

Entergy Nuclear Operations, Inc. Pilgrim Nuclear Power Station 600 Rocky Hill Road Plymouth, MA 02360

Michael A. Balduzzi Site Vice President

December 24, 2003

ENO Ltr. 2.03.138

U. S. Nuclear Regulatory Commission ATTN: Document Control Desk Mail Stop O-P1-17 Washington, D. C. 20555-0001

SUBJECT: Pilgrim Nuclear Power Station Docket No. 50-293 License No. DPR-35 APPLICATION FOR TECHNICAL SPECIFICATION (TS) IMPROVEMENT TO DELETE THE TS REQUIREMENTS FOR THE HYDROGEN ANALYZERS USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS

Dear Sir:

Pursuant to 10 CFR 50.90, Entergy Nuclear Operations, Inc. (ENO) hereby requests an amendment to the Technical Specifications (TS) for the Pilgrim Nuclear Power Station.

The proposed amendment will delete the Pilgrim TS requirements related to the hydrogen analyzers. 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 changes, the requested confirmation of applicability, and plant-specific verifications and commitments. Attachment 2 provides the existing TS pages marked-up to show the proposed changes and associated bases changes. The bases changes are provided for information only. Attachment 3 provides revised, clean TS pages.

ENO requests approval of the proposed License Amendment by June 30, 2004, with the amendment being implemented within 60 days from the date of approval.

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

ENO Ltr. 2.03.138 Page 2

The commitments made in this letter are contained in Attachment 4. If you have any questions, please contact Mr. Bryan Ford, Licensing Manager, at (508) 830-8403.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on the <u>24th</u> day of <u>December</u>, 2003

Sincerely,

Michael a Baldum

Michael A. Balduzzi

Attachments: As stated

cc: Mr. Travis Tate, Project Manager Office of Nuclear Reactor Regulation Mail Stop: 0-8B-1 U.S. Nuclear Regulatory Commission 1 White Flint North 11555 Rockville Pike Rockville, MD 20852

> Mr. Robert Walker Radiation Control Program Commonwealth of Massachusetts Exec Offices of Health & Human Services 174 Portland Street Boston, MA 02114

U.S. Nuclear Regulatory Commission Region 1 475 Allendale Road King of Prussia, PA 19408 Mr. Steve McGrail, Director Mass. Emergency Management Agency 400 Worcester Road Framingham, MA 01702

Senior Resident Inspector Pilgrim Nuclear Power Station ATTACHMENT 1 (3 pages)

-

APPLICATION FOR TECHNICAL SPECIFICATION (TS) IMPROVEMENT TO DELETE THE TS REQUIREMENTS FOR THE HYDROGEN ANALYZERS USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS

DESCRIPTION AND ASSESSMENT

• .

ENTERGY NUCLEAR OPERATIONS, INC PILGRIM NUCLEAR POWER STATION DOCKET NO. 50-293

Attachment 1 to ENO Ltr. 2.03.138 Docket No. 50 –293 Page 1 of 3

ATTACHMENT 1

Description and Assessment

1.0 INTRODUCTION

The proposed License amendment deletes references to the hydrogen analyzers in Technical Specification (TS) sections 3.7.A.7.c and 4.7.A.7.c. 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).

2.0 DESCRIPTION OF PROPOSED AMENDMENT

Consistent with the NRC approved Revision 1 of TSTF-447, the proposed TS changes consist of deleting sections 3.7.A.7.c and 4.7.A.7.c of the Pilgrim TS, which relate to the hydrogen analyzers. The TS Bases changes are provided for information only. The Pilgrim custom TS contain specifications that are different than the model TS changes contained in the CLIIP. The model TS are based on the Improved Standard TS. The differences between the Pilgrim custom TS and the CLIIP model TS are primarily in the area of TS that exist in the CLIIP Model TS that do not exist in the Pilgrim TS. Pilgrim does not have hydrogen recombiners, therefore that part of the CLIIP is not being addressed. In addition, while Pilgim has oxygen analyzers, they are not addressed in the current custom TSs. Therefore, a TS change is also not required for the oxygen analyzers. The commitments for hydrogen and oxygen monitors contained in the CLIIP, are addressed in Section 6.0 below.

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, Rev. 1, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

Attachment 1 to ENO Ltr. 2.03.138 Docket No. 50-293 Page 2 of 3

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, Rev. 1, the documentation associated with the 10 CFR 50.44 rulemaking, and other related documents.

5.0 TECHNICAL ANALYSIS

ENO 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, Rev. 1. ENO has concluded that the justifications presented in the TSTF proposal and the SE prepared by the NRC staff are applicable to Pilgrim and justify this amendment for the incorporation of the changes to the Pilgrim 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 (68 FR 55416), TSTF-447, Rev. 1, 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, ENO is making the following verifications and regulatory commitments:

- ENO has verified that a hydrogen monitoring system (hydrogen analyzers) capable of diagnosing beyond design-basis accidents is installed at Pilgrim and is making a regulatory commitment to maintain that capability (at least to the level of Reg. Guide 1.97, Category 3). The hydrogen monitors are described in section 10.19 of the Updated FSAR. This section will be revised to reflect the license amendment within 60 days from the date of the approval of this proposed amendment.
- 2. Pilgrim has an inerted containment. ENO has verified that an oxygen monitoring system (oxygen analyzers) capable of verifying the status of the inerted containment is installed at Pilgrim and is making a regulatory commitment to maintain that capability (at least to the level of Reg. Guide 1.97, Category 2). The oxygen monitors are described in section 10.19 of the Updated FSAR. This section will be revised to reflect the license amendment within 60 days from the date of approval of this proposed amendment.

4

Attachment 1 to ENO Ltr. 2.03.138 Docket No. 50 –293 Page 3 of 3

7.0 NO SIGNIFICANT HAZARDS CONSIDERATION

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

8.0 ENVIRONMENTAL EVALUATION

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

9.0 PRECEDENT

This application is being made in accordance with the CLIIP. ENO is not proposing variations or deviations from the TS changes described in TSTF-447, Rev. 1, or the NRC staff's model SE, published on September 25, 2003 (68 FR 55416).

10.0 <u>REFERENCES</u>

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 (4 pages)

. .,

APPLICATION FOR TECHNICAL SPECIFICATION (TS) IMPROVEMENT TO DELETE THE TS REQUIREMENTS FOR THE HYDROGEN ANALYZERS USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS

TECHNICAL SPECIFICATION MARKED-UP PAGES

TS PAGES

- č

3/4.7-10 3/4.7-11

BASES PAGES

B3/4.7-8 B3/4.7-9

ENTERGY NUCLEAR OPERATIONS, INC PILGRIM NUCLEAR POWER STATION DOCKET NO. 50-293

1

- 3.7 <u>CONTAINMENT SYSTEMS</u> (Cont)
- A. <u>Primary Containment</u> (Cont)
 - 7. Containment Atmosphere Dilution
 - a. Within the 24-hour period after placing the reactor in the Run Mode the Post-LOCA Containment Atmosphere Dilution System must be operable and capable of supplying nitrogen to the containment for atmosphere dilution. If this specification cannot be met, the system must be restored to an operable condition within 30 days or the reactor must be at least in Hot Shutdown within 12 hours.
 - b. Within the 24-hour period after placing the reactor in the Run Mode, the Nitrogen Storage Tank shall contain a minimum of 1500 gallons of liquid N₂. If this specification cannot be met the minimum volume will be restored within 30 days or the reactor must be in at least Hot Shutdown within 12 hours.
 - c. There are 2/H₂ analyzers available to serve the aryweyl.
 - With only 1 ½ analyzer operable, reactor operation is allowed for up to / days. If the inoperable analyzer is not made fully operable within / days, the reactor shall be in a least How Shutdown within the next 12 hours.

SURVEILLANCE REQUIREMENTS

- 4.7 <u>CONTAINMENT SYSTEMS</u> (Cont)
- A. <u>Primarv Containment</u> (Cont)
 - 7. Containment Atmosphere Dilution
 - a. The post-LOCA containment atmosphere dilution system shall be functionally tested once per operating cycle.
- b. The level in the liquid N₂ storage tank shall be recorded weekly.
 - c. The Hy analyzers/shall be tested for operability once per month and shall be calibrated once per 6 months.
 - d. Once per month each manual or power operated valve in the CAD system flow path not . locked, sealed or otherwise secured in position shall be observed and recorded to be in its correct position.

Revision 177 Amendment No. 55

3.7 CONTAINMENT SYSTEMS (Cont.)

- A. <u>Primary Containment</u> (Cont.) With no/H₂ analyzer operable, reactor operation is allowed for up/to 48 hours/ If one of the inoperable analyzers/is normade fully operable within 48 hours, the reactor shall be in at least Hot Shutdown within the next 12 hours.
 - B. <u>Standby Gas Treatment System and</u> <u>Control Room High Efficiency Air</u> <u>Filtration System</u>
 - 1. Standby Gas Treatment System
 - a. Except as specified in 3.7.B.1.c or 3.7.B.1.e below, both trains of the standby gas treatment shall be operable when in the Run, Startup, and Hot Shutdown MODES, during movement of irradiated fuel assemblies in the secondary containment, and during movement of new fuel over the spent fuel pool, and during CORE ALTERATIONS, and during operations with a potential for draining the reactor vessel (OPDRVs),

<u>or</u>

the reactor shall be in cold shutdown within the next 36 hours.

 b. 1. The results of the in-place cold DOP tests on HEPA filters shall show ≥99% DOP removal. The results of halogenated hydrocarbon tests on charcoal adsorber banks shall show ≥99.9% halogenated hydrocarbon removal.

SURVEILLANCE REQUIREMENTS

4.7 CONTAINMENT SYSTEMS (Cont.)

- B. <u>Standby Gas Treatment System and</u> <u>Control Room High Efficiency Air Filtration</u> <u>System</u>
 - 1. Standby Gas Treatment System
 - a. 1. At least once per operating cycle, it shall be demonstrated that pressure drop across the combined high efficiency filters and charcoal adsorber banks is less than 8 inches of water at 4000 cfm.
 - 2. At least once per operating cycle, demonstrate that the inlet heaters on each train are operable and are capable of an output of at least 20 kW.
 - 3. The tests and analysis of Specification 3.7.B.1.b. shall be performed at least once per operating cycle or following painting, fire or chemical release in any ventilation zone communicating with the system while the system is operating that could contaminate the HEPA filters or charcoal adsorbers.
 - 4. At least once per operating cycle, automatic initiation of

3/4.7 CONTAINMENT SYSTEMS (Cont)

A. <u>Primary Containment</u> (Cont)

wetwell pressure differential to keep the suppression chamber downcomer legs clear of water significantly reduced suppression chamber post LOCA hydrodynamic loads. A pressure of 1.17 psid is required to sufficiently clear the water legs of the downcomers without bubbling nitrogen into the suppression chamber at the 3.00 ft. downcomer submergence which corresponds to approximately 84,000 ft.³ of water. Maximum downcomer submergence is 3.25 ft. at operating suppression chamber water level. The above pressure differential and submergence number are used in the Pilgrim I Plant Unique Analysis.

Post LOCA Atmosphere Dilution

In order to ensure that the containment atmosphere remains inerted, i.e. the oxygen-hydrogen mixture below the flammable limit, the capability to inject nitrogen into the containment after a LOCA is provided. A minimum of 1500 gallons of liquid N₂ in the storage tank assures that a three-day supply of N₂ for post-LOCA containment inerting is available. Since the inerting makeup system is continually functioning, no periodic testing of the system is required.

The Post-LOCA Containment Atmospheric Dilution (CAD) System is designed to meet the requirements of AEC Regulatory Guides 1.3, 1.7 and 1.29, ASME Section III, Class 2 (except for code stamping) and seismic Class I as defined in the PNPS FSAR.

In summary, the limiting criteria are:

- 1. Maintain hydrogen concentration in the containment during post-LOCA conditions to less than 4%.
- 2. Limit the buildup in the containment pressure due to nitrogen addition to less than 28 psig.
- 3. To limit the offsite dose due to containment venting (for pressure control) to less than 300 Rem to the thyroid.

By maintaining at least a 3-day supply of N_2 on site there will be sufficient time after the occurrence of a LOCA for obtaining additional nitrogen supply from local commercial sources.⁽¹⁾ The system design contains sufficient redundancy to ensure its reliability. Thus, it is sufficient to test the operability of the whole system once per operating cycle. The H₂ analyzers will provide redundancy for the drywell i.e., there are two H₂ analyzers for the Unit. By permitting reactor operation for 7 days with one of the two H₂ analyzers inoperable, redundancy of analyzing capability will be maintained while not imposing an immediate interruption in plant operation. Monthly

 As listed in Pilgrim Nuclear Power Station Procedure No. 5.4.6 "Post Accident Venting".

Revision /177 Amendment No. 55:-113

B3/4.7-8

3/4.7 <u>CONTAINMENT SYSTEMS</u> (Cont)

testing of the analyzers using H₂ will be adequate to ensure the system's readiness because of the design. Since the analyzers are normally not in operation there will be little deterioration due to use. In order to determine H₂ concentration the analyzers must be warmed up 6 hours prior to/putting into service. This time frame is acceptable for accident conditions because a 4% H₂/evel will not be reached in the drywell/until 16 hours following the accident. Due to nitrogen addition, the pressure in the containment after a LOCA will increase with time. Under the worst expected conditions the containment pressure will reach 28 psig in approximately 45 days. If and when that pressure is reached, venting from the containment shall be manually initiated per the requirements of 10CFR50.44. The venting path will be through the Standby Gas Treatment system in order to minimize the off site dose.

B.1 Standby Gas Treatment System

The Standby Gas Treatment System is designed to filter and exhaust the reactor building atmosphere to the stack during secondary containment isolation conditions. Upon containment isolation, both standby gas treatment fans are designed to start to bring the reactor building pressure negative so that all leakage should be in leakage. After a preset time delay, the standby fan automatically shuts down so the reactor building pressure is maintained approximately 1/4 inch of water negative. Should one system fail to start, the redundant system is designed to start automatically. Each of the two trains has 100% capacity.

High Efficiency Particulate Air (HEPA) filters are installed before and after the charcoal adsorbers to minimize potential release of particulates to the environment and to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The inplace test results should indicate a system leak tightness of less than 1 percent bypass leakage for the charcoal adsorbers and a HEPA filter efficiency of at least 99 percent removal of cold DOP particulates. The laboratory carbon sample test results should indicate a methyl iodide removal efficiency of at least 95 percent for expected accident conditions. The specified efficiencies for the charcoal and particulate filters is sufficient to preclude exceeding 10CFR100 guidelines for the accidents analyzed. The analysis of the loss of coolant accident assumed a charcoal adsorber efficiency of 95% and TID 14844 fission product source terms, hence, installing two banks of adsorbers and filters in each train provides adequate margin. A 20 kW heater maintains relative humidity below 70% in order to ensure the efficient removal of methyl iodide on the impregnated charcoal adsorbers. Considering the relative simplicity of the heating circuit, the test frequency of once/operating cycle is adequate to demonstrate operability.

Air flow through the filters and charcoal adsorbers for 15 minutes each month assures operability of the system. Since the system heaters are automatically controlled, the air flowing through the filters and adsorbers will be \leq 70% relative humidity and will have the desired drying effect.

Revision 177, 213, 226 Amendment No. 42, 113, 151, 187, 194

B3/4.7-9

ATTACHMENT 3 (4 pages)

APPLICATION FOR TECHNICAL SPECIFICATION (TS) IMPROVEMENT TO DELETE THE TS REQUIREMENTS FOR THE HYDROGEN ANALYZERS USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS

TECHNICAL SPECIFICATION PAGES

. •

.

TS PAGES

3/4.7-10 3/4.7-11

BASES PAGES

B3/4.7-8 B3/4.7-9

ENTERGY NUCLEAR OPERATIONS, INC PILGRIM NUCLEAR POWER STATION

- 3.7 CONTAINMENT SYSTEMS (Cont)
- A. Primary Containment (Cont)
 - 7. Containment Atmosphere Dilution
 - a. Within the 24-hour period after placing the reactor in the Run Mode the Post - LOCA Containment Atmosphere Dilution System must be operable and capable of supplying nitrogen to the containment for atmosphere dilution. If this specification cannot be met, the system must be restored to an operable condition within 30 days or the reactor must be at least in Hot Shutdown within 12 hours.
 - b. Within the 24-hour period after placing the reactor in the Run Mode, the Nitrogen Storage Tank shall contain a minimum of 1500 gallons of liquid N_2 . If this specification cannot be met the minimum volume will be restored within 30 days or the reactor must be in at least Hot Shutdown within 12 hours.

SURVEILLANCE REQUIREMENTS

- 4.7 <u>CONTAINMENT SYSTEMS</u> (Cont)
- A. Primary Containment (Cont)
 - 7. Containment Atmosphere Dilution
 - a. The post-LOCA containment atmosphere dilution system shall be functionally tested once per operating cycle.
 - b. The level in the liquid N₂ storage tank shall be recorded weekly.
 - c. Not used.
 - d. Once per month each manual or power operated valve in the CAD system flow path not locked, sealed or otherwise secured in position shall be observed and recorded to be in its correct position.

3.7 CONTAINMENT SYSTEMS (Cont.)

- B. <u>Standby Gas Treatment System and</u> <u>Control Room High Efficiency Air</u> <u>Filtration System</u>
 - 1. Standby Gas Treatment System
 - a. Except as specified in 3.7.B.1.c or 3.7.B.1.e below, both trains of the standby gas treatment shall be operable when in the Run, Startup, and Hot Shutdown MODES, during movement of irradiated fuel assemblies in the secondary containment, and during movement of new fuel over the spent fuel pool, and during CORE ALTERATIONS, and during operations with a potential for draining the reactor vessel (OPDRVs),

<u>or</u>

the reactor shall be in cold shutdown within the next 36 hours.

 b. 1. The results of the in-place cold DOP tests on HEPA filters shall show ≥99% DOP removal. The results of halogenated hydrocarbon tests on charcoal adsorber banks shall show ≥99.9% halogenated hydrocarbon removal.

SURVEILLANCE REQUIREMENTS

4.7 <u>CONTAINMENT SYSTEMS</u> (Cont.)

- B. <u>Standby Gas Treatment System and</u> <u>Control Room High Efficiency Air Filtration</u> <u>System</u>
 - 1. Standby Gas Treatment System
 - a. 1. At least once per operating cycle, it shall be demonstrated that pressure drop across the combined high efficiency filters and charcoal adsorber banks is less than 8 inches of water at 4000 cfm.
 - 2. At least once per operating cycle, demonstrate that the inlet heaters on each train are operable and are capable of an output of at least 20 kW.
 - 3. The tests and analysis of Specification 3.7.B.1.b. shall be performed at least once per operating cycle or following painting, fire or chemical release in any ventilation zone communicating with the system <u>while</u> the system is operating that could contaminate the HEPA filters or charcoal adsorbers.
 - 4. At least once per operating cycle, automatic initiation of

3/4.7 CONTAINMENT SYSTEMS (Cont)

A. <u>Primary Containment</u> (Cont)

wetwell pressure differential to keep the suppression chamber downcomer legs clear of water significantly reduced suppression chamber post LOCA hydrodynamic loads. A pressure of 1.17 psid is required to sufficiently clear the water legs of the downcomers without bubbling nitrogen into the suppression chamber at the 3.00 ft. downcomer submergence which corresponds to approximately 84,000 ft.³ of water. Maximum downcomer submergence is 3.25 ft. at operating suppression chamber water level. The above pressure differential and submergence number are used in the Pilgrim I Plant Unique Analysis.

Post LOCA Atmosphere Dilution

In order to ensure that the containment atmosphere remains inerted, i.e. the oxygen-hydrogen mixture below the flammable limit, the capability to inject nitrogen into the containment after a LOCA is provided. A minimum of 1500 gallons of liquid N_2 in the storage tank assures that a three-day supply of N_2 for post-LOCA containment inerting is available. Since the inerting makeup system is continually functioning, no periodic testing of the system is required.

The Post-LOCA Containment Atmospheric Dilution (CAD) System is designed to meet the requirements of AEC Regulatory Guides 1.3, 1.7 and 1.29, ASME Section III, Class 2 (except for code stamping) and seismic Class I as defined in the PNPS FSAR.

In summary, the limiting criteria are:

- 1. Maintain hydrogen concentration in the containment during post-LOCA conditions to less than 4%.
- 2. Limit the buildup in the containment pressure due to nitrogen addition to less than 28 psig.
- 3. To limit the offsite dose due to containment venting (for pressure control) to less than 300 Rem to the thyroid.

By maintaining at least a 3-day supply of N_2 on site there will be sufficient time after the occurrence of a LOCA for obtaining additional nitrogen supply from local commercial sources. ⁽¹⁾ The system design contains sufficient redundancy to ensure its reliability. Thus, it is sufficient to test the operability of the whole system once per operating cycle.

(1) As listed in Pilgrim Nuclear Power Station Procedure No. 5.4.6 "Post Accident Venting".

3/4.7 CONTAINMENT SYSTEMS (Cont)

Due to nitrogen addition, the pressure in the containment after a LOCA will increase with time. Under the worst expected conditions the containment pressure will reach 28 psig in approximately 45 days. If and when that pressure is reached, venting from the containment shall be manually initiated per the requirements of 10CFR50.44. The venting path will be through the Standby Gas Treatment system in order to minimize the off site dose.

B.1 Standby Gas Treatment System

The Standby Gas Treatment System is designed to filter and exhaust the reactor building atmosphere to the stack during secondary containment isolation conditions. Upon containment isolation, both standby gas treatment fans are designed to start to bring the reactor building pressure negative so that all leakage should be in leakage. After a preset time delay, the standby fan automatically shuts down so the reactor building pressure is maintained approximately 1/4 inch of water negative. Should one system fail to start, the redundant system is designed to start automatically. Each of the two trains has 100% capacity.

High Efficiency Particulate Air (HEPA) filters are installed before and after the charcoal adsorbers to minimize potential release of particulates to the environment and to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The in-place test results should indicate a system leak tightness of less than 1 percent bypass leakage for the charcoal adsorbers and a HEPA filter efficiency of at least 99 percent removal of cold DOP particulates. The laboratory carbon sample test results should indicate a methyl iodide removal efficiency of at least 95 percent for expected accident conditions. The specified efficiencies for the charcoal and particulate filters is sufficient to preclude exceeding 10CFR100 guidelines for the accidents analyzed. The analysis of the loss of coolant accident assumed a charcoal adsorber efficiency of 95% and TID 14844 fission product source terms, hence, installing two banks of adsorbers and filters in each train provides adequate margin. A 20 kW heater maintains relative humidity below 70% in order to ensure the efficient removal of methyl iodide on the impregnated charcoal adsorbers. Considering the relative simplicity of the heating circuit, the test frequency of once/operating cycle is adequate to demonstrate operability.

Air flow through the filters and charcoal adsorbers for 15 minutes each month assures operability of the system. Since the system heaters are automatically controlled, the air flowing through the filters and adsorbers will be \leq 70% relative humidity and will have the desired drying effect.

DOCKET NO. 50-293

ATTACHMENT 4 (1 page)

APPLICATION FOR TECHNICAL SPECIFICATION (TS) IMPROVEMENT TO DELETE THE TS REQUIREMENTS FOR THE HYDROGEN ANALYZERS USING THE CONSOLIDATED LINE ITEM IMPROVEMENT PROCESS

SUMMARY OF REGULATORY COMMITMENTS

ENTERGY NUCLEAR OPERATIONS, INC

Attachment 4 to ENO Ltr. 2.03.138 Docket No. 50-293 Page 1 of 1

ATTACHMENT 4

SUMMARY OF REGULATORY COMMITMENTS

The following table identifies those actions committed to by ENO in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments. Please direct questions regarding these commitments to Mr. Bryan Ford at (508) 830-8403.

| Commitments | Description | Completion Schedule |
|-------------|---|---|
| 1 | The hydrogen monitoring system (hydrogen analyzers) will maintain the capability of diagnosing beyond design- basis accidents (at least to the level of Reg. Guide 1.97, Category 3). | This regulatory commitment will be implemented within 60 days from the date of approval of the proposed amendment. |
| 2 | The hydrogen monitors (hydrogen analyzers) are described in section 10.19 of the Updated FSAR and it will be revised to reflect the license amendment. | This regulatory commitment will be implemented within 60 days from the date of approval of the proposed amendment. |
| 3 | The oxygen monitoring system (oxygen analyzers) will maintain the capability of verifying the status of the inerted containment (at least to the level of Reg. Guide 1.97, Category 2). | This regulatory commitment will be implemented within 60 days from the date of approval of the proposed amendment. |
| 4 | The oxygen monitors (oxygen analyzers) are described in section 10.19 of the Updated FSAR and it will be revised to reflect the license amendment. | This regulatory commitment will be implemented within 60 days from the date of approval of the proposed amendment. |