DTE Energy®

Detroit Edison

Fermi 3 Combined License Application

Part 10: ITAAC

Revision 4
February 2013

TIER 1 INFORMATION

AND

INSPECTIONS, TESTS, ANALYSES, AND ACCEPTANCE CRITERIA

1. TIER 1 INFORMATION

DCD Tier 1 is incorporated by reference.

2. COLA ITAAC

The Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) for the COLA are provided in tabular form, consistent with the format shown in RG 1.206 Table C.II.1-1.

The COLA-ITAAC consist of the following four parts:

1. Design Certification ITAAC
2. Emergency Planning ITAAC
3. Physical Security ITAAC
4. Site-Specific ITAAC

This set of COLA-ITAAC is included herein. Completion of the ITAAC is a proposed condition of the combined license to be satisfied prior to fuel load.

2.1 DESIGN CERTIFICATION ITAAC

The Design Certification ITAAC are contained in DCD Tier 1, which is incorporated in by reference in Section 1.

2.2 PHYSICAL SECURITY ITAAC

The Physical Security ITAAC for systems within the scope of the DCD are contained in DCD Tier 1, which is incorporated in by reference in Section 1.

2.2.1 Site Specific Physical Security ITAAC

Design Description

The physical security system provides physical features to detect, delay, assist response to, and defend against the design basis threat (DBT) for radiological sabotage. The physical security system consists of physical barriers and an intrusion detection system. The details of the physical security system are categorized as Safeguards Information. The physical security system provides protection for vital equipment and plant personnel.

1. Vital Area and Vital Area Barrier:
   a. Vital equipment will be located only within a vital area.
   b. Access to vital equipment will require passage through at least two physical barriers.
2. Protected Area Barrier:
   a. Physical barriers for the protected area perimeter will not be part of vital area barriers.
   b. Penetrations through the protected area barrier will be secured and monitored.
   c. Unattended openings that intersect a security boundary, such as underground pathways, will be protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.
3. Isolation Zone:
   a. Isolation zones will exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and will be designed of sufficient size to permit observation and assessment on either side of the barrier.
   b. Isolation zones will be monitored with intrusion detection and assessment equipment that is designed to provide detection and assessment of activities within the isolation zone.
   c. Areas where permanent buildings do not allow sufficient observation distance between the intrusion detection system and the protected area barrier (e.g., the building walls are immediately adjacent to, or are an integral part of the protected area barrier) will be monitored with intrusion detection and assessment equipment that is designed to detect the attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier and assessment of detected activities.
4. Protected Area Perimeter Intrusion Detection and Assessment Systems:
   a. The perimeter intrusion detection system will be designed to detect penetration or attempted penetration of the protected area perimeter barrier before completed

penetration of the barrier, and for subsequent alarms to annunciate concurrently in at least two continuously manned onsite alarm stations (central and secondary alarm stations).

b. The perimeter assessment equipment will be designed to provide video image recording with real-time and playback capability that can provide assessment of detected activities before and after each alarm annunciation at the protected area perimeter barrier.

c. The intrusion detection and assessment equipment at the protected area perimeter will be designed to remain operable from an uninterruptible power supply in the event of the loss of normal power.

5. Isolation zones and exterior areas within the protected area will be provided with illumination to permit assessment in the isolation zones and observation of activities within exterior areas of the protected area.

6. The external walls, doors, ceiling, and floors in the Secondary Alarm Station, and the last access control function for access to the protected area will be bullet resistant, to at least Underwriters Laboratories Ballistic Standard 752, “The Standard of Safety for Bullet-Resisting Equipment,” Level 4, or National Institute of Justice Standard 0108.01, “Ballistic Resistant Protective Materials,” Type III.

7. The vehicle barrier system will be designed, installed, and located at the necessary standoff distance to protect against the design-basis threat vehicle bombs.

8. Personnel, Vehicle, and Material Access Control Portals and Search Equipment:

   a. Access control points will be established and designed to control personnel and vehicle access into the protected area.

   b. Access control points will be established and designed with equipment for the detection of firearms, explosives, and incendiary devices at the protected area personnel access points.

9. An access control system with a numbered photo identification badge system will be installed and designed for use by individuals who are authorized access to protected areas and vital areas without escort.

10. Unoccupied vital areas will be designed with locking devices and intrusion detection devices that annunciate in the Secondary Alarm Station.

11. Alarm Station:

    a. Intrusion detection equipment and video assessment equipment will annunciate and be displayed concurrently in at least two continuously manned onsite alarm stations (Central and Secondary Alarm Stations).

b. The Secondary Alarm Station will be located inside the protected area and will be designed so that the interior of the alarm station is not visible from the perimeter of the protected area.

c. Central and Secondary Alarm Stations will be designed, equipped and constructed such that no single act, in accordance with the design-basis threat of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to (1) detect and assess alarms, (2) initiate and coordinate an adequate response to alarms, (3) summon offsite assistance, and (4) provide effective command and control.

d. Both the Central and Secondary Alarm Stations will be constructed, located, protected, and equipped to the standards for the Central Alarm Station (alarm stations need not be identical in design but shall be equal and redundant, capable of performing all functions required of alarm stations).

12. The secondary security power supply system for alarm annunciator equipment contained in the Secondary Alarm Station and non-portable communications equipment contained in the Secondary Alarm Station is located within a vital area.

13. Intrusion Detection Systems Console Display:

    a. Security alarm devices, including transmission lines to annunciators, will be tamper indicating and self-checking (e.g., an automatic indication is provided when failure of the alarm system or a component occurs or when on standby power), and alarm annunciation indicates the type of alarm (e.g., intrusion alarms, emergency exit alarm) and location.

    b. Intrusion detection and assessment systems will be designed to provide visual display and audible annunciation of alarms in the Secondary Alarm Station.

14. Intrusion detection systems recording equipment will record onsite security alarm annunciation including the location of the alarm, false alarm, alarm check, and tamper indication and the type of alarm, location, alarm circuit, date, and time.

15. Emergency exits through the protected area perimeter and vital area boundaries will be alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.

16. Communication:

    a. The Secondary Alarm Station will have conventional (land line) telephone service with the Main Control Room and local law enforcement authorities.

    b. The Secondary Alarm Station will be capable of continuous communication with on-duty security force personnel.

c. Non-portable communications equipment in the Secondary Alarm Station will remain operable from an independent power source in the event of loss of normal power.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.2.1-1 provides a definition of the inspections, tests and analysis, together with associated acceptance criteria for the site-specific portions of the physical security system.

Table 2.2.1-1 ITAAC for the Site-Specific Security System		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1(a). Vital equipment will be located only within a vital area.	1(a). All vital equipment locations will be inspected.	1(a). Vital equipment is located only within a vital area.
1(b). Access to vital equipment will require passage through at least two physical barriers.	1(b). All vital equipment physical barriers will be inspected.	1(b). Vital equipment is located within a protected area such that access to the vital equipment requires passage through at least two physical barriers.
2(a). Physical barriers for the protected area perimeter will not be part of vital area barriers.	2(a). The protected area perimeter barriers will be inspected.	2(a). Physical barriers at the perimeter of the protected area are separated from any other barrier designated as a vital area barrier.
2(b). Penetrations through the protected area barrier will be secured and monitored.	2(b). All penetrations through the protected area barrier will be inspected.	2(b). All penetrations and openings through the protected area barrier are secured and monitored by intrusion detection equipment.
2(c). Unattended openings that intersect a security boundary, such as underground pathways, will be protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.	2(c). All unattended openings within the protected area barriers will be inspected.	2(c). All unattended openings (such as underground pathways) that intersect a security boundary (such as the protected area barrier), are protected by a physical barrier and monitored by intrusion detection equipment or provided surveillance at a frequency sufficient to detect exploitation.
3(a). Isolation zones will exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and will be designed of sufficient size to permit observation and assessment on either side of the barrier.	3(a). The isolation zones in outdoor areas adjacent to the protected area perimeter barrier will be inspected.	3(a). The isolation zones exist in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and are of sufficient size to permit observation and assessment of activities on either side of the barrier in the event of its penetration or attempted penetration.
3(b). Isolation zones will be monitored with intrusion detection and assessment equipment that is designed to provide detection and assessment of activities within the isolation zone.	3(b). The intrusion detection equipment within the isolation zones will be inspected.	3(b). Isolation zones are equipped with intrusion detection and assessment equipment capable of providing detection and assessment of activities within the isolation zone.

Table 2.2.1-1 ITAAC for the Site-Specific Security System		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
3(c). Areas where permanent buildings do not allow sufficient observation distance between the intrusion detection system and the protected area barrier (e.g., the building walls are immediately adjacent to, or are an integral part of the protected area barrier) will be monitored with intrusion detection and assessment equipment that is designed to detect the attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier and assessment of detected activities.	3(c). Inspections of areas of the protected area perimeter barrier that do not have isolation zones will be performed.	3(c). Areas where permanent buildings do not allow sufficient observation distance between the intrusion detection system and the protected area barrier (e.g., the building walls are immediately adjacent to, or an integral part of, the protected area barrier) are monitored with intrusion detection and assessment equipment that detects attempted or actual penetration of the protected area perimeter barrier before completed penetration of the barrier and assessment of detected activities.
4(a). The perimeter intrusion detection system will be designed to detect penetration or attempted penetration of the protected area perimeter barrier before completed penetration of the barrier, and for subsequent alarms to annunciate concurrently in at least two continuously manned onsite alarm stations (central and secondary alarm stations).	4(a). Tests, inspections, or a combination of tests and inspections of the intrusion detection system will be performed.	4(a). The intrusion detection system can detect penetration or attempted penetration of the protected area perimeter barrier before completed penetration of the barrier, and subsequent alarms annunciate concurrently in at least two continuously manned on site alarms stations (central and secondary alarm stations).
4(b). The perimeter assessment equipment will be designed to provide video image recording with real-time and playback capability that can provide assessment of detected activities before and after each alarm annunciation at the protected area perimeter barrier.	4(b). Tests, inspections, or a combination of tests and inspections of the video assessment equipment will be performed.	4(b). The perimeter assessment equipment is capable of real-time and playback video image recording that provides assessment of detected activities before and after each alarm at the protected area perimeter barrier.
4(c). The intrusion detection and assessment equipment at the protected area perimeter will be designed to remain operable from an uninterruptible power supply in the event of the loss of normal power.	4(c). Tests, inspections, or a combination of tests and inspections of the uninterruptible power supply will be performed.	4(c). All Intrusion detection and assessment equipment at the protected area perimeter remains operable from an uninterruptible power supply in the event of the loss of normal power.
5. Isolation zones and exterior areas within the protected area will be provided with illumination to permit assessment in the isolation zones and observation of activities within exterior areas of the protected area.	5. The illumination in isolation zones and exterior areas within the protected area will be inspected.	5. Illumination in isolation zones and exterior areas within the protected area is 0.2 foot candles measured horizontally at ground level or alternatively augmented, sufficient to permit assessment and observation.

Table 2.2.1-1
ITAAC for the Site-Specific Security System

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
6. The external walls, doors, ceiling, and floors in the Secondary Alarm Station, and the last access control function for access to the protected area will be bullet resistant, to at least Underwriters Laboratories Ballistic Standard 752, “The Standard of Safety for Bullet-Resisting Equipment,” Level 4, or National Institute of Justice Standard 0108.01, “Ballistic Resistant Protective Materials,” Type III.	6. Type test, analysis, or a combination of type test and analysis of the external walls, doors, ceiling, and floors in the Secondary Alarm Station, and the last access control function for access to the protected area will be performed.	6. A report exists and concludes that the walls, doors, ceilings, and floors in the Secondary Alarm Station, and the last access control function for access to the protected area are bullet resistant to at least Underwriters Laboratories Ballistic Standard 752, Level 4, or National Institute of Justice Standard 0108.01, Type III.
7. The vehicle barrier system will be designed, installed, and located at the necessary standoff distance to protect against the design-basis threat vehicle bombs.	7. Type test, inspections, analysis or a combination of type tests, inspections, and analysis will be performed for the vehicle barrier system.	7. A report exists and concludes that the vehicle barrier system will protect against the threat vehicle bombs based on the standoff distance for the system.
8(a). Access control points will be established and designed to control personnel and vehicle access into the protected area.	8(a). Tests, inspections, or a combination of tests and inspections of installed systems and equipment will be performed.	8(a). Access control points exist for the protected area and are configured to control access.
8(b). Access control points will be established and designed with equipment for the detection of firearms, explosives, and incendiary devices at the protected area personnel access points.	8(b). Tests, inspections, or a combination of tests and inspections of installed systems and equipment will be performed.	8(b). Detection equipment exists and is capable of detecting firearms, explosives, and incendiary devices at the protected area personnel access control points.
9. An access control system with a numbered photo identification badge system will be installed and designed for use by individuals who are authorized access to protected areas and vital areas without escort.	9. The access control system and the numbered photo identification badge system will be tested.	9. The access authorization system with a numbered photo identification badge system is installed and provides authorized access to protected and vital areas only to those individuals with unescorted access authorization.
10. Unoccupied vital areas will be designed with locking devices and intrusion detection devices that annunciate in the Secondary Alarm Station.	10. Tests, inspections, or a combination of tests and inspections of unoccupied vital area intrusion detection equipment and locking devices will be performed.	10. Unoccupied vital areas are locked, and intrusion is detected and annunciated in the Secondary Alarm Station.
11(a). Intrusion detection equipment and video assessment equipment will annunciate and be displayed concurrently in at least two continuously manned onsite alarm stations (Central and Secondary Alarm Stations).	11(a). Tests, inspections, or a combination of tests and inspections of intrusion detection equipment and video assessment equipment will be performed.	11(a). Intrusion detection equipment and video assessment equipment annunciate and display concurrently in at least two continuously manned onsite alarm stations (Central and Secondary Alarm Stations).

Table 2.2.1-1 ITAAC for the Site-Specific Security System		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
11(b). The Secondary Alarm Station will be located inside the protected area and will be designed so that the interior of the alarm station is not visible from the perimeter of the protected area.	11(b). The Secondary Alarm Station location will be inspected.	11(b). The Secondary Alarm Station is located inside the protected area, and the interior of the alarm station is not visible from the perimeter of the protected area.
11(c). Central and Secondary Alarm Stations will be designed, equipped and constructed such that no single act, in accordance with the design-basis threat of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to (1) detect and assess alarms, (2) initiate and coordinate an adequate response to alarms, (3) summon offsite assistance, and (4) provide effective command and control.	11(c). Tests, inspections, or a combination of tests and inspections of the Central and Secondary Alarm Stations will be performed.	11(c). Central and Secondary Alarm Stations are designed, equipped, and constructed such that no single act, in accordance with the design-basis threat of radiological sabotage, can simultaneously remove the ability of both the central and secondary alarm stations to (1) detect and assess alarms, (2) initiate and coordinate an adequate response to alarms, (3) summon offsite assistance, and (4) provide effective command and control.
11(d). Both the Central and Secondary Alarm Stations will be constructed, located, protected, and equipped to the standards for the Central Alarm Station (alarm stations need not be identical in design but shall be equal and redundant, capable of performing all functions required of alarm stations).	11(d). Tests, inspections, or a combination of tests and inspections of the Central and Secondary Alarm Stations will be performed.	11(d). The Central and Secondary Alarm Stations are located, constructed, protected, and equipped to the standards of the Central Alarm Station and are functionally redundant (stations need not be identical in design).
12. The secondary security power supply system for alarm annunciator equipment contained in the Secondary Alarm Station and non-portable communications equipment contained in the Secondary Alarm Station is located within a vital area.	12. The secondary security power supply system will be inspected.	12. The secondary security power supply system for alarm annunciator equipment contained in the Secondary Alarm Station and non-portable communications equipment contained in the Secondary Alarm Station is located within a vital area.

Table 2.2.1-1
ITAAC for the Site-Specific Security System

Design Commitment	Inspections, Tests, Analyses	Acceptance Criteria
13(a). Security alarm devices, including transmission lines to annunciators, will be tamper-indicating and self-checking (e.g., an automatic indication is provided when failure of the alarm system or a component occurs or when on standby power), and alarm annunciation indicates the type of alarm (e.g., intrusion alarms, emergency exit alarm) and location.	13(a). All security alarm devices and transmission lines will be tested.	13(a). Security alarm devices including transmission lines to annunciators are tamper-indicating and self-checking (e.g., an automatic indication is provided when failure of the alarm system or a component occurs, or when the system is on standby power), and the alarm annunciation indicates the type of alarm (e.g., intrusion alarm, emergency exit alarm) and location.
13(b). Intrusion detection and assessment systems will be designed to provide visual display and audible annunciation of alarms in the Secondary Alarm Station.	13(b). Intrusion detection and assessment systems will be tested.	13(b). The intrusion detection and assessment systems provide a visual display and audible annunciation of alarms in the Secondary Alarm Station (concurrently with the display and annunciation in the Central Alarm Station).
14. No Site-Specific ITAAC specified.	14. No Site-Specific ITAAC specified.	14. No Site-Specific ITAAC specified.
15. Emergency exits through the protected area perimeter and vital area boundaries will be alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.	15. Tests, inspections, or a combination of tests and inspections of emergency exits through the protected area perimeter and vital area boundaries will be performed.	15. Emergency exits through the protected area perimeter and vital area boundaries are alarmed with intrusion detection devices and secured by locking devices that allow prompt egress during an emergency.
16(a). The Secondary Alarm Station will have conventional (land line) telephone service with the Main Control Room and local law enforcement authorities.	16(a). Tests, inspections, or a combination of tests and inspections of the Secondary Alarm Stations' conventional (land line) telephone service will be performed.	16(a). The Secondary Alarm Station is equipped with conventional (land line) telephone service with the Main Control Room and local law enforcement authorities.
16(b). The Secondary Alarm Station will be capable of continuous communication with on-duty security force personnel.	16(b). Tests, inspections, or a combination of tests and inspections of the Secondary Alarm Stations' continuous communication capabilities will be performed.	16(b). The Secondary Alarm Station is capable of continuous communication with on-duty watchmen, armed security officers, armed responders, or other security personnel who have responsibilities within the physical protection program and during contingency response events.

Table 2.2.1-1 ITAAC for the Site-Specific Security System		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
16(c). Non-portable communications equipment in the Secondary Alarm Station will remain operable from an independent power source in the event of loss of normal power.	16(c). Tests, inspections, or a combination of tests and inspections of the non-portable communications equipment will be performed.	I6(c). All non-portable communication devices (including conventional telephone systems) in the Secondary Alarm Station are wired to an independent power supply that enables those systems to remain operable (without disruption) during the loss of normal power.

2.3 EMERGENCY PLANNING ITAAC

The Emergency Planning ITAAC are provided in Table 2.3-1.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1.0 Assignment of Responsibility – Organizational Control			
10 CFR 50.47(b)(1) – Primary responsibilities for emergency response by the nuclear facility licensee, and by State and local organizations within the EPZs have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principle response organization has staff to respond and to augment its initial response on a continuous basis.	1.1 The staff exists to provide 24-hour per day emergency response and manning of communications links, including continuous operations for a protracted period. [A.1.e, A.4**] [**A.1.e, A.4 corresponds to NUREG-0654/FEMA-REP-1 evaluation criteria.] ITAAC Element addressed in: COL EP II.A.1.b, II.A.1.e	1.1 An inspection of the implementing procedures or staffing rosters will be performed.	1.1 Emergency plan implementing procedures or staffing rosters establish 24-hour per day emergency response staffing and manning of communications links, including continuous operations for a protracted period.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
2.0 Onsite Emergency Organization			
10 CFR 50.47(b)(2) – On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and response activities are specified.	2.1 The staff exists to provide minimum and augmented on-shift staffing levels, consistent with Table B-1 of NUREG-0654/FEMA-REP-1, Rev. 1. [B.5, B.7] ITAAC Element addressed in: COL EP II.B.3, II.B.4, II.B.6, Table II.B-1	2.1 An inspection of the implementing procedures or staffing rosters will be performed.	2.1 Emergency plan implementing procedures or staffing rosters establish minimum and augmented on-shift staffing levels, consistent with Table II.B-1 of the Fermi 3 Combined License Application Emergency Plan.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
3.0 Emergency Response Support and Resources			
10 CFR 50.47(b)(3) – Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
4.0 Emergency Classification System			
10 CFR 50.47(b)(4) – A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.	4.1 A standard emergency classification and emergency action level (EAL) scheme exists, and identifies facility system and effluent parameters constituting the bases for the classification scheme. [D.1] ITAAC Element addressed in: COL EP II.D.1	4.1 An inspection of the control room, technical support center (TSC), and emergency operations facility (EOF) will be performed to verify that they have displays for retrieving facility system and effluent parameters that constitute the bases for the classification scheme in emergency plan Implementing Procedure, “Emergency Classification.”	4.1.1 The specific parameters identified in the EAL thresholds included in emergency plan implementing procedure, “Emergency Classification,” have been retrieved and displayed in the control room, TSC, and EOF. 4.1.2 The ranges available in the control room, TSC, and EOF encompasses the values for the specific parameters identified in the EAL thresholds included in emergency plan implementing procedure, “Emergency Classification.”

Table 2.3-1
ITAAC For Emergency Planning

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
5.0 Notification Methods and Procedures			
10 CFR 50.47(b)(5) – Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.	5.1 The means exist to notify responsible State and local organizations within 15 minutes after the licensee declares an emergency. [E.1] ITAAC Element addressed in: COL EP II.E.1	5.1 A test will be performed of the capabilities.	5.1 Communications have been established via Ringdown Phone System among the control room, the State of Michigan, Monroe County, and Wayne County within 15 minutes after an emergency has been declared.
	5.2 The means exist to notify emergency response personnel. [E.2] ITAAC Element addressed in: COL EP II.E.1	5.2 A test will be performed of the capabilities.	5.2 Notification to the Fermi 3 emergency response organization has been performed. NOTE: Confirmation of the ability to alert, notify and mobilize the Fermi 3 emergency response personnel is addressed in Acceptance Criterion 14.1.1.B.1.
	5.3 The means exists to notify and provide instructions to the populace within the plume exposure EPZ. [E.6] ITAAC Element addressed in: COL EP II.E.2 & E.5	5.3 See 5.3 Acceptance Criteria.	5.3 The capability of the Alert and Notification System (ANS) to operate properly is tested monthly by the Fermi 2 Reactor Oversight Program and may be presumed adequate for the purposes of the Fermi 3 EP as identified in NRC RAI Letter 52, ML1105906350 (RAI 13.03-57).

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
6.0 Emergency Communications			
10 CFR 50.47(b)(6) – Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.	6.1 The means exist for communications among the control room, TSC, EOF, principal State, and local, emergency operations centers (EOCs), and radiological emergency teams. [F.1.d] ITAAC Element addressed in: COL EP II.F.1.A & B	6.1 A test will be performed of the capabilities.	6.1.1 Communications via the Ringdown Phone System have been established among the control room, TSC, EOF, State of Michigan, Monroe County, Wayne County, and the Province of Ontario, Canada. 6.1.2 Communications have been established between the TSC and radiological emergency teams. 6.1.3 Communications have been established between the EOF and radiological emergency teams.
	6.2 The means exist for communications from the control room, TSC, and EOF to the NRC headquarters and regional office EOCs (including establishment of the Emergency Response Data System (ERDS) between the onsite computer system and the NRC Operations Center.) [F.1.f] ITAAC Element addressed in: COL EP II.F.1.A.5	6.2 A test will be performed of the capabilities.	6.2 Communications have been established from the control room, TSC, and EOF to NRC Headquarters and Region III EOCs, and an access port for ERDS is provided.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
7.0 Public Education and Information			
10 CFR 50.47(b)(7) – Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.	7.1 The licensee has provided space which may be used for a limited number of the news media at the near-site Emergency Operations Facility (EOF) [G.3.b] ITAAC Element addressed in: COL EP II.G.3 & 4	7.1 An inspection of the Joint Information Center will be performed to verify that space is provided for a limited number of the news media.	7.1 The Joint Information Center has space for approximately 500 news media personnel.

Table 2.3-1
ITAAC For Emergency Planning

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
8.0 Emergency Facilities and Equipment			
10 CFR 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.	8.1 The licensee has established a technical support center (TSC) and onsite operations support center (OSC). [H.1] ITAAC Element addressed in: COL EP II.H.1.b & c	8.1.1 An inspection of the as-built TSC and OSC will be performed.	8.1.1 The TSC has at least 182 square meters (1950 square feet) of floor space. 8.1.2 The following communications equipment has been provided in the TSC and voice transmission and reception have been accomplished: • NRC systems: Emergency Notification System (ENS), Health Physics Network (HPN), Reactor Safety Counterpart Link (RSCL), Protective Measures Counterpart Link (PMCL), Management Counterpart Link (MCL) • Dedicated telephone to EOF • Dedicated telephone to control room • Dedicated telephone to OSC 8.1.3 The TSC has been located in the Electrical Building. 8.1.4 The TSC includes radiation monitors and a ventilation system with a high efficiency particulate air (HEPA) and charcoal filter. 8.1.5 A back-up electrical power supply is available for the TSC. 8.1.6 Reception, storage, processing, and display of plant and environmental information used to initiate emergency measures and conduct emergency assessment has been accomplished at the TSC. 8.1.7 The OSC is in a location separate from the control room. 8.1.8 The following communications equipment has been provided in the OSC and voice transmission and reception have been accomplished: • Dedicated telephone to control room • Dedicated telephone to TSC • Plant page system (voice transmission only)

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
	8.2 The licensee has established an emergency operations facility (EOF). [H.2] ITAAC Element addressed in: COL EP II.H.1.d	8.2 An inspection of the EOF will be performed.	8.2.1 A report exists that confirms the EOF is greater than 279 square meters (3000 square feet). 8.2.2 The EOF includes shielding with a protection factor of 20. 8.2.3 The EOF HVAC system includes the capability to isolate and filter outside air with HEPA filters. 8.2.4 The EOF includes portable airborne radioactivity and area radiation monitors with local alarm capability. 8.2.5 Voice transmission and reception have been accomplished between the EOF and TSC. 8.2.6 Voice transmission and reception have been accomplished between the EOF, the control room, TSC, and the following organizations: NRC, the State of Michigan, Monroe County, and Wayne County. 8.2.7 Acquisition, display and evaluation of radiological, meteorological, and plant system data specified in emergency plan implementing procedure, “Dose Assessment Methodology,” needed to determine offsite protective action recommendations has been accomplished at the EOF.
	8.3 The means exists to initiate emergency measures, consistent with Appendix 1 of NUREG-0654/FEMA-REP-1, Rev. 1. [H.5] ITAAC Element addressed in: COL EP II.H.4	8.3 An analysis of emergency plan implementing procedures will be performed.	8.3 The means to initiate emergency measures, described in section II.H.4 of the Fermi 3 Combined License Application Emergency Plan are addressed in emergency plan implementing procedures, “Emergency Classification.”

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
	8.4 The means exists to acquire data from, or for emergency access to, offsite monitoring and analysis equipment. [H.6] ITAAC Element addressed in: COL II. C.3, II.H.1.d, II.H.4.a, II.H.4.b. II.H.5.b	8.4 An analysis of emergency plan implementing procedures will be performed.	8.4 The means to acquire data from, or for emergency access to, offsite monitoring and analysis equipment described in sections II.C.3, II.H.1.d, II.H.4.a, II.H.4.b, and II.H.5.b of the Fermi 3 Combined License Application Emergency Plan are addressed in emergency plan implementing procedures, “Dose Assessment Methodology.”
	8.5 The means exists to provide offsite radiological monitoring equipment in the vicinity of the nuclear facility. [H.7] ITAAC Element addressed in: COL II.H.2 & II.H.6	8.5 An analysis of emergency plan implementing procedures will be performed.	8.5 The means to provide for offsite radiological monitoring equipment in the vicinity of Fermi 3 described in sections II.H.2 and II.H.6 of the Fermi 3 Combined License Application Emergency Plan are addressed in emergency plan implementing procedures, “Onsite/Offsite Radiological Monitoring.”
	8.6 The means exists to provide meteorological information, consistent with Appendix 2 of NUREG-0654/FEMA-REP-1, Rev. 1. [H.8] ITAAC Element addressed in: COL II.H.7	8.6 An analysis of emergency plan implementing procedures will be performed.	8.6 The means to obtain meteorological information described in section II.H.7 of the Fermi 3 Combined License Application Emergency Plan are addressed in emergency plan implementing procedures, “Dose Assessment Methodology.”

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
9.0 Accident Assessment			
10 CFR 50.47(b)(9) – Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.	9.1 The means exist to provide initial and continuing radiological assessment throughout the course of an accident. [I.2] ITAAC Element addressed in: COL EP II.I.2, Appendix 4	9.1 A test of the emergency plan will be conducted by performing an exercise or drill to verify the capability to perform accident assessment.	9.1 Using selected monitoring parameters identified in the EAL thresholds included in emergency plan implementing procedure, “Emergency Classification,” simulated degraded plant conditions are assessed and protective actions are initiated in accordance with the following criteria: A. Accident Assessment and Classification 1. Demonstrate the ability to identify initiating conditions, determine EAL parameters, and correctly classify the emergency throughout the exercise or drill. B. Radiological Assessment and Control 1. Demonstrate the ability to obtain onsite radiological surveys and samples. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. 4. Demonstrate the ability to satisfactorily collect and disseminate field team data. 5. Demonstrate the ability to develop dose projections. 6. Demonstrate the ability to make the decision whether to issue radioprotective drugs (KI) to Fermi 3 emergency workers. 7. Demonstrate the ability to develop appropriate protective action recommendations (PARs) and communicated to appropriate authorities within 15 minutes of development.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
	9.2 The means exists to determine the source term of releases of radioactive material within plant systems, and the magnitude of the release of radioactive materials based on plant system parameters and effluent monitors. [I.3] ITAAC Element addressed in: COL EP II.I.3, Appendix 4	9.2 An analysis of emergency plan implementing procedures and the Offsite Dose Calculation Manual (ODCM) will be completed to verify the ability to determine the source term and magnitude of release.	9.2 Emergency plan implementing procedure, "Dose Assessment Methodology," and the ODCM correctly calculate source terms and magnitudes of postulated releases.
	9.3 The means exists to continuously assess the impact of the release of radioactive materials to the environment, accounting for the relationship between effluent monitor readings, and onsite and offsite exposures and contamination for various meteorological conditions. [I.4] ITAAC Element addressed in: COL EP II.I.4, Appendix 4	9.3 An analysis of emergency plan implementing procedures and the ODCM will be completed to verify the relationship between effluent monitor readings and offsite exposures and contamination for various meteorological conditions has been established.	9.3 Emergency plan implementing procedure, "Dose Assessment Methodology," and the ODCM calculate the relationship between effluent monitor readings and offsite exposures and contamination for various meteorological conditions.
	9.4 The means exists to acquire and evaluate meteorological information. [I.5] ITAAC Element addressed in: COL EP II.I.5	9.4 An inspection of the control room, TSC, and EOF will be performed to verify the availability of the following meteorological data is available: • Wind speed (at 10 m and 60 m) • Wind direction (at 10 m and 60 m) • Ambient air temperature (at 10 m and 60 m)	9.4.1 The specified meteorological data was available at the control room, TSC, and EOF. 9.4.2 The specified meteorological data was transmitted to and received by the offsite NRC center and State of Michigan.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
	9.5 The means exists to determine the release rate and projected doses if the instrumentation used for assessment is off-scale or inoperable. [I.6]	9.5 An analysis of the methodology contained in the emergency plan implementing procedures for determining the release rate and projected dose when the instrumentation used for assessment is offscale or inoperable will be performed.	9.5 Emergency plan implementing procedure, “Dose Assessment Methodology,” provides the means to determine the release rate and projected doses if the instrumentation used for assessment is off-scale or inoperable.
	9.6 The means exist for field monitoring within the plume exposure EPZ. [I.7]	9.6 An analysis of emergency plan implementing procedures will be performed.	9.6 Emergency plan implementing procedure, “Onsite/Offsite Radiological Monitoring,” provides the means for field monitoring within the plume exposure pathway EPZ.
	9.7 The means exist to make rapid assessments of actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways, including activation, notification means, field team composition, transportation, communication, monitoring equipment, and estimated deployment times. [I.8] ITAAC Element addressed in: COL EP II.I.7	9.7 A test will be performed of the capabilities.	9.7 Demonstrate the capability for making rapid assessment of the actual or potential magnitude and locations of any radiological hazards through liquid or gaseous release pathways.
	9.8 The capability exists to detect and measure radioiodine concentrations in air in the plume exposure EPZ, as low as 10-7 µCi/cc (microcuries per cubic centimeter) under field conditions. [I.9] ITAAC Element addressed in: COL EP II.I.8	9.8 A test of Fermi 3 field survey instrumentation will be performed to verify the capability to detect airborne concentrations as low as 1E-07 microcuries per cubic centimeters.	9.8 Instrumentation used for monitoring I-131 to detect airborne concentrations as low as 1E-07 microcuries per cubic centimeters has been provided.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
	9.9 The means exist to estimate integrated dose from the projected and actual dose rates, and for comparing these estimates with the EPA protective action guides (PAGs). [I.10] ITAAC Element addressed in: COL EP II.I.9, Appendix 4	9.9 An analysis of the methodology contained in the emergency plan implementing procedures for estimating dose and preparing protective action recommendations, and in the ODCM, will be performed to verify the ability to estimate an integrated dose from projected and actual dose rates.	9.9 Emergency plan implementing procedure, “Dose Assessment Methodology,” and the ODCM estimate an integrated dose.

Table 2.3-1
ITAAC For Emergency Planning

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
10.0 Protective Response			
10 CFR 50.47(b)(10) – A range of protective actions has been developed for the plume exposure EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure EPZ appropriate to the locale have been developed.	10.1 The means exist to warn and advise onsite individuals of an emergency, including those in areas controlled by the operator, including:[J.1] 1. employees not having emergency assignments; 2. visitors; 3. contractor and construction personnel; and 4. other persons who may be in the public access areas, on or passing through the site, or within the owner controlled area. ITAAC Element addressed in: COL EP II.J.1.	10.1 A test of the onsite warning and communications capability emergency plan implementing procedures including protective action guidelines, assembly and accountability and site dismissal will be performed during a drill or exercise.	10.1.1 Demonstrate the capability to direct and control emergency operations. 10.1.2 Demonstrate the ability to transfer emergency direction from the control room (simulator) to the TSC within 30 minutes from activation. 10.1.3 Demonstrate the ability to prepare for 24-hour staffing requirements. 10.1.4 Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. 10.1.5 Demonstrate the ability to perform site dismissal. 10.1.6 Demonstrate the ability to provide warnings and instructions to individuals outside the protected area, but within the Owner Controlled Area.
	10.2 The means exist to radiological monitor people evacuated from the site. [J.3]	10.2 A test of the emergency plan implementing procedures will be performed.	10.2 Demonstrate the ability to perform radiological monitoring of people evacuated from the site during a drill or exercise.
	10.3 The means exists to notify and protect all segments of the transient and resident population. [J.10]	10.3 An analysis of offsite emergency plans will be performed.	10.3 State and local plans or procedures provide methods to notify and protect all segments of the transient and resident population.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
11.0 Radiological Exposure Control			
10 CFR 50.47(b)(11) – Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity PAGs.	11.1 The means exists to provide onsite radiation protection. [K.2]	11.1 A test will be performed of the capabilities.	11.1 Note: Demonstration of the ability to provide onsite radiation protection during an emergency is addressed in Acceptance Criteria 9.1.B.1 and 9.1.B.2 and under exercise/drill objectives and Performance Criteria identified in Acceptance Criteria 14.1.1.E.1 and 14.1.1.E.2.
	11.2 The means exists to provide 24-hour-per-day capability to determine the doses received by emergency personnel and maintain dose records. [K.3]	11.2 A test will be performed of the capabilities.	11.2 Note: Demonstration of the ability to determine the doses received by Detroit Edison emergency workers and to maintain dose records continuously during an emergency is addressed in Acceptance Criterion 9.1.B.2 and under exercise/drill objectives and Performance Criteria identified in Acceptance Criterion 14.1.1.E.2.
	11.3 The means exists to decontaminate relocated onsite and emergency personnel, including waste disposal. [K.5.b, K.7]	11.3 A test will be performed of the capabilities.	11.3 Demonstrate the ability to decontaminate relocated onsite and Detroit Edison emergency workers, including waste disposal, during a drill or exercise.
	11.4 The means exists to provide onsite contamination control measures. [K.6]	11.4 A test will be performed of the capabilities.	11.4 Demonstrate the ability to perform onsite contamination control measures during a drill or exercise.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
12.0 Medical and Public Health Support			
10 CFR 50.47(b)(12) – Arrangements are made for medical services for contaminated, injured individuals.	12.1 Arrangements have been implemented for local and backup hospital and medical services having the capability for evaluation of radiation exposure and uptake. [L.1]	12.1 An analysis of letters of agreement will be performed.	12.1 Arrangements have been implemented with Mercy Memorial Hospital in Monroe Michigan, and Oakwood Southshore Medical Center in Trenton, Michigan, for evaluation of radiation exposure and uptake.
	12.2 The means exists for onsite first aid capability. [L.2]	12.2 A test will be performed of the capabilities.	12.2 Demonstrate the ability to provide onsite first aid during an emergency.
	12.3 Arrangements have been implemented for transporting victims of radiological accidents, including contaminated injured individuals, from the site to offsite medical support facilities. [L.4]	12.3 An analysis of letters of agreement will be performed.	12.3 Arrangements have been implemented for transporting victims of radiological accidents, including contaminated injured individuals, from the site to offsite medical support facilities.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
13.0 Recovery and Reentry Planning and Post-Accident Operations			
10 CFR 50.47(b)(13) – General plans for recovery and reentry are developed.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.	Not used. Provided for consistency with Reg. Guide 1.206 Table C.II.1-B1 Emergency Planning—Generic Inspection, Test, Analysis, and Acceptance Criteria (EP-ITAAC) ITAAC numbering scheme.

Table 2.3-1
ITAAC For Emergency Planning

Planning Standard	EP Program Elements	Inspections, Tests, Analyses	Acceptance Criteria
14.0 Exercises and Drills			
10 CFR 50.47(b)(14) – Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.	14.1 Licensee conducts a full participation exercise to evaluate major portions of emergency response capabilities, which includes participation by each State, local and provincial agency within the plume exposure EPZ, and each State and provincial agency within the ingestion exposure EPZ. [N.1] ITAAC Element addressed in: COL EP II.N.1.	14.1 A full participation exercise (test) will be conducted within the specified time periods of Appendix E to 10 CFR Part 50.	14.1.1 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, onsite exercise objectives listed below have been met, and there are no uncorrected onsite exercise deficiencies. *A. Accident Assessment and Classification* 1. Demonstrate the ability to identify initiating conditions, determine emergency action level (EAL) parameters, and correctly classify the emergency throughout the exercise. Performance Criterion: a. Determine the correct highest emergency classification level based on events which were in progress, considering past events and their impact on the current conditions, within 15 minutes of indications for an emergency event.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
			B. Notifications 1. Demonstrate the ability to alert, notify and mobilize site emergency response personnel. Performance Criteria: a. Complete the designated actions in accordance with emergency plan implementing procedures and perform the announcement within 15 minutes of the initial event classification for an Alert or higher b. Mobilize site emergency responders in accordance with emergency plan implementing procedures within 15 minutes of the initial event classification for an Alert or higher. 2. Demonstrate the ability to notify responsible State and local government agencies within 15 minutes and the NRC within 60 minutes after declaring an emergency. Performance Criteria: a. Transmit information in accordance with approved emergency plan implementing procedures beginning within 15 minutes after event classification. b. Transmit information in accordance with approved emergency plan implementing procedures, beginning within 60 minutes after last transmittal for a follow-up notification to State and local authorities. c. Transmit information in accordance with emergency plan implementing procedures immediately following state and local notification and within 60 minutes of event classification for an initial notification of the NRC. 3. Demonstrate the ability to warn or advise onsite individuals of emergency conditions. Performance Criteria: a. Initiate notification of onsite individuals within 15 minutes of notification.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
			C. Emergency Response 1. Demonstrate the capability to direct and control emergency operations. Performance Criterion: a. Command and control is demonstrated by the control room in the early phase of the emergency, and the technical support center (TSC) within 60 minutes of declaration of an Alert or higher emergency classification. 2. Demonstrate the ability to transfer emergency direction from the control room (simulator) to the TSC upon activation. Performance Criteria: a. Turnover briefings are conducted in accordance with emergency plan implementing procedures. b. Documentation of transfer of duties is completed in accordance with emergency plan implementing procedures. 3. Demonstrate the ability to prepare for 24-hour staffing requirements. Performance Criterion: a. Complete 24-hour staff assignments. 4. Demonstrate the ability to perform assembly and accountability for all onsite individuals within 30 minutes of an emergency requiring protected area assembly and accountability. Performance Criterion: a. Protected area (PA) personnel assembly and accountability completed within 30 minutes of an emergency requiring PA assembly and accountability.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
			D. Emergency Response Facilities 1. Demonstrate activation of the operational support center (OSC), and full functional operation of the TSC and EOF within 60 minutes declaration of Alert or higher emergency classification. Performance Criterion: a. The TSC, EOF and OSC are activated within about 60 minutes of the initial notification. 2. Demonstrate the adequacy of equipment, security provisions, and habitability precautions for the TSC, OSC and EOF as appropriate. Performance Criteria: a. Emergency equipment in the emergency response facilities as specified in emergency plan implementing procedures was available to emergency responders. b. The Security Force implements and follows applicable emergency plan implementing procedures. c. The Radiation Protection Coordinator implements designated responsibilities in accordance with emergency plan implementing procedures if an onsite/offsite release has occurred. 3. Demonstrate the adequacy of communications for all emergency support resources. Performance Criteria: a. Emergency response facility personnel are able to operate communication systems in accordance with emergency plan implementing procedures. b. Clear primary and backup communications links are established and maintained for the duration of the exercise.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
			E. Radiological Assessment and Control 1. Demonstrate the ability to obtain onsite radiological surveys and samples. Performance Criteria: a. Radiation Protection Technicians demonstrate the ability to obtain appropriate instruments (range and type) and perform surveys. b. Airborne samples are taken in accordance with emergency plan implementing procedures. 2. Demonstrate the ability to continuously monitor and control radiation exposure to emergency workers. Performance Criteria: a. Emergency workers are issued self reading dosimeters when radiation levels require, and exposures are controlled to 10 CFR Part 20 limits (unless the Emergency Director authorizes emergency limits). b. Exposure records are available c. Emergency workers include Security and personnel within all emergency facilities. 3. Demonstrate the ability to assemble and deploy field monitoring teams within 60 minutes from the decision to do so. Performance Criterion: a. One offsite Radiological Emergency Team (RET) is ready to be deployed within 15 - 30 minutes of their arrival. In addition, an offsite monitoring team must be able to be dispatched within 60 minutes of an Alert or higher emergency classification.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
			E. Radiological Assessment and Control (continued) 4. Demonstrate the ability to collect and disseminate field team data. Performance Criteria: a. RET collects data for dose rate and airborne radioactivity levels in accordance with emergency plan implementing procedures. b. RET communicates data to the TSC and/or EOF in accordance with emergency plan implementing procedures. 5. Demonstrate the ability to develop dose projections. Performance Criterion: a. Timely and accurate dose projections are performed in accordance with emergency plan implementing procedures. 6. Demonstrate the ability to make the decision whether to issue radioprotective drugs (KI) to Detroit Edison emergency workers. Performance Criterion: a. KI is taken (simulated) if the estimated dose to the thyroid will exceed 25 rem committed dose equivalent (CDE). 7. Demonstrate the ability to develop appropriate protective action recommendations (PARs) and notify appropriate authorities within 15 minutes of development. Performance Criteria: a. Total effective dose equivalent (TEDE) and CDE dose projections from the dose assessment computer code are compared in accordance with emergency plan implementing procedures. b. PARs are developed within 15 minutes of data availability. c. PAR's are transmitted via voice or fax within 15 minutes of event classification and/or PAR development.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
			F. Public Information 1. Demonstrate the capability to develop and disseminate clear, accurate, and timely information to the news media in accordance with emergency plan implementing procedures. Performance Criteria: a. The Joint Information Center (JIC) is activated within 60 minutes following the declaration of a Site Area Emergency or higher classification. b. Follow-up information is provided to the news media, during scheduled news conferences and media briefings. 2. Demonstrate the capability to establish and effectively operate rumor control in a coordinated fashion. Performance Criteria: a. Calls are answered in a timely manner with the correct information, in accordance with emergency plan implementing procedures. b. Calls are returned or forwarded, as appropriate, to demonstrate responsiveness. c. Rumors are identified and addressed in accordance with emergency plan implementing procedures. *G. Evaluation* 1. Demonstrate the ability to conduct a post-exercise critique, to determine areas requiring improvement and corrective action. Performance Criteria: a. An exercise time line is developed, followed by an evaluation of the objectives. b. Significant problems in achieving the objectives are discussed to ensure understanding of why objectives were not fully achieved. c. Recommendations for improvement in non-objective areas are discussed.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
			14.1.2 Onsite emergency response personnel are mobilized in sufficient number to fill the emergency positions identified in the Fermi 3 Combined License Application Emergency Plan, section II.B, Emergency Response Organization, and they successfully perform their assigned responsibilities as outlined in Acceptance Criterion 14.1.1.D. 14.1.3 The exercise is completed within the specified time periods of Appendix E to 10 CFR Part 50, offsite exercise objectives have been met, and there are either no uncorrected offsite exercise deficiencies or a license condition requires offsite deficiencies to be addressed prior to operation above 5% of rated power.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
15.0 Radiological Emergency Response Training			
10 CFR 50.47(b)(15) – Radiological emergency response training is provided to those who may be called upon to assist in an emergency.	15.1 Site-specific emergency response training has been provided for those who may be called upon to provide assistance in the event of an emergency. [O.1]	15.1 An inspection of training records will be performed.	15.1 Site-specific emergency response training has been provided for local fire departments, law enforcement, ambulance, and hospital personnel.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
16.0 Responsibility for the Planning Effort: Development, Periodic Review, and Distribution of the Plan			
10 CFR 50.47(b)(16) – Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.	16.1 The emergency response plans have been forwarded to all organizations and appropriate individuals with responsibility for implementation of the plans. [P.5]	16.1 An inspection of the distribution letter will be performed.	16.1 The Fermi 3 Combined License Application Emergency Plan has been forwarded to the Michigan State Police, Michigan Department of Environmental Quality, Michigan Department of Health, Monroe County Emergency Management, Wayne County Emergency Management and Province of Ontario.

Table 2.3-1 ITAAC For Emergency Planning			
Planning Standard	**EP Program Elements**	**Inspections, Tests, Analyses**	**Acceptance Criteria**
17.0 Implementing Procedures			
10 CFR Part 50, App. E.V – No less than 180 days prior to the scheduled issuance of an operating license for a nuclear power reactor or a license to possess nuclear material, the applicant's detailed implementing procedures for its emergency plan shall be submitted to the Commission.	17.1 The licensee has submitted detailed implementing procedures for its emergency plan no less than 180 days prior to fuel load.	17.1 An inspection of the submittal letter will be performed.	17.1 Detroit Edison has submitted detailed implementing procedures for the onsite emergency plan to the NRC no less than 180 days prior to fuel load.

2.4 SITE-SPECIFIC ITAAC

The Site Specific ITAAC are provided in the following sections. Site specific systems were evaluated against selection criteria in FSAR Section 14.3. If a site-specific system described in the FSAR does not meet an ITAAC selection criterion, only the system name and the statement “No entry for this system” is provided.

2.4.1 ITAAC FOR FILL CONCRETE UNDER SEISMIC CATEGORY I STRUCTURES

Compactable backfill will not be placed under Fermi 3 Seismic Category I structures. ITAAC for fill concrete placed under Seismic Category I structures to a thickness greater than 5 feet are provided in Table 2.4.1-1.

Table 2.4.1-1
ITAAC for Fill Concrete Under Seismic Category I Structures

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
The foundation grade for the FWSC will be established using fill concrete. Fill concrete placed under Seismic Category I Structures to a thickness greater than 5 feet is designed and tested as specified in FSAR Subsection 2.5.4.5.4.2.	Testing will be performed to determine the mean compressive strength for the fill concrete.	A report exists that demonstrates that the mean 28-day compressive strength of the fill concrete is equal to, or greater than, 31 MPa (4,500 psi).

2.4.2 ITAAC FOR BACKFILL SURROUNDING SEISMIC CATEGORY I STRUCTURES

The ITAAC for compacted backfill surrounding the embedded walls for Seismic Category I structures is provided in Table 2.4.2-1.

Table 2.4.2-1
ITAAC for Backfill Surrounding Seismic Category I Structures

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
1. The engineering properties of backfill material surrounding Seismic Category I structures are equal to or exceed the FSAR Subsection 2.5.4.5.4.2 requirements.	Laboratory tests and field measurements to evaluate the engineering properties of the backfill will be performed. Laboratory testing will include: • Relative density or Proctor tests for density, γ • Direct shear tests for angle of internal friction Field measurements will include: • In-place density tests for density, γ	An engineering report exists that concludes that the engineering properties of backfill material surrounding Seismic Category I structures are equal to or exceed FSAR Subsection 2.5.4.5.4.2 requirements as follows: • Angle of Internal Friction: ≥ 35 degrees • Product of peak ground acceleration, α, (in g), Poisson's ratio, v, and density, γ: α(0.95v+0.65)γ: 1220 kg/m^3 (76 lbf/ft^3) maximum • Soil Density, γ: 2000 kg/m^3 (125 lbf/ft^3) minimum

2.4.3 ITAAC FOR PLANT SERVICE WATER SYSTEM (PORTION OUTSIDE THE SCOPE OF THE CERTIFIED DESIGN)

Design Description

The Plant Service Water System (PSWS) is the heat sink for the Reactor Component Cooling Water System. The PSWS does not perform any safety-related function. There is no interface with any safety-related component.

The PSWS cooling towers and basins are not within the scope of the certified design. A specific design for this portion of the PSWS is described in Section 9.2.1. Interface requirements are necessary for supporting the post-72-hour cooling function of the PSWS. The plant-specific portion of the PSWS shall meet the following interface requirement:

The volume of water shall be sufficient such that no active makeup shall be necessary to remove 2.02×10^7 MJ (1.92×10^{10} BTU) over a period of seven days. Additionally, the PSWS pumps must have sufficient available net positive suction head at the pump suction location for the lowest probable water level of the heat sink.

Inspections, Test, Analyses and Acceptance Criteria

Table 2.4.3-1 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria for the PSWS.

Table 2.4.3-1
ITAAC For Plant Service Water Reserve Storage Capacity

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
1. The volume of water in the PSWS basin shall be sufficient such that:		
a. No active makeup shall be necessary to remove 2.02×10^7 MJ (1.92×10^{10} BTU) over a period of seven days.	a. Inspections and analysis will be performed of the PSWS basin and cooling towers.	a. A report exists and concludes that the volume of water in the PSWS basin is sufficient such that no active makeup is necessary to remove 2.02×10^7 MJ (1.92×10^{10} BTU) over a period of seven days.
b. The PSWS pumps must have sufficient available net positive suction head at the pump suction location for the lowest probable water level of the heat sink.	b. Inspections and analysis will be performed of the PSWS basin.	b. A report exists and concludes that the PSWS pumps have sufficient available net positive suction head at the pump suction location for the lowest probable water level of the heat sink.

2.4.4 CIRCULATING WATER SYSTEM (PORTION OUTSIDE THE SCOPE OF THE CERTIFIED DESIGN)

No entry for this system.

2.4.5 STATION WATER SYSTEM (INCLUDING INTAKE STRUCTURE AND SERVICING EQUIPMENT)

No entry for this system.

2.4.6 YARD FIRE PROTECTION SYSTEM (PORTIONS OUTSIDE SCOPE OF CERTIFIED DESIGN)

No entry for this system.

2.4.7 POTABLE & SANITARY WATER SYSTEMS

No entry for this system.

2.4.8 OFFSITE POWER SYSTEMS

The offsite portion of the Preferred Power Supply (PPS) consists of at least two electrical circuits and associated equipment that are used to interconnect the offsite transmission system with the plant main generator and the onsite portions of the PPS. The PPS consists of the normal preferred and alternate preferred power sources and includes those portions of the offsite power system and the onsite power system required for power flow from the offsite transmission system to the safety-related Isolation Power Centers (IPC) incoming line breakers.

The interface between the normal preferred ESBWR certified plant onsite portion of the PPS and the site-specific offsite portion of the PPS is at the switchyard side terminals of the high side motor operated disconnects (MODs) of the unit auxiliary transformer (UAT) circuit breaker and main generator circuit breaker. The interface between the alternate preferred ESBWR certified plant onsite portion of the PPS and the site specific offsite portion of the PPS is at the switchyard side terminals of the reserve auxiliary transformer (RAT) high side MODs.

The as-built offsite portion of the PPS, from the transmission network to the interface with the onsite portions of the PPS, satisfies the applicable provisions of GDC 17. Specifically. the offsite portion of the PPS shall meet the following interface requirements:

1. At least two independent circuits supply electric power from the transmission network to the interface with the onsite portions of the PPS.
2. Each offsite circuit interfacing with the onsite portions of the PPS is adequately rated to supply the load requirements during design basis operating modes (refer to DCD ITAAC 2.13.1-2, Item 9).
3. During steady state operation. the offsite portion of the PPS is capable of supplying voltage at the interface with the onsite portions of the PPS that will support operation of safety-related loads during design basis operating modes.
4. During steady state operation. the offsite portion of the PPS is capable of supplying required frequency at the interface with the onsite portions of the PPS that will support operation of safety related loads during design basis operating modes.
5. The fault current contribution of the offsite portion of the PPS is compatible with the interrupting capability of the onsite fault current interrupting devices.

Inspection, Test, Analysis and Acceptance Criteria

Table 2.4.8-1 provides a definition of the inspections. tests and/or analyses. together with associated acceptance criteria for the Offsite Power Systems.

Table 2.4.8-1 ITAAC for Offsite Power Systems		
Design Commitment	**Inspections. Tests. and Analysis**	**Acceptance Criteria**
1.Independent offsite power sources supply electric power from the transmission network to the interface with the onsite PPS. a. A minimum of two offsite power circuits are provided to the interface with the onsite PPS and are physically separate.	a. Inspections of the as-built offsite power supply transmission system will be performed.	a. A report exists and concludes the following inspection results: i) At least two offsite transmission circuits are provided to the interface with the onsite PPS. ii) The two offsite power circuits are physically separated by distance or physical barriers so as to minimize to the extent practical the likelihood of their simultaneous failure under design basis conditions. iii) The two offsite power circuits do not have a common takeoff structure or use a common structure for support.
b. The two offsite power circuits interfacing with the onsite PPS are electrically independent.	b. Test of the as-built offsite power system will be conducted by providing a test signal in only one offsite power circuit at a time.	b. A report exists and concludes that a test signal exists in only the circuit under test.
c. The breaker control power. instrumentation. and control circuits for the two offsite Dower circuits interfacing with the onsite PPS are electrically independent.	c. Tests of the as-built offsite breaker control power. instrumentation. and control circuits will be conducted by providing a test signal in only one offsite power circuit at a time.	c. A report exists and concludes that a test signal exists in only the circuit under test.
2.At least two offsite power circuits interfacing with the onsite portions of the PPS are each adequately rated to supply necessary load requirements during design basis operating modes.	2.Analyses of the offsite power system will be performed to evaluate the as-built ratings of each offsite power circuit interfacing with the onsite portions of the PPS against the load requirements determined in DCD ITAAC 2.13.1-2, Item, 9.	2.A report exists and concludes that at least two offsite power circuits from the transmission network up to the interface with the onsite portions of the PPS are each rated to supply the load requirements, during design basis operating modes, of their respective safety-related and nonsafety-related load groups.
3.Under normal steady state operation of the transmission system, the offsite portion of the PPS is capable of supplying required voltage to the interface with the onsite portions of the PPS that will support operation of safety-related loads during design basis operating modes.	3.Analyses of the as-built offsite portion of the PPS will be performed to evaluate the capability of each offsite power circuit to supply the voltage requirements at the interface with the onsite portion of the PPS determined in DCD ITAAC 2.13.1-2, Item 9.	3.A report exists and concludes that as-built offsite portion of the PPS, under normal steady state operation of the transmission system, is capable of supplying voltage at the interface with the onsite portions of the PPS that will support operation of safety-related loads during design basis operating modes.

Table 2.4.8-1 ITAAC for Offsite Power Systems		
Design Commitment	**Inspections. Tests. and Analysis**	**Acceptance Criteria**
4.Under normal steady state operation of the transmission system, the offsite portion of the PPS is capable of supplying required frequency to the interface with the onsite portions of the PPS that will support operation of safety-related loads during design basis operating modes.	4.Analyses of the as-built offsite portion of the PPS will be performed to evaluate the capability of each offsite power circuit to supply the frequency requirements at the interface with the onsite portions of the PPS determined in DCD ITAAC 2.13.1-2, Item 9.	4.A report exists and concludes that as-built offsite portion of the PPS, under normal steady state operation of the transmission system, is capable of supplying required frequency at the interface with the onsite portions of the PPS that will support operation of safety-related loads during design basis operating modes.
5.The fault current contribution of the offsite portion of the PPS is compatible with the interrupting capability of the onsite short circuit interrupting devices.	5.Analyses of the as-built offsite portion of the PPS will be performed to evaluate the fault current contribution of each offsite power circuit at the interface with the onsite portions of the PPS.	5.A report exists and concludes the short circuit contribution of the as-built offsite portion of the PPS at the interface with the onsite portions of the PPS is compatible with the interrupting capability of the onsite fault current interrupting devices as determined in DCD ITAAC 2.13.1-2, Item 10.

2.4.9 COMMUNICATIONS SYSTEMS (EMERGENCY NOTIFICATION SYSTEM)

Addressed in Table 2.3-1, Topic 6.0, Emergency Communications.

2.4.10 MAKEUP WATER SYSTEM

No entry for this system.

2.4.11 (Deleted)

2.4.12 (Deleted)

2.4.13 HYDROGEN WATER CHEMISTRY SYSTEM

No entry for this system.

2.4.14 METEOROLOGICAL MONITORING SYSTEM

No entry for this system.

2.4.15 ITAAC for the Turbine Building

Design Description

The Turbine Building is a Seismic Category II building. The design and analysis of the Turbine Building will preclude any adverse interaction with Seismic Category I structures, considering the soil properties. If necessary, soil-structure interaction (SSI) analyses using Fermi 3 soil properties will be performed following the same methodology used in the ESBWR Standard Plant Turbine Building seismic SSI analyses.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.4.15-1 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria for the Turbine Building.

Table 2.4.15-1
ITAAC For The Turbine Building

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
1. Determine if the Fermi 3 soil properties meet the site parameters in DCD Tier 1 Table 5.1-1. If not, then Fermi 3 site-specific seismic soil-structure interaction (SSI) analyses using the Fermi 3 soil properties will be performed for the Turbine Building (TB). The Fermi 3 TB site-specific seismic SSI analyses shall follow the same methodology used in the ESBWR TB seismic analyses specified in DCD Tier 1 ITAAC Table 2.16.8-1.	Fermi 3 soil properties will be determined. Site-specific SSI and SSSI analyses of the TB will be conducted, if necessary.	The Fermi 3 soil properties either (1) meet the site parameters in DCD Tier 1 Table 5.1-1, or (2) site-specific SSI analyses will be conducted. The results of Fermi 3 site-specific seismic SSI analyses of the TB are compared with the ESBWR TB seismic responses presented in DCD Tier 1 ITAAC Table 2.16.8-1 seismic analyses to confirm the Fermi 3 SSI is adequate for the ESBWR TB seismic design.

2.4.16 ITAAC for the Radwaste Building

Design Description

The Radwaste Building is a Seismic Category NS building. The design and analysis of the Radwaste Building will preclude any adverse interaction with Seismic Category I structures, considering the soil properties. If necessary, soil-structure interaction (SSI) analyses using Fermi 3 soil properties will be performed following the same methodology used in the ESBWR Standard Plant Radwaste Building seismic SSI analyses.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.4.16-1 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria for the Radwaste Building.

Table 2.4.16-1
ITAAC For The Radwaste Building

Design Commitment	Inspections, Tests, and Analyses	Acceptance Criteria
1. Determine if the Fermi 3 soil properties meet the site parameters in DCD Tier 1 Table 5.1-1. If not, then Fermi 3 site-specific seismic soil-structure interaction (SSI) analyses using the Fermi 3 soil properties will be performed for the Radwaste Building (RW). The Fermi 3 RW site-specific seismic SSI analyses shall follow the same methodology used in the ESBWR RW seismic analyses specified in DCD Tier 1 ITAAC Table 2.16.9-1.	Fermi 3 soil properties will be determined. Site-specific SSI and SSSI analyses of the RW will be conducted, if necessary.	The Fermi 3 soil properties either (1) meet the site parameters in DCD Tier 1 Table 5.1-1, or (2) site-specific SSI analyses will be conducted. The results of Fermi 3 site-specific seismic SSI analyses of the RW are compared with the ESBWR RW seismic responses presented in DCD Tier 1 ITAAC Table 2.16.9-1 seismic analyses to confirm the Fermi 3 SSI is adequate for the ESBWR RW seismic design.

2.4.17 ITAAC for the Service Building

Design Description

The Service Building is a Seismic Category II building. The design and analysis of the Service Building will preclude any adverse interaction with Seismic Category I structures, considering the soil properties. If necessary, soil-structure interaction (SSI) analyses using Fermi 3 soil properties will be performed following the same methodology used in the ESBWR Standard Plant Service Building seismic SSI analyses.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.4.17-1 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria for the Service Building.

Table 2.4.17-1 ITAAC For The Service Building		
Design Commitment	**Inspections, Tests, and Analyses**	**Acceptance Criteria**
1. Determine if the Fermi 3 soil properties meet the site parameters in DCD Tier 1 Table 5.1-1. If not, then Fermi 3 site-specific seismic soil-structure interaction (SSI) analyses using the Fermi 3 soil properties will be performed for the Service Building (SB). The Fermi 3 SB site-specific seismic SSI analyses shall follow the same methodology used in the ESBWR SB seismic analyses specified in DCD Tier 1 ITAAC Table 2.16.10-1.	Fermi 3 soil properties will be determined. Site-specific SSI and SSSI analyses of the SB will be conducted, if necessary.	The Fermi 3 soil properties either (1) meet the site parameters in DCD Tier 1 Table 5.1-1, or (2) site-specific SSI analyses will be conducted. The results of Fermi 3 site-specific seismic SSI analyses of the SB are compared with the ESBWR SB seismic responses presented in DCD Tier 1 ITAAC Table 2.16.10-1 seismic analyses to confirm the Fermi 3 SSI is adequate for the ESBWR SB seismic design.

2.4.18 ITAAC for the Ancillary Diesel Building

Design Description

The Ancillary Diesel Buildingis a Seismic Category II building. The design and analysis of the Ancillary Diesel Building will preclude any adverse interaction with Seismic Category I structures, considering the soil properties. If necessary, soil-structure interaction (SSI) analyses using Fermi 3 soil properties will be performed following the same methodology used in the ESBWR Standard Plant Ancillary Diesel Building seismic SSI analyses.

Inspections, Tests, Analyses, and Acceptance Criteria

Table 2.4.18-1 provides a definition of the inspections, tests, and/or analyses, together with associated acceptance criteria for the Ancillary Diesel Building.

Table 2.4.18-1 ITAAC For The Ancillary Diesel Building		
Design Commitment	**Inspections, Tests, Analyses**	**Acceptance Criteria**
1. Determine if the Fermi 3 soil properties meet the site parameters in DCD Tier 1 Table 5.1-1. If not, then Fermi 3 site-specific seismic soil-structure interaction (SSI) analyses using the Fermi 3 soil properties will be performed for the Ancillary Diesel Building (ADB). The Fermi 3 ADB site-specific seismic SSI analyses shall follow the same methodology used in the ESBWR ADB seismic analyses specified in DCD Tier 1 ITAAC Table 2.16.11-1.	Fermi 3 soil properties will be determined. Site-specific SSI and SSSI analyses of the ADB will be conducted, if necessary.	The Fermi 3 soil properties either (1) meet the site parameters in DCD Tier 1 Table 5.1-1, of (2) site-specific SSI analyses will be conducted. The results of Fermi 3 site-specific seismic SSI analyses of the ADB are compared with the ESBWR ADB seismic responses presented in DVD Tier 1 ITAAC Table 2.16.11-1 seismic analyses to confirm the Fermi 3 SSI is adequate for the ESBWR ADB seismic design.

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.

3.2 License Conditions for Initial Test Program

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

3.2.1 Startup Administrative Manual, STD COL 14.2-2-A

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

3.2.2 Preoperational and Startup Test Procedures, STD COL 14.2-3-A

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

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

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

3.2.4 Power Ascension Test Phase Reports

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

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

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

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

3.2.5 Test Changes

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

3.3 License Conditions for Byproduct, Source and Special Nuclear Material

The proposed following standard license conditions and requirements for COLs regarding 10 CFR Parts 30, 40, and 70 are considered appropriate to support the Detroit Edison Fermi 3 COL:

1. (i) Pursuant to the Act and 10 CFR Part 70, to receive and possess at any time, special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, described in the final safety analysis report (FSAR), as supplemented and amended

   (ii) Pursuant to the Act and 10 CFR Part 70, to use special nuclear material as reactor fuel, after the finding in Section 2.D (1) of this license has been made, in accordance with the limitations for storage and amounts required for reactor operation, and described in the FSAR, as supplemented and amended;

2. Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use, at any time, any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoringequipment calibration, and as fission detectors in amounts as required;

3. Pursuant to the Act and 10 CFR Parts 30,40, and 70, to receive, possess, and use in amounts as required, any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

4. Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of thefacility.

3.4 (Deleted)

3.5 Operational Program Implementation

The provisions of the regulations address implementation milestones for some operational programs. The NRC will use license conditions to ensure implementation for those operational programs whose implementation is not addressed in the regulations. FSAR Table 13.4-201 identifies several programs required by regulations that must be implemented by a milestone to be identified in a license condition:

The licensee shall implement the programs or portions of the programs identified below on or before the associated milestones identified below.

3.5.1 18 months prior to Fuel Load

The licensee shall implement the operational program identified below at least 18 months prior to scheduled date of initial fuel load.

- Reactor Operator Training Program

3.5.2 Receipt of Materials

The licensee shall implement the operational program identified below prior to initial receipt of byproduct, source, or special nuclear materials onsite (excluding Exempt Quantities as described in 10 CFR 30.18).

- Radiation Protection Program (for elements necessary to support receipt of byproduct, source, or special nuclear materials onsite)

3.5.3 Fuel Receipt

The licensee shall implement each operational program identified below prior to initial receipt of fuel onsite.

- Fire Protection Program (for elements necessary to support receipt and storage of fuel onsite)
- Radiation Protection Program (for elements necessary to support receipt and storage of fuel onsite)

3.5.4 60 days prior to Preoperational Testing

The licensee shall implement the operational program identified below 60 days prior to the scheduled date of the first preoperational test.

- Initial Test Program – Preoperational Test Program

3.5.5 Fuel Load Authorization

The licensee shall implement the operational program identified below prior to fuel load authorization per 10 CFR 52.103(g).

- Mitigative Strategies Description and Plans

3.5.6 60 days prior to Fuel Loading

The licensee shall implement the operational program identified below 60 days prior to the scheduled date of initial fuel load.

- Initial Test Program – Startup Test Program

3.5.7 Fuel Loading

The licensee shall implement each operational program identified below prior to initial fuel load.

- Environmental Qualification Program
- Reactor Vessel Material Surveillance Program
- Preservice Testing Program
- Fire Protection Program (for elements necessary to support fuel load and plant operation)
- Process and Effluent Monitoring and Sampling Program
- Radiation Protection Program (for elements necessary to support fuel load and plant operation)
- Snubber Testing and Inspection Program – Preservice Testing Program
- Lifecycle Minimization of Contamination

3.5.8 Commercial Service

The licensee shall implement the operational program identified below prior to initial commercial service.

- Flow-Accelerated Corrosion Program

3.5.9 Waste Shipment

The licensee shall implement the operational program identified below prior to initial radioactive waste shipment.

- Radiation Protection Program (for elements necessary to support shipment of radioactive waste)

3.6 Operational Program Readiness

The licensee shall submit to the appropriate Director of the NRC, a schedule, no later than 12 months after issuance of the COL, that supports planning for and conduct of NRC inspections of operational programs listed in the operational program FSAR Table 13.4-201. The schedule shall be updated every 6 months until 12 months before scheduled fuel loading, and every month thereafter until either the operational programs in the FSAR table have been fully implemented or the plant has been placed in commercial service, whichever comes first. This schedule shall also address:

a. The implementation of site specific Severe Accident Management Guidance.

b. The spent fuel rack coupon monitoring program implementation.

3.7 Emergency Planning Actions

Because various equipment set points and other information cannot be determined until as-built information is available, the COLA does not fully address certain aspects of the Emergency Action Level (EAL) scheme. Thus, COL applicants using EAL schemes in accordance with NEI 07-01 are proposed the following license condition:

The licensee shall submit a fully developed set of site-specific EALs to the NRC in accordance with the NRC-endorsed version of NEI 07-01, Revision 0, with no deviations. The fully developed site-specific EAL scheme shall be submitted to the NRC for confirmation at least 180 days prior to initial fuel load.

3.8 Fukushima Actions

3.8.1 Emergency Planning Actions

The applicant is proposing the following license condition related to staffing:

At least two (2) years prior to scheduled initial fuel load, the licensee shall have performed an assessment of the onsite and augmented staffing capability to satisfy the regulatory requirements for response to a multi-unit event. The staffing assessment will be performed in accordance with NEI 12-01, “Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities,” Revision 0, or other NRC endorsed guidance in effect six months prior to commencement of the assessment.

At least two (2) years prior to scheduled initial fuel load, the licensee shall revise the Fermi 3 Emergency Plan to include the following:

- Incorporation of corrective actions identified in the staffing assessment described above.
- Identification of how the augmented staff will be notified given degraded communications capabilities.

The applicant is proposing the following license condition related to communications:

At least two (2) years prior to scheduled initial fuel load, the licensee shall have performed an assessment of on-site and offsite communications systems and equipment required during an emergency event to ensure communications capabilities can be maintained during prolonged station blackout conditions. The communications capability assessment will be performed in accordance with NEI 12-01, “Guidance for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities,” Revision 0, or other NRC approved guidance in effect six months prior to completion of the assessment.

At least one hundred eighty (180) days prior to scheduled initial fuel load, the licensee shall complete implementation of corrective actions identified in the communications capability assessment described above, including any related emergency plan and implementing procedure changes and associated training.

3.8.2 Mitigation Strategies for Beyond-Design-Basis External Events

Prior to initial fuel load, the following actions will be fully implemented associated with mitigation strategies including procedures, guidance, training, and acquisition, staging, or installation of equipment needed for the strategies:

A. Develop, implement, and maintain guidance and strategies to maintain or restore core, containment, and spent fuel pool cooling capabilities following a beyond-design-basis external event. These strategies must:

   - Be capable of mitigating a simultaneous loss of all AC power and loss of normal access to the normal heat sink, and
   - Have adequate capacity to address challenges for core, containment, and spent fuel pool cooling capabilities at all units on the Fermi 3 site, and
   - Have the capability to be implemented in all modes.

B. Provide reasonable protection for the associated equipment from external events. Such protection must demonstrate that there is adequate capacity to address challenges to core, containment, and spent fuel pool cooling capabilities at all units on the Fermi site.

Within one (1) year after issuance of the Fermi 3 COL, an overall integrated plan shall be submitted to the NRC for review, including a description of how compliance with the requirements described in this license condition will be achieved.

Initial status reports shall be provided to the NRC sixty (60) days following issuance of the Fermi 3 COL and at six (6) month intervals following submittal of the overall integrated plan described above which delineates progress made in implementing the requirements of this license condition.

3.8.3 Reliable Spent Fuel Pool/Buffer Pool Level Instrumentation

Prior to initial fuel load, the following requirements for spent fuel pool/buffer pool level indication will be fully implemented.

A. The spent fuel pool/buffer pool level instrumentation shall include the following design features:

   1. Power supplies: Instrumentation channels shall provide for power connections from sources independent of the plant alternating current (AC) and direct current (DC) power distribution systems, such as portable generators or replaceable batteries. Power supply designs should provide for quick and accessible connection of sources independent of the plant AC and DC power distribution systems. Onsite generators used as an alternate power source and replaceable batteries used for instrument channel power shall have sufficient capacity to maintain the level indication function until offsite resource availability is reasonably assured.
   2. Accuracy: The instrument shall maintain its designed accuracy following a power interruption or change in power source without recalibration.

B. The spent fuel pool/buffer pool instrumentation shall be maintained available and reliable through appropriate development and implementation of a training program. Personnel shall be trained in the use and the provision of alternate power to the safety-related level instrument channels.

Within one (1) year after issuance of the Fermi 3 COL, an overall integrated plan shall be submitted to the NRC for review, including a description of how compliance with the requirements described in this license condition will be achieved.

Initial status reports shall be provided to the NRC sixty (60) days following issuance of the Fermi 3 COL and at six (6) month intervals following submittal of the overall integrated plan described above which delineates progress made in implementing the requirements of this license condition.

3.9 Explosively Actuated Valves

Consistent with the licensing of other passive design new reactors, the NRC staff has prepared a license condition directing the implementation of a surveillance program for squib valves in the Gravity Driven Cooling System and the Automatic Depressurization System at Fermi 3 prior to fuel load to supplement the IST requirements in the ASME OM Code. The license condition is as follows:

Before initial fuel load, the licensee shall implement a surveillance program for explosively actuated valves (squib valves) in the Gravity Driven Cooling System and the Automatic Depressurization System at Fermi 3 that includes the following provisions in addition to the requirements specified in the ASME *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code) as incorporated by reference in 10 CFR 50.55a.

a. Preservice Testing

   All explosively actuated valves shall be preservice tested by verifying the operational readiness of the actuation logic and associated electrical circuits for each explosively actuated valve with its pyrotechnic charge removed from the valve. This must include confirmation that sufficient electrical parameters (voltage, current, resistance) are available at the explosively actuated valve from each circuit that is relied upon to actuate the valve. In addition, a sample of at least 20 percent of the pyrotechnic charges in all explosively actuated valves shall be tested in the valve or a qualified test fixture to confirm the capability of each sampled pyrotechnic charge to provide the necessary motive force to operate the valve to perform its intended function without damage to the valve body or connected piping. The sampling must select at least one explosively actuated valve from each redundant safety train. Corrective action shall be taken to resolve any deficiencies identified in the operational readiness of the actuation logic or associated electrical circuits, or the capability of a pyrotechnic charge. If a charge fails to fire or its capability is not confirmed, all charges with the same batch number shall be removed, discarded, and replaced with charges from a different batch number that has demonstrated successful 20 percent sampling of the charges.

b. Operational Surveillance

   Explosively actuated valves shall be subject to the following surveillance activities after commencing plant operation:

   (1) At least once every 2 years, each explosively actuated valve shall undergo visual external examination and remote internal examination (including evaluation and removal of fluids or contaminants that may interfere with operation of the valve) to verify the operational readiness of the valve and its actuator. This examination shall also verify the appropriate position of the internal actuating mechanism and proper operation of remote position indicators. Corrective action shall be taken to resolve any deficiencies identified during the examination with post-maintenance testing conducted that satisfies the PST requirements.

   (2) At least once every 10 years, each explosively actuated valve shall be disassembled for internal examination of the valve and actuator to verify the operational readiness

of the valve assembly and the integrity of individual components and to remove any foreign material, fluid, or corrosion. The examination schedule shall provide for each valve design used for explosively actuated valves at the facility to be included among the explosively actuated valves to be disassembled and examined every 2 years. Corrective action shall be taken to resolve any deficiencies identified during the examination with post-maintenance testing conducted that satisfies the PST requirements.

(3) For explosively actuated valves selected for test sampling every 2 years in accordance with the ASME OM Code, the operational readiness of the actuation logic and associated electrical circuits shall be verified for each sampled explosively actuated valve following removal of its charge. This must include confirmation that sufficient electrical parameters (voltage, current, resistance) are available for each valve actuation circuit. Corrective action shall be taken to resolve any deficiencies identified in the actuation logic or associated electrical circuits.

(4) For explosively actuated valves selected for test sampling every 2 years in accordance with the ASME OM Code, the sampling must select at least one explosively actuated valve from each redundant safety train. Each sampled pyrotechnic charge shall be tested in the valve or a qualified test fixture to confirm the capability of the charge to provide the necessary motive force to operate the valve to perform its intended function without damage to the valve body or connected piping. Corrective action shall be taken to resolve any deficiencies identified in the capability of a pyrotechnic charge in accordance with the PST requirements.

This license condition shall expire upon (1) incorporation of the above surveillance provisions for explosively actuated valves into the facility's inservice testing program, or (2) incorporation of inservice testing requirements for explosively actuated valves in new reactors (i.e., plants receiving a construction permit, or combined license for construction and operation, after January 1, 2000) to be specified in a future edition of the ASME OM Code as incorporated by reference in 10 CFR 50.55a, including any conditions imposed by the NRC, into the facility's inservice testing program.

This license condition supplements the current requirements in the ASME OM Code for explosively actuated valves, and sets forth requirements for both pre-service testing and operational surveillance, as well as any necessary corrective action. The license condition will expire when either (1) the license condition is incorporated into the Fermi 3 IST program; or (2) the updated ASME OM Code requirements for squib valves in new reactors, as accepted by the NRC in 10 CFR 50.55a, are incorporated into the Fermi 3 IST program. For the purpose of satisfying the license condition, the licensee retains the option of including in its IST program either the requirements stated in this condition, or including updated ASME Code requirements.