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**DTE Energy**



October 22, 2003  
NRC-03-0082

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington D C 20555-0001

Reference: Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43

Subject: Application for Technical Specification Improvement to Eliminate  
Requirements for Hydrogen Recombiners and Hydrogen/Oxygen  
Monitors Using the Consolidated Line Item Improvement Process

Pursuant to 10 CFR 50.90, Detroit Edison hereby requests an amendment to the  
Technical Specifications (TS) for Fermi, Unit 2.

The proposed amendment will delete the TS requirements related to hydrogen  
recombiners, and hydrogen /oxygen monitors. The proposed TS changes support  
implementation of the revisions to 10 CFR 50.44, "Standards for Combustible Gas  
Control System in Light-Water-Cooled Power Reactors," that became effective on  
October 16, 2003. The changes are consistent with Revision 1 of NRC-approved  
Industry/Technical Specification Task Force (TSTF) Standard Technical  
Specification Change Traveler, TSTF-447, "Elimination of Hydrogen Recombiners  
and Change to Hydrogen and Oxygen Monitors." The availability of this TS  
improvement was announced in the Federal Register on September 25, 2003 as part  
of the Consolidated Line Item Improvement Process (CLIIP).

Attachment 1 provides a description of the proposed change, the requested  
confirmation of applicability, and plant-specific verifications and commitments.

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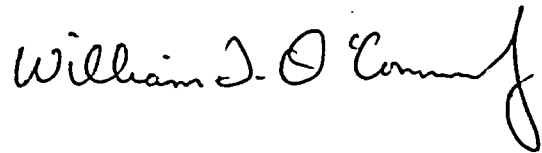
Attachment 2 provides the existing TS pages marked-up to show the proposed change. Attachment 3 provides revised clean TS pages. Implementation of TSTF-447 also involves various changes to the TS Bases. The TS Bases changes will be submitted with a future update in accordance with TS 5.5.10, "Technical Specifications (TS) Bases Control Program."

Detroit Edison requests approval of the proposed License Amendment by January 30, 2004, with the amendment being implemented within the next 90 days.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated Michigan State Official.

If you should have any questions regarding this submittal, please contact Norman K. Peterson at (734) 586-4258.

Sincerely,

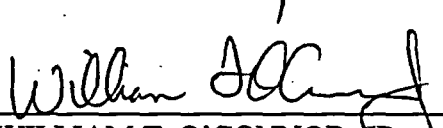
A handwritten signature in cursive script, reading "William J. O'Connor".

Attachments:

1. Description and Assessment
2. Proposed Technical Specification Changes
3. Revised Technical Specification Pages

cc: H. K. Chernoff  
M. A. Ring  
NRC Resident Office  
Regional Administrator, Region III  
Supervisor, Electric Operators,  
Michigan Public Service Commission

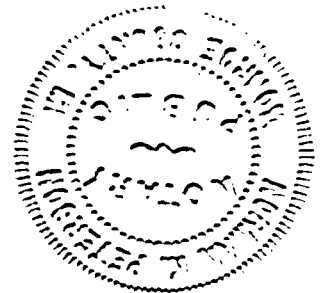
I, WILLIAM T. O'CONNOR, JR., do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

  
WILLIAM T. O'CONNOR, JR.  
Vice President - Nuclear Generation

On this 22nd day of October, 2003 before me personally appeared William T. O'Connor, Jr., being first duly sworn and says that he executed the foregoing as his free act and deed.

NORMAN K. PETERSON  
NOTARY PUBLIC MONROE CO., MI  
MY COMMISSION EXPIRES Jul 24, 2006

  
Notary Public



## ATTACHMENT 1

### DESCRIPTION and ASSESSMENT

#### 1.0 DESCRIPTION

The proposed License amendment deletes Technical Specification (TS) 3.6.3.1, "Primary Containment Hydrogen Recombiners," and references to the hydrogen and oxygen monitors in TS 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation." The proposed TS changes support implementation of the revisions to 10 CFR 50.44, "Standards for Combustible Gas Control System in Light-Water-Cooled Power Reactors," that became effective on October 16, 2003. The deletion of the requirements for the hydrogen recombiner and references to hydrogen/oxygen monitors resulted in numbering and formatting changes to other TS, which were otherwise unaffected by this proposed amendment.

The changes are consistent with Revision 1 of NRC-approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification Change Traveler, TSTF-447, "Elimination of Hydrogen Recombiners and Change to Hydrogen and Oxygen Monitors." The availability of this TS improvement was announced in the *Federal Register* on September 25, 2003 as part of the Consolidated Line Item Improvement Process (CLIIP).

#### 2.0 DESCRIPTION OF PROPOSED AMENDMENT

Consistent with the NRC-approved Revision 1 of TSTF-447, the proposed TS changes include:

|                         |   |         |
|-------------------------|---|---------|
| TS 3.3.3.1, Condition D | Inoperable Hydrogen or Oxygen Monitors                                  | Deleted |
| Table 3.3.3.1-1         | Items 7 and 8, Primary Containment<br>Oxygen and Hydrogen Concentration | Deleted |
| TS 3.6.3.1              | Primary Containment Hydrogen Recombiners                                | Deleted |

Other TS changes included in this application are limited to renumbering and formatting changes that resulted directly from the deletion of the above requirements related to hydrogen recombiners and hydrogen and oxygen monitors.

As described in NRC-approved Revision 1 of TSTF-447, the changes to TS requirements and associated renumbering of other TSs results in changes to various TS Bases sections. The TS Bases changes will be submitted with a future update in accordance with TS 5.5.10, "Technical Specifications (TS) Bases Control Program."

### **3.0 BACKGROUND**

The background for this application is adequately addressed by the NRC Notice of Availability published on September 25, 2003 (68 FR 55416), TSTF-447, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

### **4.0 REGULATORY REQUIREMENTS AND GUIDANCE**

The applicable regulatory requirements and guidance associated with this application are adequately addressed by the NRC Notice of Availability published on September 25, 2003 (68 FR 55416), TSTF-447, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

### **5.0 TECHNICAL ANALYSIS**

Detroit Edison has reviewed the safety evaluation (SE) published on September 25, 2003 (68 FR 55416) as part of the CLIIP Notice of Availability. This verification included a review of the NRC staff's SE, as well as the supporting information provided to support TSTF-447. Detroit Edison has concluded that the justifications presented in the TSTF proposal and the SE prepared by the NRC staff are applicable to Fermi 2 and justify this amendment for the incorporation of the changes to the Fermi 2 TS.

### **6.0 REGULATORY ANALYSIS**

A description of this proposed change and its relationship to applicable regulatory requirements and guidance was provided in the NRC Notice of Availability published on September 25, 2003 (68 FR 55416), TSTF-447, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

#### **6.1 Verification and Commitments**

As discussed in the model SE published in the *Federal Register* on September 25, 2003 (68 FR 55416) for this TS improvement, Detroit Edison is making the following verifications and regulatory commitments:

1. Detroit Edison has verified that a hydrogen monitoring system capable of diagnosing beyond design-basis accidents is installed at Fermi 2 and is making a regulatory commitment to maintain that capability. The hydrogen monitors will be included in the Technical Requirements Manual (TRM). This regulatory commitment will be implemented by April 30, 2004.
2. Fermi 2 has an inerted containment. Detroit Edison has verified that an oxygen monitoring system capable of verifying the status of the inerted containment is installed at Fermi 2 and

is making a regulatory commitment to maintain that capability. The oxygen monitors will be included in the TRM. This regulatory commitment will be implemented by April 30, 2004.

#### **7.0 NO SIGNIFICANT HAZARDS CONSIDERATION**

Detroit Edison has reviewed the proposed no significant hazards consideration determination published on September 25, 2003 (68 FR 55416) as part of the CLIIP. Detroit Edison has concluded that the proposed determination presented in the notice is applicable to Fermi 2 and the determination is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91 (a).

#### **8.0 ENVIRONMENTAL EVALUATION**

Detroit Edison has reviewed the environmental evaluation included in the model SE published on September 25, 2003 (68 FR 55416) as part of the CLIIP. Detroit Edison has concluded that the staff's findings presented in that evaluation are applicable to Fermi 2 and the evaluation is hereby incorporated by reference for this application.

#### **9.0 PRECEDENT**

This application is being made in accordance with the CLIIP. Detroit Edison is not proposing variations or deviations from the TS changes described in TSTF-447 or the NRC staff's model SE published on September 25, 2003 (68 FR 55416).

#### **10.0 REFERENCES**

Federal Register Notice: Notice of Availability of Model Application Concerning Technical Specification Improvement To Eliminate Hydrogen Recombiner Requirement, and Relax the Hydrogen and Oxygen Monitor Requirements for Light Water Reactors Using the Consolidated Line Item Improvement Process, published September 25, 2003 (68 FR 55416).

**ATTACHMENT 2 TO  
NRC-03-0082**

**Technical Specification Improvement to Eliminate Requirements for  
Hydrogen Recombiners and Hydrogen/Oxygen Monitors Using the  
Consolidated Line Item Improvement Process**

**PROPOSED TECHNICAL SPECIFICATION CHANGES (MARK-UP)**

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(continued)



### 3.3 INSTRUMENTATION

#### 3.3.3.1 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.3.1 The PAM instrumentation for each Function in Table 3.3.3.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

#### ACTIONS

#### NOTES

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

| CONDITION   | REQUIRED ACTION   | COMPLETION TIME |
|---|---|-----------------|
| A. One or more Functions with one required channel inoperable.  | A.1 Restore required channel to OPERABLE status.            | 30 days         |
| B. Required Action and associated Completion Time of Condition A not met.   | B.1 Initiate action in accordance with Specification 5.6.7. | Immediately     |
| <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>-----NOTE-----<br/>Not applicable to primary containment hydrogen and primary containment oxygen concentration channels.<br/>-----</p> </div> <p>C. One or more Functions with two required channels inoperable.</p> | C.1 Restore one required channel to OPERABLE status.        | 7 days          |

(continued)

ACTIONS (continued)

| CONDITION  | REQUIRED ACTION  | COMPLETION TIME                 |
|--|--|---------------------------------|
| <p>D. Two required primary containment hydrogen concentration channels inoperable.</p> <p>OR</p> <p>Two required primary containment oxygen concentration channels inoperable.</p> | <p>D.1 Restore one required primary containment hydrogen concentration channel to OPERABLE status.</p> <p>AND</p> <p>D.2 Restore one required primary containment oxygen concentration channel to OPERABLE status.</p> | <p>72 hours</p> <p>72 hours</p> |
| <p>(D) [X] Required Action and associated Completion Time of Condition C <u>or D</u> not met.</p>  | <p>(D) [X].1 Enter the Condition referenced in Table 3.3.3.1-1 for the channel.</p>  | <p>Immediately</p>              |
| <p>(E) [X] As required by Required Action (D) [X].1 and referenced in Table 3.3.3.1-1.</p>   | <p>(E) [X].1 Be in MODE 3.</p>   | <p>12 hours</p>                 |
| <p>(F) [X] As required by Required Action (D) [X].1 and referenced in Table 3.3.3.1-1.</p>   | <p>(F) [X].1 Initiate action in accordance with Specification 5.6.7.</p>   | <p>Immediately</p>              |

# SURVEILLANCE REQUIREMENTS

-----NOTE-----  
These SRs apply to each Function in Table 3.3.3.1-1.  
-----

| SURVEILLANCE  | FREQUENCY |
|---|-----------|
| SR 3.3.3.1.1 Perform CHANNEL CHECK.   | 31 days   |
| SR 3.3.3.1.2<br>-----NOTES-----<br>1. Only applicable to Functions 7 and 8.<br>2. Not required to be performed until<br>72 hours for one channel, and 7 days<br>for the second channel, after<br>≥ 15% RTP..<br>-----<br>Perform CHANNEL CALIBRATION. | 92 days   |
| SR 3.3.3.1.2<br>-----NOTES-----<br>1. Not applicable to Functions 7 and 8.<br>2. Radiation detectors are excluded.<br>-----<br>Perform CHANNEL CALIBRATION.   | 18 months |

PAM Instrumentation  
3.3.3.1

Table 3.3.3.1-1 (page 1 of 1)  
Post Accident Monitoring Instrumentation

| FUNCTION   | REQUIRED CHANNELS                   | CONDITIONS REFERENCED FROM REQUIRED ACTION <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">1</span>                    |
|--|-------------------------------------|---|
| 1. Reactor Vessel Pressure   | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">E</span> |
| 2. Reactor Vessel Water Level - Fuel Zone  | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">E</span> |
| 3. Reactor Vessel Water Level - Wide Range   | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">E</span> |
| 4. Suppression Pool Water Level  | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">E</span> |
| 5. Suppression Pool Water Temperature  | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">E</span> |
| 6. Drywell Pressure - Wide Range   | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">E</span> |
| 7. Primary Containment O <sub>2</sub> Concentration  | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span>   |
| 8. Primary Containment H <sub>2</sub> Concentration  | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span>   |
| <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">7</span> → <span style="border: 1px solid black; padding: 2px;">8</span> Primary Containment High Range Radiation Monitor | 2                                   | <span style="border: 1px solid black; padding: 2px;">F</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">E</span> |
| <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">8</span> → <span style="border: 1px solid black; padding: 2px;">10</span> PCIV Position                                   | 2 per penetration flow path (a) (b) | <span style="border: 1px solid black; padding: 2px;">F</span> <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">E</span> |

- (a) Not required for isolation valves whose associated penetration flow path is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.
- (b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.

# Primary Containment Hydrogen Recombiners 3.6.3.1

## 3.6 CONTAINMENT SYSTEMS

### 3.6.3.1 Primary Containment Hydrogen Recombiners

LCO 3.6.3.1 Two primary containment hydrogen recombiners shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

#### ACTIONS

| CONDITION   | REQUIRED ACTION  | COMPLETION TIME   |
|---|--|---|
| A. One primary containment hydrogen recombiner inoperable.  | <p>A.1</p> <p>-----NOTE-----<br/>LCO 3.0.4 is not applicable.<br/>-----</p> <p>Restore primary containment hydrogen recombiner to OPERABLE status.</p>   | 30 days   |
| B. Two primary containment hydrogen recombiners inoperable. | <p>B.1</p> <p>Verify by administrative means that the hydrogen control function is maintained.</p> <p><u>AND</u></p> <p>B.2</p> <p>Restore one primary containment hydrogen recombiner to OPERABLE status.</p> | <p>1 hour</p> <p><u>AND</u></p> <p>Once per 12 hours thereafter</p> <p>7 days</p> |

(continued)

Primary Containment Hydrogen Recombiners  
3.6.3.1

ACTIONS (continued)

| CONDITION  | REQUIRED ACTION   | COMPLETION TIME |
|--|-------------------|-----------------|
| C. Required Action and associated Completion Time not met. | C.1 Be in MODE 3. | 12 hours        |

SURVEILLANCE REQUIREMENTS

| SURVEILLANCE |   | FREQUENCY |
|--------------|---|-----------|
| SR 3.6.3.1.1 | Perform a system functional test for each primary containment hydrogen recombiner.  | 18 months |
| SR 3.6.3.1.2 | Visually examine each primary containment hydrogen recombiner enclosure and verify there is no evidence of abnormal conditions. | 18 months |
| SR 3.6.3.1.3 | Perform a resistance to ground test for each heater phase.  | 18 months |

Primary Containment Oxygen Concentration  
3.6.3.2 ①

3.6 CONTAINMENT SYSTEMS

3.6.3.2 ① Primary Containment Oxygen Concentration

LC0 3.6.3.2 ① The primary containment oxygen concentration shall be  
< 4.0 volume percent.

APPLICABILITY: MODE 1 during the time period:

- a. From 24 hours after THERMAL POWER is > 15% RTP following startup, to
- b. 24 hours prior to reducing THERMAL POWER to < 15% RTP prior to the next reactor shutdown.

ACTIONS

| CONDITION   | REQUIRED ACTION                                   | COMPLETION TIME |
|---|---|-----------------|
| A. Primary containment oxygen concentration not within limit. | A.1 Restore oxygen concentration to within limit. | 24 hours        |
| B. Required Action and associated Completion Time not met.    | B.1 Reduce THERMAL POWER to $\leq$ 15% RTP.       | 8 hours         |

SURVEILLANCE REQUIREMENTS

| SURVEILLANCE   | FREQUENCY |
|--|-----------|
| SR 3.6.3.2.1 ① Verify primary containment oxygen concentration is within limits. | 7 days    |


5.6 Reporting Requirements (continued)

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5.6.6 Safety Relief Valve Challenge Report

The main steam line Safety Relief Valve (SRV) Report documenting all challenges to SRVs during the previous calendar year shall be submitted by April 30 of each year.

5.6.7 PAM Report

When a report is required by Condition B or  of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the action taken, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

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**ATTACHMENT 3 TO  
NRC-03-0082**

**Technical Specification Improvement to Eliminate Requirements for  
Hydrogen Recombiners and Hydrogen/Oxygen Monitors Using the  
Consolidated Line Item Improvement Process**

**PROPOSED TECHNICAL SPECIFICATION PAGES**

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(continued)

### 3.3 INSTRUMENTATION

#### 3.3.3.1 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.3.1 The PAM instrumentation for each Function in Table 3.3.3.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

#### ACTIONS

#### NOTES

1. LCO 3.0.4 is not applicable.
2. Separate Condition entry is allowed for each Function.

| CONDITION   | REQUIRED ACTION   | COMPLETION TIME |
|---|---|-----------------|
| A. One or more Functions with one required channel inoperable.            | A.1 Restore required channel to OPERABLE status.            | 30 days         |
| B. Required Action and associated Completion Time of Condition A not met. | B.1 Initiate action in accordance with Specification 5.6.7. | Immediately     |
| C. One or more Functions with two required channels inoperable.           | C.1 Restore one required channel to OPERABLE status.        | 7 days          |

(continued)

ACTIONS (continued)

| CONDITION   | REQUIRED ACTION  | COMPLETION TIME |
|---|--|-----------------|
| D. Required Action and associated Completion Time of Condition C not met. | D.1 Enter the Condition referenced in Table 3.3.3.1-1 for the channel. | Immediately     |
| E. As required by Required Action D.1 and referenced in Table 3.3.3.1-1.  | E.1 Be in MODE 3.  | 12 hours        |
| F. As required by Required Action D.1 and referenced in Table 3.3.3.1-1.  | F.1 Initiate action in accordance with Specification 5.6.7.            | Immediately     |

# SURVEILLANCE REQUIREMENTS

-----NOTE-----  
These SRs apply to each Function in Table 3.3.3.1-1.  
-----

| SURVEILLANCE |  | FREQUENCY |
|--------------|--|-----------|
| SR 3.3.3.1.1 | Perform CHANNEL CHECK.   | 31 days   |
| SR 3.3.3.1.2 | -----NOTE-----<br>Radiation detectors are excluded.<br>-----<br>Perform CHANNEL CALIBRATION. | 18 months |

Table 3.3.3.1-1 (page 1 of 1)  
Post Accident Monitoring Instrumentation

| FUNCTION  | REQUIRED CHANNELS                 | CONDITIONS REFERENCED FROM REQUIRED ACTION D.1 |
|---|-----------------------------------|--|
| 1. Reactor Vessel Pressure                          | 2                                 | E  |
| 2. Reactor Vessel Water Level - Fuel Zone           | 2                                 | E  |
| 3. Reactor Vessel Water Level - Wide Range          | 2                                 | E  |
| 4. Suppression Pool Water Level                     | 2                                 | E  |
| 5. Suppression Pool Water Temperature               | 2                                 | E  |
| 6. Drywell Pressure - Wide Range                    | 2                                 | E  |
| 7. Primary Containment High Range Radiation Monitor | 2                                 | F  |
| 8. PCIV Position                                    | 2 per penetration flow path(a)(b) | E  |

- (a) Not required for isolation valves whose associated penetration flow path is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.
- (b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.

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### 3.6 CONTAINMENT SYSTEMS

#### 3.6.3.1 Primary Containment Oxygen Concentration |

LC0 3.6.3.1 The primary containment oxygen concentration shall be < 4.0 volume percent. |

APPLICABILITY: MODE 1 during the time period:

- a. From 24 hours after THERMAL POWER is > 15% RTP following startup, to
- b. 24 hours prior to reducing THERMAL POWER to < 15% RTP prior to the next reactor shutdown.

#### ACTIONS

| CONDITION   | REQUIRED ACTION                                   | COMPLETION TIME |
|---|---|-----------------|
| A. Primary containment oxygen concentration not within limit. | A.1 Restore oxygen concentration to within limit. | 24 hours        |
| B. Required Action and associated Completion Time not met.    | B.1 Reduce THERMAL POWER to $\leq$ 15% RTP.       | 8 hours         |

#### SURVEILLANCE REQUIREMENTS

| SURVEILLANCE   | FREQUENCY |
|--|-----------|
| SR 3.6.3.1.1 Verify primary containment oxygen concentration is within limits. | 7 days    |

5.6 Reporting Requirements (continued)

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5.6.6 Safety Relief Valve Challenge Report

The main steam line Safety Relief Valve (SRV) Report documenting all challenges to SRVs during the previous calendar year shall be submitted by April 30 of each year.

5.6.7 PAM Report

When a report is required by Condition B or F of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the action taken, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.

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