrical maintenance support on-shift; one individual qualified to provide electrical maintenance support and one individual qualified to provide I&C maintenance support respond in +30 minutes; one individual qualified to provide mechanical maintenance support, one qualified Rad Waste Operator, and one individual qualified to provide electrical maintenance support respond in +60 minutes. (13.03-10)

** One on-shift Non-Licensed Operator is designated to perform this function.(13.03-08)
*** One on-shift Non-Licensed Operator is designated to perform Rad Waste Operator functions, as needed. (13.03-09)

Attachment 5
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-11

Supplemental NRC RAI 13.03-11

RAI 13.03-02-12 asked the applicant to explain Figure II.B-1 "Control Room" position block diagram description of on-shift Maintenance personnel, since there was no description in the Plan of on-shift maintenance personnel. In response to the applicant explained that on-shift Maintenance personnel are assigned to the Damage Control and Rescue Team and the major tasks of this team are identified in Table II.B.1, "Minimum Staffing Requirements for Emergencies." The applicant's Table II.B.1 describes two on-shift maintenance personnel, but describes coverage for Mechanical, Electrical and Instrumentation/Controls disciplines. Provide additional information regarding Table II.B.1, that describes the maintenance personnel on-shift that match those identified in Figure II.B-1 "Control Room" position block diagram and Table II.B-1, or provide an acceptable justification for why this is not needed.

Response

As described in the response to Part b of Supplemental RAI 13.03-10 in attachment 4 of this letter, footnote 3 of Table II.B-1 will be revised to clarify that one individual qualified to provide mechanical maintenance support and one individual qualified to provide electrical maintenance support are on-shift; one individual qualified to provide electrical maintenance support and one individual qualified to provide I&C maintenance support would respond in 30+ minutes for an Alert or higher; one individual qualified to provide mechanical maintenance support, one qualified Rad Waste Operator, and one individual qualified to provide electrical maintenance support would respond in 60+ minutes for an Alert or higher.

Figure II.B-1 of the Fermi Emergency Plan will be revised to indicate that the on-shift maintenance personnel are assigned to the Damage Control and Rescue Teams identified in Table II.B-1.

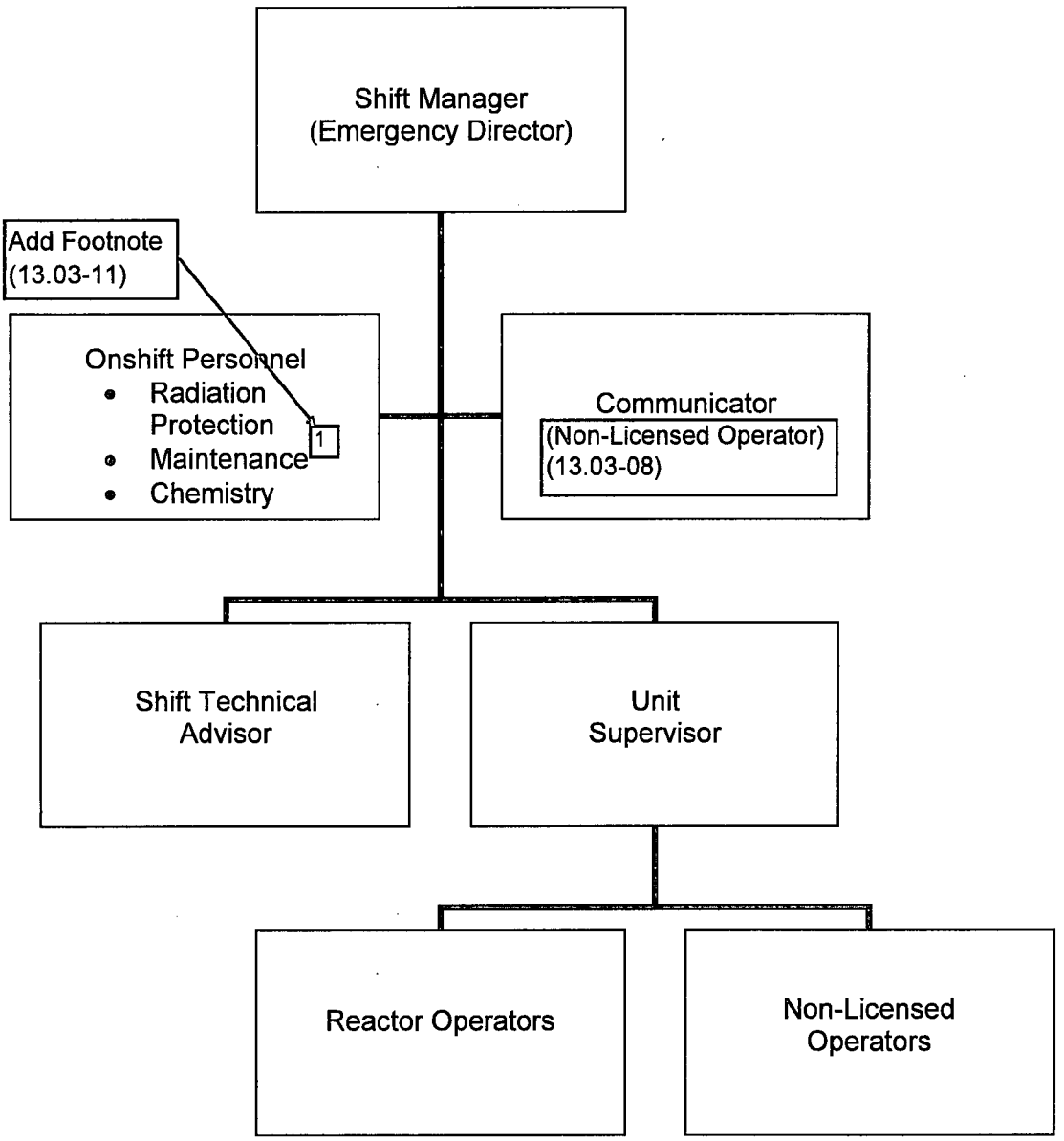
Proposed COLA Revision

See Attached proposed Emergency Plan mark-up for Figure II.B-1

Markup of Detroit Edison COLA
(following 1 page)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

Figure II.B-1 Control Room



[1]On-shift Maintenance personnel are assigned to the Damage Control and Rescue Teams identified in Table II.B-1. (13.03-11)

Attachment 6
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-12

Supplemental NRC RAI 13.03-12

RAI 13.03-06-01 asked the applicant to include a description of guaranteed power to the emergency communications equipment. In response the applicant stated Emergency Telecommunications System guaranteed power to the communications equipment capabilities are described in the ESBWR DCD Section 9.5.2, and FSAR Section 9.5.2.2. Revise the Emergency Plan, section II.F.1.a.5, to include a reference to the applicable sections of ESBWR DCD and the FSAR, or provide an acceptable justification for why this is not needed.

Response

Detroit Edison has prepared a revision of subsection II.F.1 of the Fermi 3 Emergency Plan to reference the applicable sections of the ESBWR DCD and FSAR to address the details discussed in response to RAI Letter No. 14, Question No.13.03-02-07 (ML093440828).

Proposed COLA Revision

See Attached proposed Emergency Plan mark-up for subsection II.F.1.

Markup of Detroit Edison COLA
(following 2 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

F. Emergency Communications

This section describes the provisions for communication between the Fermi 3 site and principal response organizations, including state, local, and federal agencies and also describes communications between the emergency response facilities. Emergency plan implementing procedures describe use of communications systems during an emergency; and emergency plan administrative procedures provide additional details describing testing and maintenance of communications systems.

1. Description of Communication Links

Detroit Edison has extensive and reliable communications systems installed at Fermi 3. The communications network provides:

Voice communication through normal telephone, dedicated line and automatic ring-down between selected facilities, conference call capability, speaker phones, and operator assistance when required.

Communications between emergency vehicles and appropriate fixed locations, as well as with state mobile units and fixed locations.

Facsimile, computer network, and modem transmission.

Fermi 3 maintains the capability to make initial notifications to the designated offsite agencies on a 24-hour per day basis. The offsite notification Ringdown Phone System provides communications to state and county warning points, and Emergency Operations Centers from the Control Room, TSC and EOF. Backup methods include commercial telephone lines, radios, and facsimile, as described below. State and county warning points are continuously staffed. Figure II.F-1 describes the emergency communications telephone network; and Figure II.F-2 describes the communication links between the Fermi 3 site, Monroe County, Wayne County and the State of Michigan.

a. Telephone Communications

Insert new text here (13.03-12)

At Fermi 3 normal and emergency offsite communications are provided by public telephone lines, the private utility network connected to the PABX, and radio systems. An Edison-owned microwave system is also installed to provide primary and back-up emergency communications from the Fermi 3 site. Figure II.F-1 illustrates the interface of these systems between the Emergency Response Facilities.

1. Private Automatic Branch Exchange (PABX) Lines

The private automatic branch telephone exchange (PABX) equipment and cabling is supplied and installed by the local telephone company. The PABX is a multi-node system with telephones located throughout the plant, including the Control Room, TSC, OSC, and EOF. The nodes of the PABX are located in separate communication rooms. The PABX is connected to the commercial telephone system and the utility private network that allows offsite communications for normal and

Insert #1

New Text for Subsection II.F.1 on Plan Page II-53 (13.03-12)

Subsection 9.5.2.2 of the Fermi 3 FSAR and Subsection 9.5.2 of the ESBWR Design Control Document provide a description of the plant communications systems.

Attachment 7
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-13

Supplemental NRC RAI 13.03-13

RAI 13.03-07-02 asked the applicant to include a letter of certification for Monroe County Community College that serves as Joint Information Center for the site and add it to the listing of letters of certification in Appendix 2 of the Emergency Response Plan. In response the applicant stated Letters of Agreement specifically supporting the proposed Fermi 3 COL Emergency Plan have not yet been executed; that the letters will be executed prior to operation as verified by ITAAC for Emergency Planning and that the required Letters of Agreement will be similar to those executed for the existing Fermi Unit 2. A review of the applicants Emergency Planning ITAAC table was performed but did not note any ITAAC item(s) that described the execution of LOAs in support of Fermi Unit 3. Revise the plan to include the Monroe County Community College in Appendix 2 and provide a letter of agreement with the community college identifying the potential new unit, or provide a Licensee Condition that addresses the inclusion of the LOAs in the Emergency Plan prior to loading fuel.

Response

As discussed in the response to Supplemental RAI 13.03-07 in attachment 1 of this letter, Detroit Edison will extend the provisions of existing Letters of Agreement with State and local government agencies and private sector organizations prior to loading fuel at Fermi 3. Accordingly, a commitment to execute a formal Letter of Agreement with Monroe County Community College will be included with the proposed License Condition that will be added to Part 10 of the Combined License (COL) Application.

Proposed COLA Revision

See Attached proposed mark-up for Part 10 of the COL Application.

Markup of Detroit Edison COLA
(following 2 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

2.4.13 METEOROLOGICAL MONITORING SYSTEM

No entry for this system.

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

Insert #1

New Text for COL Application, Part 10

3. Fermi 3 Proposed License Conditions

3.1 Emergency Planning Actions:

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

Proposed License Condition:

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

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

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

Attachment 8
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-14

Supplemental NRC RAI 13.03-14

RAI 13.03-10-05 asked the applicant to address why there was no description of the potential use of sheltering affected areas if conditions make evacuation dangerous, or the consideration for the use of KI consistent with 10 CFR 50.47 (b)(10), RIS 2004-13 (ADAMS accession # ML041210046) and NUREG-0654, Supplement 3. In response the applicant stated that section II.J.7 of the Fermi 3 COL Emergency Plan refers to Table II.J-1, Protective Action Guides, which provides for both evacuation and sheltering. However, the Section II.J.7 paragraph that describes the Emergency Directors actions for a General Emergency declaration, in part, is in conflict with the Plans reference to Table II.J-1, this paragraph directs the Emergency Director to notify the off-site stakeholders with a PAR to evacuate the Protective Action Areas within a two-mile radius around the Fermi 3 site; evacuate five-miles downwind in affected areas and shelter-in-place the remainder of the Plume Exposure Pathway EPZ. Revise the Plan's description of the Emergency Directors expected PAR actions to be taken for a General Emergency declaration to be consistent with 10 CFR 50.47 (b)(10), RIS 2004-13 and NUREG-0654, Supplement 3, or provide an acceptable justification for why this is not needed.

Response

10 CFR 50.47(b)(10) requires the licensee to develop a range of protective actions for emergency workers and the public in the plume exposure pathway emergency planning zone (EPZ). In developing this range of actions, consideration is given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate and that the guidelines for the choice of protective actions be consistent with Federal guidance. As discussed in RIS 2004-13, Supplement 3 to NUREG-0654 revised the original text of Appendix 1 of NUREG-0654 to state that for a General Emergency, the preferred initial protective action is to evacuate immediately about two miles in all directions from the plant and about five miles downwind, unless other conditions make evacuation dangerous. Persons in the remainder of the plume exposure pathway EPZ should be directed to go indoors. In addition, shelter may be the appropriate protective action for controlled releases of radioactive material from the containment if there is assurance that the release is short term and the area near the plant cannot be evacuated before the plume arrives.

Evacuation and sheltering are the primary means of protection in a radiological emergency. RIS 2004-13 and Supplement 3 to NUREG-0654 are silent regarding the use of KI.

Detroit Edison has prepared a revision of subsection II.J.7 of the Fermi 3 Emergency Plan that clarifies consistency with 10 CFR 50.47(b)(10), RIS 2004-13, and NUREG-0654, Supplement 3.

Proposed COLA Revision

See Attached proposed Emergency Plan mark-up for subsection II.J.7

Markup of Detroit Edison COLA
(following 1 page)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

, unless other conditions make evacuation dangerous. (13.03-14)

If the Emergency Director declares a General Emergency, Detroit Edison will notify the State of Michigan, Monroe County, and Wayne County governmental authorities with a PAR to evacuate the Protective Action Areas (PAAs) within a two mile radius around the Fermi 3 site; evacuate five miles downwind in affected Areas and shelter in place the remainder of the Plume Exposure Pathway EPZ. The PAR is provided to offsite agencies within 15 minutes of the General Emergency declaration and within 15 minutes of a change in status of the PAR.

In addition to the EAL-based Protective Action Recommendation, Detroit Edison provides PARs based on offsite dose projections. The Radiation Protection staff is responsible for conducting offsite dose projections periodically throughout any emergency during which there is an actual or potential release of an amount of radioactive material that is likely to result in offsite consequences. Emergency plan implementing procedures establish the requirements for performing required calculations and projections consistent with Section II.I of this Plan.

The projected doses are compared to the Protective Action Guides (PAGs) shown in Table II.J-1 which are derived from EPA 400-R-92-001, "The Manual of Protective Action Guides and Protective Actions for Nuclear Incidents" (Ref. 4) and Supplement 3 to NUREG-0654/FEMA-REP-1 (Ref. 9). PARs are then developed based on the results of these comparisons. Table II.J-2 summarizes possible protective actions to be implemented by State and local agencies during an emergency. As a further aid in determining appropriate protective actions, Table II.J-3 contains representative shielding factors provided by typical structures against direct exposure from the plume. Emergency Plan Implementing Procedure, "Protective Action Recommendations," as listed in Appendix 6, provides details regarding development of Protective Action Recommendations.

Prior to activation of the EOF, the Emergency Director is responsible for determining PARs and communicating projected offsite doses and PARs to affected Federal, State and local authorities and to the Province of Ontario, consistent with the notification protocols as discussed in Section II.E.1 of this Plan. Following activation of the EOF, the Emergency Officer assumes these responsibilities.

The Emergency Director or Emergency Officer provides projected offsite doses and Protective Action Recommendations to state and local authorities who are responsible for implementing the protective actions, using the communications systems discussed in Section II.H of this Plan, or by direct communications in the EOF.

8. Evacuation Time Estimates

Detroit Edison has conducted a Fermi 3-specific Evacuation Time Estimate (ETE) (Ref. 7) which is summarized in Appendix 5 of this Plan. The Fermi 3 ETE is consistent with the guidance provided in Appendix 4 of NUREG-0654/FEMA-REP-1 and NUREG/CR-6863, "Development of Evacuation Time Estimate Studies for Nuclear Power Plants" (Ref. 14). The ETE did not reveal the existence of any significant impediments to the development of emergency plans.

Appendix 5 of this Plan summarizes the population distribution and Evacuation Time Estimate.

Attachment 9
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-15

Supplemental NRC RAI 13.03-15

RAI 13.03-10.6.2 asked the applicant to include a map that identifies the pre-selected radiological sampling and monitoring points in accordance with NUREG-0654 evaluation criterion II.J.10.a. In response the applicant stated the protocol for off-site dose assessment does not include a requirement for use of pre-selected radiological sampling and monitoring points, and that the RETs are equipped with maps and Global Positioning System devices to provide assurance of proper sampling locations consistent with the directions provided. Revise the plan to include a description of how radiological off-site survey data is communicated, in a uniform, understandable and useable manner, to off-site stakeholders in accordance with NUREG-0654 evaluation criterion II.J.10.a, or provide an acceptable justification for why this is not needed.

Response

Evaluation Criterion II.J.10.a of NUREG-0654 states that the licensee Emergency Plan shall include maps showing evacuation routes, evacuation areas, preselected radiological sampling and monitoring points, relocation centers in host areas, and shelter areas. Appendix 5 of the Fermi 3 Emergency Plan contains a map of the Plume Exposure Pathway emergency planning zone (EPZ) illustrating evacuation routes, Protective Action Areas (PAAs), and locations of shelter areas and relocation centers. The Fermi 3 Emergency Plan incorrectly states that a map illustrating pre-selected radiological sampling points is included in Appendix 5. The Emergency Plan will be corrected to indicate that the RETs rely on Global Positioning System devices to determine the location of their survey.

In response to the additional question raised concerning how radiological off-site survey data is communicated, in a uniform, understandable and useable manner, to off-site stakeholders, subsection II.E.3 of the Fermi 3 Emergency Plan provides the content of follow-up notifications to State and local officials, which includes "measured offsite radiation levels." Upon activation, the Emergency Operations Facility (EOF) assumes responsibility for coordination of emergency response activities with state, federal, and local emergency response officials, including offsite radiological and environmental assessments; recommendations for public protective actions; and direction of recovery operations. According to subsection II.C.2 of the Fermi 3 Emergency Plan, the State of Michigan representatives dispatched to the EOF will interface with Fermi 3 Emergency Response Organization (ERO) personnel in performing radiological dose calculations; determining offsite protective action recommendations; and coordinating field monitoring team activities. Monroe and Wayne Counties and the Province of Ontario, Canada may dispatch liaisons to the EOF, if deemed necessary. Off-site survey data will be communicated directly to the State of Michigan representatives in the EOF. The Emergency Plan discusses field team capabilities in subsection II.I.7, which states that "each team is provided with air sampling equipment, personnel dosimetry, radiological survey instruments, procedures, communications equipment, and supplies to facilitate performance of radiation, surface contamination, and airborne radioactivity monitoring. The information collected is forwarded to the TSC or EOF when activated."

Detroit Edison has prepared a revision of subsection II.I.7 of the Fermi 3 Emergency Plan clarifying the use of GPS devices by the RETs. Also, a revision to subsection II.J.10.a will be prepared to clarify that a map containing pre-selected radiological sampling and monitoring points is not included in Appendix 5 of the Fermi 3 Emergency Plan. The revised subsections are included with this response.

Proposed COLA Revision

See Attached proposed Emergency Plan mark-up for subsections II.I.7 and II.J.10.a.

Markup of Detroit Edison COLA
(following 2 pages)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

Each team is also provided with a Global Positioning System (GPS) device to determine sampling locations. (13.03-15)

instruments, procedures, communications equipment, and supplies to facilitate performance of radiation, surface contamination, and airborne radioactivity monitoring.

The information collected is forwarded to the TSC or EOF when activated. RET members act under the direction of designated personnel in the TSC prior to activation of the EOF, and following activation of the EOF, they perform activities under the direction of designated personnel in that facility. The EOF laboratory may be used for the receipt and qualitative analysis of all environmental sample media.

If necessary, supplemental teams trained in field survey and monitoring techniques can be called out or may be requested by Detroit Edison through mutual assistance agreements. The teams are also equipped with appropriate monitoring and sampling equipment. Data from the supplemental field monitoring team(s) is also reported to the EOF.

8. Measuring Radioiodine Concentrations

Detroit Edison equips Radiological Emergency Teams (RETs) with portable air samplers, appropriate sample media, and analysis equipment capable of detecting radioiodine concentrations at or below 1E-7 microcuries per cubic centimeter under field conditions, taking into consideration potential interference from noble gas activity and background radiation. The collected air sample is measured by hand held survey meter as an initial check of the projection derived from plant data to determine if significant quantities of elemental iodine have actually been released (the chemical form that would pose a health hazard).

Section H of this Plan provides information regarding emergency supplies, equipment, and instruments.

9. Relating Measured Parameters to Dose Rates

Appendix 4 of this Plan describes the means for relating measured parameters, such as surface, airborne, or waterborne activity levels, to dose rates for those key isotopes listed in Table 3 of NUREG-0654/FEMA-REP-1. Appendix 4 also describes the provisions for estimating the projected dose based on projected and actual dose rates. Qualified ERO personnel are responsible for directing implementation of these procedures under emergency conditions.

10. Tracking of Plume Using Federal and State Resources

The State of Michigan Department of Environmental Quality has the ability to dispatch their own field monitoring teams to track the airborne radioactive plume. The state also has the ability and resources to coordinate with Federal and Fermi 3 monitoring teams to compare results. State response and field monitoring team activities are described in the Michigan Emergency Management Plan.

9. State and Local Government Implementation of Protective Measures

The State of Michigan, Monroe County, and Wayne County implement protective measures, as outlined in Section II.J.7 of this Plan and detailed in the state and county emergency management plans.

Delete Text (13.03-15)

10. Protective Measures Implementation

a. Appendix 5 provides a map of the Plume Exposure Pathway EPZ illustrating evacuation routes, Protective Action Areas (PAAs), ~~pre-selected radiological sampling and monitoring points,~~ and locations of shelter areas and relocation centers.

b. Appendix 5 also provides a map of the Plume Exposure Pathway EPZ illustrating population distribution around the facility by PAAs. Appendix 5 also provides a map of the Plume Exposure Pathway EPZ illustrating population distribution around the facility in a sector format.

c. The State of Michigan, in conjunction with Monroe and Wayne counties, is responsible for making decisions regarding the public protective actions. Protective actions are implemented by affected state and local officials. The primary method of warning the public is by using the Fermi 3 Alert and Notification System sirens. The Directors of Monroe and Wayne County Emergency Management are responsible for activating the portion of the system within their respective jurisdictions. Other warning methods may include telephone communications, television and radio EAS stations, public address systems, bull horns from patrol cars and personal contact.

d. The Province of Ontario, in conjunction with affected local officials, is responsible for making decisions regarding public protective actions in the Province and for implementation of those protective action decisions, including notification of affected members of the public.

11. Protective Measures Specified by the State

The State of Michigan has responsibility for protective measures for the Plume Exposure Pathway EPZ as described above. In addition, the state is responsible for specifying protective measures for the Ingestion Pathway EPZ, including methods for protecting the public from consumption of contaminated water and foodstuffs.

12. Registering and Monitoring Evacuees

The State and county organizations have the capability to register and monitor evacuees at designated reception centers. This capability includes personnel and equipment capable of monitoring residents and transients evacuating from the Plume Exposure EPZ at the reception centers, in accordance with Department of Homeland Security (DHS) guidelines.

Attachment 10
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4648 Revision 2)

Supplemental RAI Question No. 13.03-16

Supplemental NRC RAI 13.03-16

RAI 13.03-14-02 asked the applicant to explain why the description of communications drills performed, and their frequency of testing did not include a communications test with Federal Emergency Response Organizations and States within the ingestion pathway. In response the applicant explained that under conditions requiring implementation of the Fermi 3 COL Emergency Plan, communications are not established or maintained with the State of Ohio. Revise the Emergency Plan to include a description of the testing of communications with the State of Ohio, consistent with NUREG-0654 evaluation criterion N.2.a, or provide an acceptable justification for why this is not needed.

Response

As required by 10 CFR 50.47(b)(5), Detroit Edison provides for notification of State and local jurisdictions within the plume exposure pathway Emergency Planning Zone (EPZ). These jurisdictions include the State of Michigan, Monroe and Wayne Counties, and the Province of Ontario, Canada. Section IV.E.9.a of Appendix E to 10 CFR Part 50 specifies communications plans shall have arrangements for emergencies including "provision for communications with contiguous State/local governments within the plume exposure pathway EPZ. Such communications shall be tested monthly." Subsection II.N.2.a of the Fermi 3 Emergency Plan addresses this communications testing requirement.

Part 50 contains no requirements for the licensee to communicate with or to test communications with any jurisdictions within the ingestion pathway EPZ. The State of Ohio is located in the ingestion pathway EPZ. Accordingly, no communications testing provisions are included in the Fermi 3 Emergency Plan. The guidance in NUREG-0654, Evaluation Criterion N.2.a, regarding quarterly testing of communications with States within the ingestion pathway EPZ is handled by the State of Michigan – this is a process that has been in place and exercised since Fermi Unit 2 began operation.

As described in subsection II.A.1.b of the Fermi 3 Emergency Plan, the Michigan Emergency Management Division, Department of State Police, is responsible for coordinating communication links between the State Emergency Operations Center, other state facilities, local and federal agencies (including FEMA), adjacent states, and the Province of Ontario (through the Ministry of the Solicitor General in Toronto, Canada). According to pages 229 through 231 of the "Disaster Specific Procedures of the Michigan Emergency Management Plan" for "Nuclear Power Plant Accidents," under the heading "Critical State Agency Warning/Communications Response Actions," conducting regular communications tests and drills are an assigned responsibility of the Emergency Management Division (EMD) of the Michigan State Police (MSP). Page 229 of the "Disaster Specific Procedures," under the bulleted item "Provide additional notifications to key agencies," states that upon being notified by MSP Operations Center that a nuclear accident has occurred, the EMD/MSP immediately notifies the State of Ohio via the State Emergency Operations Centers. On page 230, according to the bulleted item "Establish SEOC communications links," upon activation of the SEOC for a nuclear accident, the EMD/MSP is responsible for establishing a communications link with Ohio via the Federal

Telecommunication System (FTS) land line, regular telephone line, the Michigan Law Enforcement Information network (LEIN), or the Federal National Message system (FNAMS) to the established emergency management office or state Emergency Operations Centers.

Additionally, page 231 of the "Disaster Specific Procedures," under the bulleted item "Conduct regular communications tests and drills" states "communications with federal response agencies and States within the ingestion pathway are continuous, thereby being tested at least quarterly".

Detroit Edison has prepared a revision of subsection II.N.2.a of the Fermi 3 Emergency Plan to clarify provisions for communications tests with the State of Ohio.

Proposed COLA Revision

See Attached proposed Emergency Plan mark-up for subsection II.N.2.a.

Markup of Detroit Edison COLA
(following 1 page)

The following markup represents how Detroit Edison intends to reflect this RAI response in the next submittal of the Fermi 3 COLA Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

exercises are usually conducted in conjunction with a full participation exercise as the State chooses.

2. Drills

A drill is a supervised instruction period aimed at testing, developing, and maintaining skills in a particular operation. Drills are conducted to ensure that adequate emergency response capabilities are maintained during the interval between evaluated exercises. As a minimum the following drills will be conducted:

a. Communication Drills

1. Communication between the Control Room, TSC, EOF, Michigan State Police, Monroe County Central Dispatch, and Wayne County Central Communications shall be tested monthly.

2. Communication between the Control Room, TSC, and EOF to the NRC Headquarters and Regional Operations Centers shall be tested monthly.

3. Communications between the Fermi 3 Emergency Response Facilities and the appropriate offsite response organizations shall be tested during annual drills and include the aspect of understanding the content of messages.

4. Communications between the plant, state, and local emergency operations centers, and offsite radiological emergency teams shall be tested annually.

5. Communications between the Control Room, TSC, OSC, EOF, and JPIC shall be tested annually.

6. Communications with the State of Ohio is tested quarterly by the State of Michigan in accordance with the Disaster Specific Procedures of the Michigan Emergency Management Plan (MEMP) for Nuclear Power Plant Accidents. (13.03-16)

b. Fire Drills

Fire drills shall be conducted in accordance with Section 13.1 of the Fermi 3 FSAR and plant procedures. A fire drill involving the Frenchtown Fire Department is conducted annually.

c. Medical Emergency Drill

A medical emergency drill involving a simulated contaminated individual and participation by local support agencies (for example, contracted ambulance service, Oakwood Southshore Medical Center or Mercy Memorial Hospital) shall be conducted annually. The offsite portions of the medical drill may be performed as part of the required biennial exercise.

Attachment 11
NRC3-10-0028

Response to RAI Letter No. 32
(eRAI Tracking No. 4667)

RAI Question No. 09.01.05-1

NRC RAI 09.01.05-1

For compliance with the requirements of GDC 4 for heavy load handling, the applicant must address the protection of essential safety-related equipment from missiles. SRP Section 9.1.5 and RIS 2005-25, Supplemental 1, provide guidance on the use of non-metallic slings to meet this criterion. Since non-metallic slings are particularly vulnerable to failure when unprotected and come in contact with objects with very small radius bends (sharp objects), the applicant should describe how the non-metallic slings used with single-failure-proof handling systems will be inherently prevented from unprotected exposure to very small radius bends and similar potential for failure. If the applicant proposes a different approach from the applicable SRP revision, the applicant must address how the alternative satisfies the underlying requirement.

Fermi COL application has proposed to address COL Information Item STD COL 9.1-5-A in Section 9.1.5.8, regarding the use of non-metallic slings with single failure proof lifting devices, by addressing the use of slings within the heavy load handling procedures. However, the update to Section 9.1.5.8 of the COL application does not provide an adequate description to ensure that sling use will meet the guidance of SRP Section 9.1 .5.III.4.C.ii(2) and RIS 2005-25, Supplemental 1. For heavy load handling, NRC regulations specifically state that slings should be constructed of metallic material (chain or wire rope). Therefore, the applicant is requested to define the use of non-metallic slings that will be included into the heavy load procedures and update the COL accordingly. Otherwise, justify how the design meets the guidance for use of slings as indicated SRP Section 9.1.5.III.4.C.ii(2) and RIS 2005-25.

Response

As part of Revision 6 to the ESBWR DCD, a seventh bullet was added to COL Information Item 9.1-5-A stating that the COL applicant will provide a program governing heavy loads handling that addresses:

"• Issues described in Regulatory Issue Summary (RIS) 2005-25, Supplement 1, Clarification of NRC Guidelines for Control of Heavy Loads, related to the use of non-metallic slings with single failure proof lifting devices. (Subsection 9.1.5.8)."

As part of this same revision to the ESBWR DCD, a seventh bullet was added to Section 9.1.5.8 stating that administration and implementation of heavy load handling in the plant includes:

"• Heavy Load Handling System Guidelines regarding the use of non-metallic slings with single failure proof lifting devices."

The Fermi 3 FSAR Revision 2 incorporates ESBWR DCD Revision 6 by reference. To be consistent with the above noted addition to DCD, Revision 6, Section 9.1.5.8, the FSAR, Section 9.1.5.8, under "Procedures," was revised to add a sixth bullet to state that Fermi 3 heavy load handling procedures address"

"• The use of non-metallic slings with single failure proof lifting devices."

Regulatory Information Summary (RIS) 2005-25, Supplement 1, dated May 29, 2007, regarding rigging used with single-failure-proof handling systems, states:

> "In Revision 1 to Section 9.1.5, "Overhead Heavy Load Handling System" (ADAMS Accession No. ML062260190), of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants" (hereafter, referred to as the Standard Review Plan (SRP)), the NRC staff revised the guidelines for the use of lifting devices with single-failure-proof cranes. The change specified the use of slings constructed from metallic material where the single-failure-proof features of the handling system are credited in achieving a very low probability of a load drop. Specifically, the SRP called for the selection of lifting devices for use with single-failure-proof handling systems that satisfy either of the following two criteria:
>
> (1) A special lifting device that satisfies American National Standards Institute (ANSI) N14.6-1993, "Radioactive Materials - Special Lifting Devices for Shipping Containers Weighing 10,000 Pounds (4500 kg) or More," should be used for recurrent load movements in critical areas (i.e., reactor heads, reactor vessel internals, spent fuel casks). The lifting device should have either dual, independent load paths or a single load path with twice the design safety factor specified by ANSI N14.6 for the load.
>
> (2) Slings should satisfy the criteria of American Society of Mechanical Engineers (ASME) B30.9-2003, "Slings," and be constructed of metallic material (chain or wire rope). The slings should be either (a) configured to provide dual or redundant load paths or (b) selected to support a load twice the weight of the handled load."

Thus, consistent with RIS 2005-25, Supplement 1, metallic slings should be specified where the single-failure-proof features of the handling system are credited in achieving a very low probability of a load drop. The intent of Revision 2 to the Fermi FSAR, Section 9.1.5.8 was to align the FSAR with the ESBWR DCD Revision 6. The Fermi 3 FSAR Section 9.1.5.6, under "Other Lifting Devices", specifies that slings used for heavy load lifts meet the requirements specified in B30.9. Per ESBWR DCD Table 1.9-22, the 2003 edition of B30.9 is the applicable version. It is also noted that the Fermi 3 FSAR, Table 1.9-201, states that Fermi 3 conforms with SRP Section 9.1.5, Revision 1. Thus, the guidelines from SRP 9.1.5, Revision 1, regarding the use of lifting devices with single-failure-proof cranes are specified for Fermi 3.

To ensure that these guidelines are clear, the Fermi 3 FSAR will be updated to clarify that the heavy load handling procedures will address the issues described in RIS 2005-25, Supplement 1, related to the use of metallic slings with single-failure proof lifting devices.

Proposed COLA Revision

A proposed mark-up is included for FSAR Section 9.1.5.8 to clarify that heavy load handling procedures will address the issues in RIS 2005-25, Supplement 1, related to the use of metallic slings with single failure proof lifting devices. In addition, the attached mark-up includes an editorial correction to FSAR Section 9.1.5.8, under "Quality Assurance", to refer to DCD Section 9.1.5.2 in lieu of Section 9.2.1.5.

Markup of Detroit Edison COLA
(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 Revision 3. However, the same COLA content may be impacted by revisions to the ESBWR DCD, responses to other COLA RAIs, other COLA changes, plant design changes, editorial or typographical corrections, etc. As a result, the final COLA content that appears in a future submittal may be different than presented here.

Chapter 9 Auxiliary Systems

9.1 Fuel Storage and Handling

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

9.1.1.7 Safety Evaluation

Structural Design

STD COL 9.1-4-A Delete the last sentence of the third paragraph.

Protection Features of the New Fuel Storage Facilities

STD COL 9.1-4-A Delete the last sentence of the third paragraph

9.1.4 Light Load Handling System (Related to Refueling)

9.1.4.13 Refueling Operations

Add the following at the end of this section.

STD COL 9.1-4-A Section 13.5 requires development of fuel handling procedures. Fuel handling procedures address the status of plant systems required for refueling; inspection of replacement fuel and control rods; designation of proper tools; proper conditions for spent fuel movement and storage; proper conditions to prevent inadvertent criticality; proper conditions for fuel cask loading and movement; and status of interlocks, reactor trip circuits and mode switches. These procedures provide instructions for use of refueling equipment, actions for core alterations, monitoring core criticality status, and accountability of fuel for refueling operations. **[START COM 9.1-001]** Fuel handling procedures are developed six months before fuel receipt to allow sufficient time for plant staff familiarization, to allow NRC staff adequate time to review the procedures, and to develop operator licensing examinations. **[END COM 9.1-001]**

Personnel qualifications and training for fuel handlers are addressed in Section 13.2.

9.1.4.19 Inspection and Testing Requirements

Add the following at the end of this section.

STD COL 9.1-4-A

Section 17.5 describes the QA program that is applied to monitoring, implementing, and ensuring compliance with fuel handling procedures. As part of normal plant operations, the fuel-handling equipment is inspected for operating conditions before each refueling operation. During the operational testing of this equipment, procedures are followed that will affirm the correct performance of the fuel-handling system interlocks. Other maintenance and test procedures are developed based on manufacturer's requirements.

9.1.5 Overhead Heavy Load Handling Systems (OHLHS)

9.1.5.6 Other Overhead Load Handling System

Add the following at the end of this section.

STD COL 9.1-5-A

Special Lifting Devices

Testing and Inspection of special lifting devices follow the guidlines of ANSI N14.6.

Other Lifting Devices

Slings used for heavy load lifts meet the requirements specified for slings in ANSI B30.9 and the guidance specified in NUREG-0612, Section 5.1.1(5).

9.1.5.8 Operational Responsibilities

Replace this section with the following.

STD COL 9.1-5-A

Procedures

Section 13.5 requires the development of administrative procedures to control heavy loads prior to fuel load to allow sufficient time for plant staff familiarization, to allow NRC staff adequate time to review the procedures, and to develop operator licensing examinations. Heavy load handling procedures address:

The use of slings constructed from metallic material where the single-failure-proof features of the handling system are credited in achieving a very low probability of a load drop as described in Regulatory Information Summary (RIS) 2005-25, Supplement 1, Clarification of NRC Guidelines for Control of Heavy Loads.

- Equipment identification
- Required equipment inspections and acceptance criteria prior to performing lift and movement operations
- Approved safe load paths and exclusion areas
- Safety precautions and limitations
- Special tools, rigging hardware, and equipment required for the heavy load lift
- ~~The use of non-metalic slings with single failure proof lifting devices~~
- Rigging arrangement for the load
- Adequate job steps and proper sequence for handling the load

Safe load paths are defined for movement of heavy loads to minimize the potential for a load drop on irradiated fuel in the reactor vessel or spent fuel pool or on safe shutdown equipment. Paths are defined in procedures and equipment layout drawings. Safe load path procedures address the following general requirements:

- When heavy loads must be carried directly over the spent fuel pool, reactor vessel or safe shutdown equipment, procedures will limit the height of the load and the time the load is carried.
- When heavy loads could be carried (i.e., no physical means to prevent) but are not required to be carried directly over the spent fuel pool, reactor vessel or safe shutdown equipment, procedures will define an area over which loads shall not be carried so that if the load is dropped, it will not result in damage to spent fuel or operable safe shutdown equipment or compromise reactor vessel integrity.
- Where intervening structures are shown to provide protection, no load travel path is required.
- Defined safe load paths will follow, to the extent practical, structural floor members.
- When heavy loads movement is restricted by design or operational limitation, no safe load path is required.
- Supervision is present during heavy load lifts to enforce procedural requirements.

Inspection and Testing

Cranes addressed in this section are inspected, tested, and maintained in accordance with Section 2-2 of ANSI B30.2, Section 11.2 of ANSI B30.11, or Sections 16-1.2.1 and 16-1.2.3 of ANSI B30.16 with the exception that tests and inspections may be performed prior to use for infrequently used cranes. Prior to making a heavy load lift, an inspection of the crane is made in accordance with the above applicable standards.

Training and Qualification

Training and qualification of operators of cranes addressed in this section meet the requirements of ANSI B30.2, and include the following:

- Knowledge testing of the crane to be operated in accordance with the applicable ANSI crane standard.
- Practical testing for the type of crane to be operated.
- Supervisor signatory authority on the practical operating examination.
- Applicable physical requirements for crane operators as defined in the applicable crane standard.

Quality Assurance

Procedures for control of heavy loads are developed in accordance with Section 13.5. In accordance with Section 17.5 and DCD Section ~~9.2.1.5,~~ 9.1.5.2 other specific quality program controls are applied to the heavy loads handling program, targeted at those characteristics or critical attributes that render the equipment a significant contributor to plant safety.

9.1.5.9 Safety Evaluations

Add the following at the end of this section.

STD COL 9.1-5-A No heavy loads are identified that are outside the scope of the certified design. In addition, there is no heavy load handling equipment, nor interlocks associated with heavy load handling equipment, outside the scope of certified design.

9.1.6 COL Information

9.1-4-A Fuel Handling Operations

STD COL 9.1-4-A This COL item is addressed in Subsection 9.1.4.13 and Subsection 9.1.4.19.

9.1-5-A Handling of Heavy Loads

STD COL 9.1-5-A This COL item is addressed in Subsection 9.1.5.6, Subsection 9.1.5.8, and Subsection 9.1.5.9.

9.2 Water Systems

9.2.1 Plant Service Water System

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

9.2.1.2 System Description

Summary Description

Replace the Summary Description with the following information.

EF3 CDI The Plant Service Water System (PSWS) rejects heat from nonsafety-related RCCWS and TCCWS heat exchangers to the environment. The source of cooling water to the PSWS is from either the normal power heat sink (NPHS) or the auxiliary heat sink (AHS). A natural draft cooling tower is utilized for the NPHS and mechanical draft cooling towers are utilized for the AHS with a crosstie line to permit routing of the plant service water to either heat sink. Table 9.2-201 provides information on the PSWS cooling tower design characteristics.

EF3 CDI A simplified diagram of the PSWS is shown in Figure 9.2-205.

Detailed System Description

EF3 COL 9.2.1-1-A Delete the first sentence of the fifth paragraph.

Replace the eighth sentence in the sixth paragraph with the following.

EF3 COL 9.2.1-1-A PSWS basin water is treated for biofouling, scaling, and suspended matter with biocides, anti-scalants, and dispersants, respectively. In