



Entergy Operations, Inc.  
17265 River Road  
Killona, LA 70057-3093  
Tel 504-739-6660  
Fax 504-739-6698  
mchisum@entergy.com

**Michael R. Chisum**  
Vice President - Operations  
Waterford 3

W3F1-2016-0003

January 18, 2016

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

**SUBJECT:** Revised Licensing Actions and Implementation Items Regarding Adoption of National Fire Protection Association Standard NFPA 805 License Amendment Request (LAR)  
Waterford Steam Electric Station, Unit 3 (Waterford 3)  
Docket No. 50-382  
License No. NPF-38

- REFERENCES:**
1. Entergy letter W3F1-2011-0074, "License Amendment Request to Adopt NFPA 805 Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants (2001 Edition)", Waterford Steam Electric Station, Unit 3 dated November 17, 2011 [ML113220230]
  2. Entergy letter W3F1-2012-0005, "Supplemental Information in Support of the NRC Acceptance Review of Waterford 3 License Amendment Request to Adopt NFPA 805, Waterford Steam Electric Station, Unit 3" dated January 26, 2012 [ML12027A049]
  3. Entergy letter W3F1-2013-0048, "Supplement to NFPA 805 License Amendment Request (LAR) Waterford Steam Electric Station, Unit 3" dated December 18, 2013 [ML13365A325]
  4. NRC letter to Entergy dated July 13, 2015, "Request for Additional Information RE: License Amendment Request to Transition to National Fire Protection Association Standard 805" (TAC NO. ME7602) [ML15182A346]
  5. NRC letter to Entergy dated July 21, 2015, "Request for Additional Information RE: License Amendment Request to Transition to National Fire Protection Association Standard 805" (TAC NO. ME7602) [ML15197A229]
  6. Entergy letter W3F1-2015-0057, "Responses to Request for Additional Information Regarding Adoption of National Fire Protection Association Standard NFPA 805 License Amendment Request (LAR) Waterford Steam Electric Station, Unit 3" dated August 31, 2015.
  7. Entergy letter W3F1-2015-0078, "Revised Implementation Item Regarding Adoption of National Fire Protection Association Standard NFPA 805 License Amendment Request (LAR) Waterford Steam Electric Station, Unit 3" dated September 24, 2015

Dear Sir or Madam:

By letter dated November 17, 2011, as supplemented by letters dated January 26, 2012, and December 18, 2013 (References 1 through 3 respectively), Entergy Operations, Inc. (Entergy), submitted a license amendment request (LAR) to transition its fire protection license basis at the Waterford Steam Electric Station, Unit 3, from paragraph 50.48(b) of Title 10 of the *Code of Federal Regulations* (10 CFR) to 10 CFR 50.48(c), "National Fire Protection Association Standard 805" (NFPA 805).

The LAR Supplement provided in Reference 3 represents changes to specified LAR Attachments and supporting calculations primarily as a result of performing extensive reanalysis utilizing only NRC-accepted methods. Two Requests for Additional Information letters were received on July 13, 2015 (Fire Modeling RAIs) and July 21, 2015 (Probabilistic Risk Analysis RAIs) via References 4 and 5. The responses to these RAIs were provided in Reference 6.

During a clarification call between the NRC and Entergy on September 21, 2015, the NRC requested that implementation item S2-22 be revised to include relevant information contained in Reference 6. The revised implementation item S2-22 was provided in Reference 7.

On January 7, 2016, the NRC project manager requested that Entergy provide updated versions of Attachment M (Licensing Condition Changes) and Attachment S (Plant Modifications and Items to be Completed During Implementation). These updated LAR attachments are provided in Enclosures 1 and 2. Enclosure 3 contains the Operating License markup of section 2.C.9, Fire Protection. Section 6.8.1 of Technical Specifications is unchanged from the markup provided in Enclosure 2 of Reference 1.

There are no new regulatory commitments contained in this submittal. If you require additional information, please contact the Regulatory Assurance Manager, John Jarrell at 504-739-6685.

I declare under penalty of perjury that the foregoing is true and correct. Executed on January 18, 2016.

Sincerely,

A handwritten signature in black ink, appearing to read 'MRC/AJH', with a stylized flourish at the end.

MRC/AJH

Enclosures:    1. Updated Attachment M – Licensing Condition Changes  
                     2. Updated Attachment S – Plant Modifications and Items to be Completed  
                                 During Implementation  
                     3. Operating License Section 2.C.9 (markup)

cc: Marc L. Dapas  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
1600 E. Lamar Blvd.  
Arlington, TX 76011-4511

RidsRgn4MailCenter@nrc.gov

NRC Senior Resident Inspector  
Waterford Steam Electric Station Unit 3  
P.O. Box 822  
Killona, LA 70066-0751

Frances.Ramirez@nrc.gov

U. S. Nuclear Regulatory Commission  
Attn: Dr. April Pulvirenti  
Washington, DC 20555-0001

April.Pulvirenti@nrc.gov

Louisiana Department of Environmental  
Quality  
Office of Environmental Compliance  
Surveillance Division  
P.O. Box 4312  
Baton Rouge, LA 70821-4312

Ji.Wiley@LA.gov

**ENCLOSURE 1**

**W3F1-2016-0003**

**Updated Attachment M – Licensing Condition Changes**

Replace the current Waterford 3 fire protection license condition Section 9.5.1 with the standard license condition in Regulatory Position 3.1 of RG 1.205, modified as shown below. In support of this change, Waterford 3 has developed a Fire PRA during the Waterford 3 transition to NFPA 805.

A markup of the proposed changes in the Operating License is provided in Enclosure 3 of this letter.

---

---

Waterford 3 shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated \_\_\_\_\_ (and supplements dated \_\_\_\_\_) and as approved in the safety evaluation report dated \_\_\_\_\_ (and supplements dated \_\_\_\_\_). Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

#### Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

- (a) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
- (b) Prior NRC review and approval is not required for individual changes that result in a risk increase less than  $1 \times 10^{-7}$ /year (yr) for CDF and less than  $1 \times 10^{-8}$ /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

Other Changes that May Be Made Without Prior NRC Approval

## (1) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is “adequate for the hazard.” Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- “Fire Alarm and Detection Systems” (Section 3.8);
- “Automatic and Manual Water-Based Fire Suppression Systems” (Section 3.9);
- “Gaseous Fire Suppression Systems” (Section 3.10); and,
- “Passive Fire Protection Features” (Section 3.11).

This condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

## (2) Fire Protection Program Changes that Have No More than Minimal Risk Impact

Prior NRC review and approval are not required for changes to the licensee’s fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluation report dated \_\_\_\_\_ to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

Transition License Conditions

- (1) Before achieving full compliance with 10 CFR 50.48(c), as specified by (2) and (3) below, risk informed changes to the licensee’s fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (2) above.
- (2) The licensee shall implement the modifications to its facility as described in Attachment S, Table S-1 “Plant Modifications” in Entergy Operations, Inc. letter W3F1-2016-0003, dated January 18, 2016, to complete the transition to full compliance with 10 CFR 50.48(c) by

completion of the first refueling outage greater than 12 months following issuance of the license amendment.

The licensee shall maintain appropriate compensatory measures in place until completion of the modification listed as S1-5, (Installation of qualified 1-hour ERFBS fire wrap barrier in Fire Area RAB 6). All other modifications listed in Table S-1 are either installed or have no associated compensatory measure.

- (3) The licensee shall implement the items listed in Attachment S, Table S-2 “Implementation items” in Entergy Operations, Inc. letter W3F1-2016-0003, dated January 18, 2016, within 6 months following issuance of the license amendment.

**ENCLOSURE 2**

**W3F1-2016-0003**

**Updated Attachment S – Plant Modifications  
and Items to be Completed During Implementation**



Table S-1 identifies plant modifications to be completed and includes a description of the modifications along with the following information:

- A problem statement
- Risk ranking of the modification
- An indication if the modification is currently included in the Fire PRA
- Compensatory Measure in place, and
- A risk-informed characterization of the modification and compensatory measure

The following Legend should be used when reviewing the table:

- High = Modification would have an appreciable impact on reducing overall fire CDF.
- Med = Modification would have a measurable impact on reducing overall fire CDF.
- Low = Modification would have either an insignificant or no impact on reducing overall fire CDF.

Table S-1 Plant Modifications

Item	Rank	Problem Statement	Proposed Modification	In Fire PRA	Compensatory Measure	Risk Informed Characterization
S1-1		Deleted (Engineering Report WF3-FP-13-00001 Rev 2)				
S1-2		Deleted (LAR Supplement W3F1-2013-0048)				
S1-3		Deleted (LAR Supplement W3F1-2013-0048)				
S1-4		Deleted (LAR Supplement W3F1-2013-0048)				
S1-5	Low	<p>In Fire Area RAB 6, PRA credits a qualified 1-hour fire resistance rating ERFBS fire wrap barrier from fire damage.</p> <p><u>LAR Source:</u> Attachment A &amp; C (NEI-04-02 Table B-1 VFDR 3.11.5)</p> <p><u>STATUS:</u> ERFBS installed in RAB 6 via Work Orders 155876, 155870 &amp; 155866.</p>	Waterford 3 will install an ERFBS (3M barrier material) in Fire Area RAB 6 EC 10818 is currently in progress. This ERFBS modification will provide a qualified 1- hour fire resistance rating.	Yes	Yes	<p>This modification is not a result of fire risk evaluations, but is assumed in the fire PRA model for Fire Area RAB 6.</p> <p>In accordance with station directives, compensatory measures per FP-001-015 have been established as appropriate.</p>
S1-6		Deleted (LAR Supplement W3F1-2013-0048)				
S1-7		Deleted (RAI PRA 43f).				

Table S-1 Plant Modifications

Item	Rank	Problem Statement	Proposed Modification	In Fire PRA	Compensatory Measure	Risk Informed Characterization
S1-8	Med	<p>NFPA 72E section 3-4.3 code non-compliance identified heat detectors in fire areas listed below have incorrect (lower temperature) factory set point trip range settings for the normal and accident design temperatures for the applicable fire areas.</p> <p>The following six fire areas and systems are identified below:</p> <ol style="list-style-type: none"> <li>1) Diesel Generator A RM (Fire Area RAB 16; Room No. 221)</li> <li>2) Diesel Generator B RM (Fire Area RAB 15; Room No. 222)</li> <li>3) Turbine Lube Oil Tank (TGB Elevation +15).</li> <li>4) Hydrogen Seal Oil Unit (TGB Elevation +40)</li> <li>5) S/G Feed Water Pump A (TGB Elevation +15).</li> <li>6) S/G Feed Water Pump B (TGB Elevation +15).</li> </ol> <p><u>LAR Source:</u> Attachment A (NEI-04-02 Table B-1) VFDR 3.8.2-1</p> <p><u>STATUS:</u> Implemented via Engineering Change EC 36048.</p> <ol style="list-style-type: none"> <li>1) Diesel Generator A RM (WO 386162 – installed and functionally tested)</li> <li>2) Diesel Generator B RM (WO 386162 – installed and functionally tested)</li> <li>3) Turbine Lube Oil Tank (WO 386140 – installed and ready for testing)</li> <li>4) Hydrogen Seal Oil Tank (WO 386140 – installed and ready for testing)</li> <li>5) S/G Feed Water Pump A (WO 386140 – installed and ready for testing)</li> <li>6) S/G Feed Water Pump B (WO 386140 – installed and ready for testing)</li> </ol>	<p>Waterford 3 will install a modification to remove existing fire detection heat detectors and add new (UL listed) heat detectors with factory set point trip settings as described below:</p> <p>DG-A &amp; B Fire Areas RAB 15 &amp; RAB 16 heat detectors (120 degrees F trip set point) will be replaced with new heat detectors with intermediate temperature class (175 to 249 degree F) in the two DG rooms.</p> <p>Two TGB fire areas heat detectors (135 degree F trip set point) will be replaced with heat detectors with intermediate temperature class (175 to 249 degree F) in the four TGB fire areas; Turbine Lube Oil Tank, Hydrogen Seal Oil Unit, S/G Feed Water Pump A, S/G Feed Water Pump B systems.</p>	Yes	No	<p>This modification is not a result of fire risk evaluations, but is assumed in the fire PRA model for the appropriate Fire Area detection systems.</p> <p>This modification will be completed to meet NFPA 805 Code requirements.</p>

Table S-1 Plant Modifications

Item	Rank	Problem Statement	Proposed Modification	In Fire PRA	Compensatory Measure	Risk Informed Characterization
S1-9	Low	<p>Trouble and ground fault signals from the following automatic sprinkler systems transmit dual signals which do not identify the correct sprinkler systems at the main control room fire alarm panel.</p> <p>These areas are listed below:</p> <ol style="list-style-type: none"> <li>1) Unit Auxiliary Transformer 3A &amp; Main Transformer 3A (Transformer Yard).</li> <li>2) Unit Auxiliary Transformer 3B &amp; Main Transformer 3B (Transformer Yard).</li> <li>3) Turbine Lube Oil Tank (TGB Elevation +15; Sprinkler System FPM-5).</li> <li>4) Hydrogen Seal Oil Unit (TGB Elevation +40, Sprinkler System FPM-6).</li> <li>5) S/G Feed Water Pump B (TGB Elevation +15; Sprinkler System FPM-8).</li> <li>6) Under Mezzanine Floor (TGB Elevation +15, Wet Pipe Sprinkler System FPM-10A).</li> <li>7) Under Mezzanine Floor (TGB Elevation +15, Wet Pipe Sprinkler System FPM-10B).</li> </ol> <p><u>LAR Source:</u> Attachment A (NEI-04-02 Table B-1) VFDR 3.8.1-1</p> <p><u>STATUS:</u> Implemented via Engineering Change EC 36048.</p> <p>All installed and ready for testing. WO 386167 for 1) and 2), and WO 386140; for 3) through 7).</p>	<p>Waterford 3 will install a modification to upgrade the fire alarm detection system to correct identified deficiencies.</p> <p>This modification affects the fire detection panel Cerberus/Pyrotronics (UL listed) transmitters.</p>	No	No	<p>The fire alarm signaling system is not credited in the Fire PRA.</p> <p>This modification will be completed to meet NFPA 805 Code requirements.</p>

Table S-1 Plant Modifications

Item	Rank	Problem Statement	Proposed Modification	In Fire PRA	Compensatory Measure	Risk Informed Characterization
S1-10	Low	<p>NFPA 20 section 626.f code non-compliance was identified for the Fire Pump Diesel Engine A &amp; B start batteries.</p> <p>The batteries are installed on the floor in each diesel pump room which is subject to flooding via a water pipe rupture or water leak in one of the diesel pump rooms.</p> <p><u>LAR Source:</u> Attachment A (NEI-04-02 Table B-1) VFDR 3.5.3-2</p> <p><u>STATUS:</u> Complete EC 36049 implemented via WO 386172</p>	Waterford 3 will install a modification for a steel battery rack in accordance with site requirements that will elevate the batteries to protect them from potential flooding.	No	No	<p>The subject flood protection of diesel fire pump battery bank is not credited in the Fire PRA.</p> <p>This modification will be completed to meet NFPA 805 Code requirements.</p>
S1-11	Low	<p>NFPA 20 section 514.e.2 code non-compliance was identified for the electrical fire pump motor. One phase of the three phase motor starter does not have the remote supervisory or monitor function to detect a cable fault, however locally in the fire pump house at the pump controller all three motor phases are locally supervised.</p> <p><u>LAR Source:</u> Attachment A (NEI-04-02 Table B-1) VFDR 3.5.3-2</p> <p><u>STATUS:</u> Complete EC 36049 implemented via WO 386172</p>	Waterford 3 will install or modify as necessary alarm supervisory relays and associated circuits for the 480VAC three phase electrical fire pump motor to provide the remote supervisory or monitor function to detect a cable fault.	No	No	<p>The subject electrical fire pump motor remote supervisory circuit is not credited in the Fire PRA.</p> <p>This modification will be completed to meet NFPA 805 Code requirements.</p>

Table S-1 Plant Modifications

Item	Rank	Problem Statement	Proposed Modification	In Fire PRA	Compensatory Measure	Risk Informed Characterization
S1-12	Low	<p>NFPA 50A section 6-61.613 code non-compliance was identified in outdoor bulk hydrogen storage area.</p> <p>Electrical equipment, components, and installation methods are not in accordance with Article 501 of the National Electrical Code for Class I, Division 2.</p> <p><u>LAR Source:</u> Attachment A (NEI-04-02 Table B-1) VFDR 3.3.7.1-1</p> <p><u>STATUS:</u> Complete EC 36047 implemented via WO 386032</p>	Waterford 3 will install a modification to upgrade the electrical installation at the bulk hydrogen storage area to comply will Article 501 of the National Electrical Code for Class I, Division 2.	No	No	<p>The subject outdoor bulk hydrogen storage area is not credited in the Fire PRA.</p> <p>This modification will be completed to meet NFPA 805 Code requirements.</p>
S1-13	Low	<p>NFPA 50A sections 4-42.423 and 8-82 code non-compliances were identified in outdoor bulk hydrogen storage areas.</p> <p>Ten plastic caps are installed on the top of each (hydrogen safety relief device ten total) vent pipe to prevent water and moisture from collecting and freezing in the winter that will interfere with proper operation of the device.</p> <p>Code section 4-42.423 requires the vent piping to be designed to prevent moisture from collecting and causing freezing of the safety relief devices; however code section 8-82 requires no combustible material within 15 feet of containers which includes the plastic caps.</p> <p><u>LAR Source:</u> Attachment A (NEI-04-02 Table B-1) VFDR 3.3.7.1-1</p> <p><u>STATUS:</u> Complete EC 36047 implemented via WO 386032-02</p>	Waterford 3 will install a modification to identify and replace the vent pipe caps with the correct material.	No	No	<p>The subject outdoors bulk hydrogen storage area is not credited by the PRA.</p> <p>This modification will be completed to meet NFPA 805 Code requirements.</p>

Table S-1 Plant Modifications

Item	Rank	Problem Statement	Proposed Modification	In Fire PRA	Compensatory Measure	Risk Informed Characterization
S1-14	High	The Waterford PRA analysis consider that the personnel offices and other combustible materials presently in Fire Area RAB 27 (RAB+7) needed to be removed to address the impact of potential fire scenarios.  <u>STATUS</u> : Complete EC 50625 implemented under WO 383445	To offset a potential fire risk, the office contents and occupants will be moved or transferred to alternate locations and the area will be returned to an acceptable configuration, absent combustibles.	Yes	No	This configuration change is credited in the fire PRA model. The modification provides a decrease from the threat of the effects of a fire originating from a fire in RAB 27.
SI-15		Deleted (Engineering Report WF3-FP-13-00001 Rev 2)				

Table S-2, Items provided below are those items (procedure changes, process updates, and training to affected plant personnel) that will be completed prior to the implementation of new NFPA 805 fire protection program.

**Table S-2 Implementation Items**

Item	Description	LAR Section / Source
S2-1	Replace Fire Brigade Personal Alert Safety System devices with units that meet Fire Code NFPA 600 - 2000 Edition and NFPA 1982.  <u>STATUS:</u> Complete (LRLAR-2011-00182-CA 31)	Attachment A (NEI-04-02 B-1 Table) VFDR 3.4.1(a)(1)-1
S2-2	Revise plant documents to include clear guidance that conduits used for electrical raceways shall be metal and thin walled metallic tubing shall not be used in accordance with the requirements of this section. Appropriate station electrical specifications will be updated to specify only metal tray and metal conduits shall be used for electrical raceways. Thin wall metallic tubing shall not be used for power, instrumentation, or control cables.  <u>STATUS:</u> Plant document revisions specified in this table item are assigned and tracked by Waterford 3 LRLAR-2011-182 CA 9.	Attachment A (NEI-04-02 B-1 Table) VFDR 3.3.5.2
S2-3	Revise Bulk Hydrogen System vendor/plant documentation and perform periodic inspections and preventive maintenance in accordance with NFPA 50A.  <u>STATUS:</u> Complete (CR-WF3-2011-06349 CA 3)	Attachment A (NEI-04-02 B-1 Table) VFDR 3.3.7.1-1
S2-4	Provide appropriate means to alert personnel for NFPA 50A Bulk Hydrogen System for all personnel on hazards of hydrogen flames.  <u>STATUS:</u> Complete (CR-WF3-2011-06349 CA 5)	Attachment A (NEI-04-02 B-1 Table) VFDR 3.3.7.1-3
S2-5	Update Pre-Fire Strategies and necessary plant documents to: 1) Include a description of areas for flooding. 2) Identify areas containing redundant safe shutdown equipment susceptible to water damage from fire brigade fire suppression activities. 3) Revise fire brigade training plans to address judicious use of fire hose streams to limit water damage to redundant safe shutdown equipment.  <u>STATUS:</u> Complete (LRLAR-2011-0182 CA 4 & WLP-FPFB-IFB01 Slide 161)	Attachment A (NEI-04-02 B-1 Table) VFDR 3.4.2.1 RAI FPE 15
S2-6	Revise plant test procedures to perform air flow tests on deluge sprinkler systems where it is not practical to perform full flow tests and document trip time for deluge system actuation.  <u>STATUS:</u> Complete (CR-WF3-2011-06349 CA 28 & 42)	Attachment A (NEI-04-02 B-1 Table) VFDR 3.9.1(2)-2



Table S-2 Implementation Items

Item	Description	LAR Section / Source
S2-7	<p>Revise plant documents to address concerns associated with equipment being taken out of service during NPO modes. This procedure revision will provide guidelines for actions to be taken in specific fire areas when components or system trains are taken out of service. For those fire areas where the credited KSF system or equipment has been taken out of service the following guidelines will be included in plant procedures.</p> <ul style="list-style-type: none"> <li>• Prohibition or limitation of hot work.</li> <li>• Prohibition or limitation of combustible materials, and/or</li> <li>• Establishment of additional fire watches as appropriate.</li> </ul> <p>Utilizing the above outlined approaches to alleviate the identified "pinch points," the credited KSFs can be maintained.</p> <p><u>STATUS</u>: In Progress (LRLAR-2012-255 CA 61)</p>	Attachment D
S2-8	<p>Revise Entergy Procedure EN-DC-127, Control of Hot Work and Ignition Sources, and EN-DC-161, Control of Combustibles, to provide controls to limit the likelihood of a cable fire or a transient fire identified in the Defense in Depth Report WF3-FP-13-00004.</p> <p><u>STATUS</u>: In Progress (CR-WF3-2014-0640 CA 14)</p>	Attachment C
S2-9	Deleted (LAR Supplement W3F1-2013-0048)	
S2-10	<p>Develop and implement the NFPA 805 monitoring program per NFPA 805 Section 2.6.</p> <p><u>STATUS</u>: In Progress</p>	LAR Section 4.6
S2-11	<p>Develop Fire Protection Design Basis Document as described in NFPA 805, Section 2.7.1.2 and necessary supporting documentation as described in NFPA 805, Section 2.7.1.3. This is part of transition to 10 CFR 50.48(c) to ensure program implementation. A cross-reference to supporting documents will also be established.</p> <p><u>STATUS</u> : Complete (LRLAR-2012-0255 CA 50)</p>	LAR Section 4.7.1
S2-12	<p>Revise the Configuration Control Procedures to reflect NFPA 805 licensing basis requirements.</p> <p><u>STATUS</u>: Complete (LRLAR-2011-0182 CA 17)</p>	LAR Section 4.7.2

Table S-2 Implementation Items

Item	Description	LAR Section / Source
S2-13	<p>Several NFPA 805 document types such as: NSCA Supporting Information, Non-Power Mode NSCA Treatment, etc., generally require new control procedures and processes to be developed since they are new documents and databases created as a result of the transition to NFPA 805. The new procedures will be modeled after the existing processes for similar types of documents and databases. System level design basis documents will be revised to reflect the NFPA 805 role that the system components now play. This includes update of the Safe Shutdown Analysis.</p> <p><u>STATUS:</u> In Progress (WF3-CR-2014-0640 CA 14, LRLAR 2012-255 CA 61, LRLAR 2012-255 CA 48)</p>	<p>LAR Section 4.7.2</p> <p>RAI SS 01.01</p>
S2-14	<p>Revise Entergy EN-DC-330, Fire Protection Program Procedures to reflect the applicable Quality Assurance requirements of NFPA 805, section 2.7.3.</p> <p><u>STATUS:</u> In Progress (CR-WF3-2014-2029 CA 4)</p>	LAR Section 4.7.3
S2-15	<p>Post-transition, for personnel performing fire modeling or Fire PRA development and evaluation, Waterford 3 will develop and maintain qualification requirements for individuals assigned various tasks. Position Specific Guides will be developed to identify and document required training and mentoring to ensure individuals are appropriately qualified per the requirements of NFPA 805 Section 2.7.3.4 to perform assigned work.</p> <p><u>STATUS:</u> Complete (WTHQN 2014-0019 CA33, 34 &amp; 35.)</p>	LAR Section 4.7.3
S2-16	<p>Revise plant administrative procedures/documents to require periodic inspection of transformer oil collection basins and drain paths to ensure that they are free of debris and capable of performing their design function.</p> <p><u>STATUS:</u> In Progress (LRLAR-2011-0182 CA 32)</p>	<p>Attachment A (NEI-04-02 B-1 Table)</p> <p>VFDR 3.3.9-1</p>
S2-17	<p>Update the recovery action feasibility process against the criteria of FAQ 07-0030 including the incorporate of drills into the fire protection program to ensure all feasibility criteria in FAQ 07-0030 are addressed for NSCA and NPO recovery actions</p> <p><u>STATUS:</u> Complete (WF3-CR-2014-640 CA 14)</p>	<p>Attachment G, Step 4 Results</p> <p>RAIs SS 08.01, SS 12</p>
S2-18	<p>Develop or revise necessary plant procedures/documents to address requirements of NFPA 241, Section 5.1 for Thermit Welding and revise Engineering Report WF3-FP-10-00021 "WF3 Code Compliance Report for NFPA 51B" to include compliance with NFPA 241 "Safeguarding Construction, Alteration, and Demolition Operations" - 2000 Edition.</p> <p><u>STATUS:</u> Complete (LRLAR-2011-0182 CA 22)</p>	<p>Attachment A (NEI-04-02 B-1 Table)</p> <p>VFDR 3.3.1.3.1</p>
S2-19	<p>Update the NSCA, engineering and PRA documentation to address transition to additional criteria in NEI 00-01, Revision 2.</p> <p><u>STATUS:</u> Complete (LRLAR-2012-0255 CA 22 &amp; 31)</p>	RAI SS 02.01

### Table S-2 Implementation Items

Item	Description	LAR Section / Source
S2-20	Following completion of updated FREs, evaluate revised list of Recovery Actions for feasibility using the criteria of FAQ-07-0030 and revise Attachments C, G, S and W.  <u>STATUS:</u> Complete (W3F1-2013-0048)	RAIs SS 08.01, SS 13
S2-21	The FPRA has a mission time of 24-hours. Update plant procedures to satisfy the FPRA mission times for N <sub>2</sub> accumulators III, IV, V, VI, VII and VIII.  <u>STATUS:</u> In Progress (LRLAR-2012-0255 CA 48)	LAR section 4.7.1
S2-22	Verify the validity of the reported change in risk subsequent to completion of all PRA-credited modifications, procedures updates, and implementation items matches the as-built, as-operated plant. The reported change-in-risk will meet the following considerations: <ol style="list-style-type: none"> <li>1. Methods and guidance contained in NUREG/CR-7150 Volume 2 in addressing circuit failure probability.</li> <li>2. Assessment of SOKC contributions in order to represent the mean value CDF and LERF as described in Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant - Specific Changes to the Licensing Basis, Revision 2, dated May 2011.</li> <li>3. Updated fire-modeling for secondary ignition impacts with Hot Gas Layer (HGL) development and Multi-Compartment Analysis (MCA) as described in response to FM RAI S01.b.01.</li> <li>4. Updated fire-modeling for impacts due to re-assessment of the elevation of transient combustibles as presented in response to FM RAI S01.f.01.</li> </ol> <u>STATUS:</u> In Progress (LRLAR-2012-0255 CA 62.)	LAR section 4.8.2    RAIs PRA S15 & PRA S17  RAI PRA S18.b.01  RAI FM S01.b.01  RAI FM S01.f.01

**ENCLOSURE 3**

**W3F1-2016-0003**

**Operating License Section 2.C.9 (markup)**

8. Emergency Preparedness (Section 13.3, SSER 8)

In the event that the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantive problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR Section 50.54(s)(2) will apply.

9. Fire Protection (Section 9.5.1, SSER 8)

~~EOI shall implement and maintain in effect all provisions of the approved fire protection program as described in the Final Safety Analysis Report for the facility through Amendment 36 and as approved in the SER through Supplement 9, subject to the following provision:~~

INSERT 1 

~~EOI may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely effect the ability to achieve and maintain safe shutdown in the event of fire.~~

10. Post-Fuel-Loading Initial Test Program (Section 14, SSER 10)

Any changes to the Initial Test Program described in Section 14 of the FSAR made in accordance with the provisions of 10 CFR 50.59 shall be reported in accordance with 50.59(b) within one month of such change.

11. Emergency Response Capabilities (Section 22, SSER 8)

EOI shall comply with the requirements of Supplement 1 to NUREG-0737 for the conduct of a Detailed Control Room Design Review (DCRDR). Prior to May 1, 1985, the licensee shall submit for staff review and approval the DCRDR Summary Report, including a description of the process used in carrying out the function and task analysis performed as a part of both the DCRDR and the Procedures Generation Package efforts.

12. Reactor Coolant System (RCS) Depressurization Capability (Section 5.4.3, SSER 8)

By June 18, 1985, the licensee shall submit the results of confirmatory tests regarding the depressurization capability of the auxiliary pressurizer spray (APS) system. This information must demonstrate that the APS system can perform the necessary depressurization to meet the steam generator single-tube rupture accident acceptance criteria (SRP 15.6.3) with loop charging isolation valve failed open. Should the test results fail to demonstrate that the acceptance criteria are met, the licensee must provide for staff review and approval, justification for interim operation, and a schedule for corrective actions.

### **INSERT 1**

Waterford 3 shall implement and maintain in effect all provisions of the approved fire protection program that comply with 10 CFR 50.48(a) and 10 CFR 50.48(c), as specified in the licensee amendment request dated \_\_\_\_\_ (and supplements dated \_\_\_\_\_) and as approved in the safety evaluation report dated \_\_\_\_\_ (and supplements dated \_\_\_\_\_). Except where NRC approval for changes or deviations is required by 10 CFR 50.48(c), and provided no other regulation, technical specification, license condition or requirement would require prior NRC approval, the licensee may make changes to the fire protection program without prior approval of the Commission if those changes satisfy the provisions set forth in 10 CFR 50.48(a) and 10 CFR 50.48(c), the change does not require a change to a technical specification or a license condition, and the criteria listed below are satisfied.

#### Risk-Informed Changes that May Be Made Without Prior NRC Approval

A risk assessment of the change must demonstrate that the acceptance criteria below are met. The risk assessment approach, methods, and data shall be acceptable to the NRC and shall be appropriate for the nature and scope of the change being evaluated; be based on the as-built, as-operated, and maintained plant; and reflect the operating experience at the plant. Acceptable methods to assess the risk of the change may include methods that have been used in the peer-reviewed fire PRA model, methods that have been approved by NRC through a plant-specific license amendment or NRC approval of generic methods specifically for use in NFPA 805 risk assessments, or methods that have been demonstrated to bound the risk impact.

- (a) Prior NRC review and approval is not required for changes that clearly result in a decrease in risk. The proposed change must also be consistent with the defense in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.
- (b) Prior NRC review and approval is not required for individual changes that result in a risk increase less than  $1 \times 10^{-7}$ /year (yr) for CDF and less than  $1 \times 10^{-8}$ /yr for LERF. The proposed change must also be consistent with the defense-in-depth philosophy and must maintain sufficient safety margins. The change may be implemented following completion of the plant change evaluation.

#### Other Changes that May Be Made Without Prior NRC Approval

##### (1) Changes to NFPA 805, Chapter 3, Fundamental Fire Protection Program

Prior NRC review and approval are not required for changes to the NFPA 805, Chapter 3, fundamental fire protection program elements and design requirements for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is functionally equivalent or adequate for the hazard. The licensee may use an engineering evaluation to demonstrate that a change to an NFPA 805, Chapter 3, element is functionally equivalent to the corresponding technical requirement. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the

### **INSERT 1 (continued)**

component, system, procedure, or physical arrangement, using a relevant technical requirement or standard.

The licensee may use an engineering evaluation to demonstrate that changes to certain NFPA 805, Chapter 3, elements are acceptable because the alternative is “adequate for the hazard.” Prior NRC review and approval would not be required for alternatives to four specific sections of NFPA 805, Chapter 3, for which an engineering evaluation demonstrates that the alternative to the Chapter 3 element is adequate for the hazard. A qualified fire protection engineer shall perform the engineering evaluation and conclude that the change has not affected the functionality of the component, system, procedure, or physical arrangement, using a relevant technical requirement or standard. The four specific sections of NFPA 805, Chapter 3, are as follows:

- “Fire Alarm and Detection Systems” (Section 3.8);
- “Automatic and Manual Water-Based Fire Suppression Systems” (Section 3.9);
- “Gaseous Fire Suppression Systems” (Section 3.10); and,
- “Passive Fire Protection Features” (Section 3.11).

This condition does not apply to any demonstration of equivalency under Section 1.7 of NFPA 805.

#### **(2) Fire Protection Program Changes that Have No More than Minimal Risk Impact**

Prior NRC review and approval are not required for changes to the licensee’s fire protection program that have been demonstrated to have no more than a minimal risk impact. The licensee may use its screening process as approved in the NRC safety evaluation report dated \_\_\_\_\_ to determine that certain fire protection program changes meet the minimal criterion. The licensee shall ensure that fire protection defense-in-depth and safety margins are maintained when changes are made to the fire protection program.

#### **Transition License Conditions**

- (1) Before achieving full compliance with 10 CFR 50.48(c), as specified by (2) and (3) below, risk informed changes to the licensee’s fire protection program may not be made without prior NRC review and approval unless the change has been demonstrated to have no more than a minimal risk impact, as described in (2) above.
- (2) The licensee shall implement the modifications to its facility as described in Attachment S, Table S-1 “Plant Modifications” in Entergy Operations, Inc letter W3F1-2016-0003, dated January 18, 2016, to complete the transition to full compliance with 10 CFR 50.48(c) by completion of the first refueling outage greater than 12 months following issuance of the license amendment.

The licensee shall maintain appropriate compensatory measures in place until completion of the modification listed as S1-5, (Installation of qualified 1-hour ERFBS fire wrap barrier in Fire Area RAB 6). All other modifications listed in Table S-1 are either installed or have no associated compensatory measure.

- (3) The licensee shall implement the items listed in Attachment S, Table S-2 “Implementation items” in Entergy Operations, Inc letter W3F1-2016-0003, dated January 18, 2016, within 6 months following issuance of the license amendment.