Florida Power & Light Company, 6501 South Ocean Drive, Jensen Beach, FL 34957

February 20, 2002

L-2002-024
10 CFR 50.90

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

RE: St. Lucie Units 1 and 2
Docket No. 50-335 and 50-389
Proposed License Amendments
Containment Vacuum Relief Valve Allowed Outage Time Extension

Pursuant to 10 CFR 50.90, Florida Power & Light Company (FPL) requests to amend Facility Operating Licenses DPR-67 and NPF-16 for St. Lucie Units 1 and 2. The proposed amendments revise Unit 1 and Unit 2 Technical Specifications (TS) Section 3.6.5 to extend the allowed outage time for the containment vacuum relief lines from 4 hours to 72 hours for returning an inoperable containment vacuum relief line to operable status. The primary intent of the proposed TS changes is to facilitate compliance with the Inservice Testing Program (IST) without placing the plant at risk for an unnecessary forced shutdown. The extended allowed outage time will provide sufficient time to perform the required surveillance operability tests and make any required adjustments on the containment vacuum relief valves. The proposed changes to the allowed outage times and the wording of TS 3.6.5 at St. Lucie are modeled after Section 3.6.12 of the *Standard Technical Specifications (STS) Combustion Engineering Plants*, NUREG-1432, Revision 2.

To be consistent with NUREG-1432, Revision 2, the Unit 1 specific TS stroke time surveillance test at 3-year intervals will be deleted. The setpoint and stroke time will be added to the TS Bases for Unit 1. Unit 2 does not have a similar TS specific stroke time surveillance test interval. The setpoint will be added to the Unit 2 TS Bases. Unit 1 and Unit 2 stroke time testing will be performed using the interval and methods described in the IST Program.

Attachment 1 is a description and Safety Analysis in support of the proposed amendments. Attachment 2 is the *Determination of No Significant Hazards Consideration* and Environmental Assessment. Attachments 3 and 4 are marked up copies of the proposed

A001

Technical Specification changes. Attachments 5 and 6 are marked up copies of the planned TS Bases changes. Attachments 7 and 8 are retyped copies of the proposed TS pages.

The proposed amendments have been reviewed by the St. Lucie Facility Review Group and the Florida Power & Light Company Nuclear Review Board. In accordance with 10 CFR 50.91 (b)(1), a copy of the proposed amendments is being forwarded to the State Designee for the State of Florida.

The circumstances surrounding theses changes do not meet the NRC Staff criteria for exigent or emergency review, however, due to the frequency of the required testing, FPL requests an expeditious review and approval. Please issue the amendments to be effective on the date of issuance and to be implemented within 60 days of receipt by FPL.

The proposed changes introduce no new commitments. FPL modeled the proposed license amendments after Waterford Steam Electric Station Unit 3 Amendment 171 that was approved by the NRC on June 18, 2001. Please contact George Madden at 772-467-7155 if there are any questions about this submittal.

Very truly yours,

Donald E. Jernigan
Vice President
St. Lucie Plant

DEJ/GRM

Attachments

cc: Mr. William A. Passetti, Florida Department of Health

STATE OF FLORIDA)
) ss.
COUNTY OF ST. LUCIE)

Donald E. Jernigan being first duly sworn, deposes and says:

That he is Vice President, St. Lucie Plant, for the Nuclear Division of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee.

Donald E. Jernigan

STATE OF FLORIDA

COUNTY OF ST LUCIE

Sworn to and subscribed before me

this 20 day of Feb, 2002
by Donald E. Jernigan, who is personally known to me.

Name of Notary Public - State of Florida

Leslie J. Whitwell
MY COMMISSION # DD020212 EXPIRES
May 12, 2005
BONDED THRU TROY FAIN INSURANCE, INC.

(Print, type or stamp Commissioned Name of Notary Public)

ATTACHMENT 1

DESCRIPTION OF THE PROPOSED CHANGES

AND

SAFETY ANALYSIS

DESCRIPTION OF THE PROPOSED CHANGES AND SAFETY ANALYSIS

Introduction

The proposed amendments revise Unit 1 and Unit 2 Technical Specifications (TS) Section 3.6.5 to extend the allowed outage time (AOT) for the containment vacuum relief lines from 4 hours to 72 hours for returning an inoperable containment vacuum relief line to operable status. The primary intent of the proposed TS changes is to facilitate compliance with the Inservice Testing Program without placing the plant at risk for an unnecessary forced shutdown. The extended allowed outage time will provide sufficient time to perform the required surveillance operability tests and make any required adjustments on the containment vacuum relief valves. The proposed changes to the allowed outage times and the wording of TS 3.6.5 at St. Lucie are modeled after Section 3.6.12 of the *Standard Technical Specifications (STS) Combustion Engineering Plants*, NUREG-1432, Revision 2. To be consistent with NUREG-1432, Revision 2, the Unit 1 specific TS stroke time surveillance test at 3-year intervals will be deleted. The setpoint and stroke time will be added to the TS Bases for Unit 1. Unit 2 does not have a similar TS specific stroke time surveillance test interval. The setpoint will be added to the Unit 2 TS Bases. Unit 1 and Unit 2 stroke time testing will be performed using the interval and methods described in the IST Program.

Discussion

The containment vacuum relief system protects the containment vessel against negative pressure (i.e., a lower pressure inside than outside.) The containment vessel is designed for an external pressure differential of 0.7 psid at 120 degrees F. During normal plant operation, the containment vessel is vented and cooled as required to eliminate pressure fluctuations caused by air temperature changes. An excessive negative pressure condition inside containment can occur if there is an inadvertent actuation of the containment spray system during normal operation.

The containment pressure vessel contains two 100% vacuum relief lines installed in parallel that protect the containment from excessive external loading. The vacuum relief lines are 24-inch penetrations that connect the shield building annulus to the containment. The penetrations provide a flow path between the annulus and the containment. Each of the redundant lines making up the containment vacuum relief subsystem is functionally independent of one another. Each penetration has its own set of dual function in-series isolation valves that include one 24-inch pneumatically operated butterfly valve and one 24-inch check valve.

The butterfly valve's primary (active) safety function is containment vacuum relief protection by mitigating the consequences of excessive negative pressure inside containment due to an inadvertent actuation of the containment spray system. The butterfly valve's secondary (passive) safety function is to function as a containment isolation valve. These valves are normally closed during normal power operation and will

fail closed on a loss of power. These valves do not receive an automatic containment isolation signal to close, but would automatically close once their primary safety function has been accomplished.

The pneumatically operated butterfly valves are installed on the shield building annulus side of the containment penetration and serve as automatic vacuum relief valves as well as containment isolation valves. A separate pressure controller that senses the differential pressure between the containment and the annulus actuates each butterfly valve. Each butterfly valve is provided with an air accumulator enabling the valve to open following a loss of instrument air.

The check valves are installed on the containment side of the penetration to protect the containment against excessive external pressure, prevent backflow of containment air to the annulus, and serve as containment isolation valves. The check valves are designed to open at a differential pressure of 1.1 inches w.g. If the pressure differential between the annulus and the containment atmosphere continues to increase (containment pressure lower than the annulus), both butterfly valves are automatically opened by separate differential pressure transmitters set at 2.25±0.25 inches of water gauge differential for Unit 1 and 9.85±0.35 inches w.g. differential for Unit 2 to allow the air pressure in the annulus to relieve into the containment. The check valves have magnetic latches that hold the valve swing plate firmly in the closed position until required to open due to small positive external containment differential pressure. The magnetic latches plus spring force assure the valves remain shut to fulfill their secondary function as containment isolation valves.

In 1998, the St. Lucie Inservice Testing (IST) Programs were combined into a single IST Program for both Unit 1 and Unit 2. The combined IST Program was upgraded to comply with the 1989 Edition of ASME Section XI as mandated by 10 CFR 50.55(a). The 1989 Edition of ASME Section XI references ASME/ANSI OM-1987, Part 1, which requires that primary containment vacuum relief valves be tested at six-month intervals and provides specific testing requirements.

An IST Program valve relief request VR-19 was submitted and approved by the NRC addressing test requirements of the containment vacuum relief check valves deemed impractical to perform during plant operations. Relief was requested for those tests that must be performed locally at the valves such as check valve opening pressure and check valve open and close capability. Relief was not requested however for the six-month requirement to actuate the pneumatically operated butterfly valves and verify their actuation setpoint or the quarterly stroke time testing of the butterfly valves. This test can be performed remotely within the 4-hour AOT of TS 3.6.5 from outside the containment. However, if there are any test delays or required adjustments, the 4-hour AOT could be exceeded requiring the initiation of an unnecessary forced shutdown.

BASIS FOR PROPOSED CHANGE

Currently, TS 3.6.5 requires the primary containment to annulus vacuum relief valves to be operable with an actuation setpoint of 2.25±0.25 inches of water gauge differential for Unit 1 and 9.85±0.35 inches w.g. differential for Unit 2. With one primary containment to annulus vacuum relief valve inoperable, the valve must be returned to operable status within 4 hours or the plant placed in hot standby within the next 6 hours and in cold shutdown within the following 30 hours.

The proposed change will require two vacuum relief lines to be operable and allow up to 72 hours to restore an inoperable line to operable status. The proposed change to the LCO aligns the wording with NUREG-1432, Revision 2 and requires the same equipment to be operable as the current limiting condition for operation (LCO). The LCO establishes the minimum equipment required to accomplish the vacuum relief function following the inadvertent actuation of the containment spray system, assuming a single active failure. Two vacuum relief lines are required to be operable to ensure that at least one is available, assuming one or both valves in the other line fail to open.

The proposed AOT extension facilitates compliance with the IST Program testing without placing the plant at risk for a forced shutdown by providing sufficient time to perform the required surveillance operability tests and any required adjustments on the primary containment to annulus vacuum relief valves. In addition, the extended AOT will allow flexibility in the performance of potential on-line maintenance and repair during plant operation in Modes 1, 2, 3, and 4 and reduce the potential for a notice of enforcement discretion (NOED) request to prevent an unnecessary plant shutdown. The AOT extension is modeled after the guidelines of TS 3.6.12, Vacuum Relief Valves, in NUREG-1432, Revision 2. These guidelines specify the 72-hour time period is consistent with other LCOs for the loss of one train of a system required to mitigate the consequences of a loss of coolant accident (LOCA) or other design basis accidents.

The proposed change is based on the original design basis accident analysis involving an inadvertent containment spray system actuation during normal plant operation that can reduce the atmospheric temperature (and hence pressure) inside containment. The analysis is contained in Unit 1 and Unit 2 UFSARs, Section 6.2.1. Conservative assumptions are used for pertinent parameters in the analysis.

The inadvertent actuation of the containment spray system was analyzed to determine the resulting reduction in containment pressure. The analysis shows that, with one of the two redundant vacuum relief lines failing to open, the resultant peak containment calculated external pressure load is 0.66 psid for Unit 1 and 0.615 psid for Unit 2 which is less than the design external pressure load equivalent of 0.7 psid.

Currently, Surveillance 4.6.5.1 requires the primary containment to annulus vacuum relief valves to be tested in accordance with the IST Program. In addition, at least once per three years, for Unit 1 only, FPL is required to verify that the vacuum relief valves stroke

fully open within 8 seconds. The Unit 1 and Unit 2 vacuum relief valve stroke times will be tested in accordance with the IST Program and at an interval that is consistent with the IST Program. The 8-second stroke time will be added to the Unit 1 TS Bases. The vacuum relief valve setpoints will be added to the Unit 1 and Unit 2 TS Bases.

ATTACHMENT 2

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

AND

ENVIRONMENTAL IMPACT CONSIDERATION DETERMINATION

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Introduction

The proposed amendments revise Unit 1 and Unit 2 Technical Specifications (TS) Section 3.6.5 to extend the allowed outage time for the containment vacuum relief lines from 4 hours to 72 hours for returning an inoperable containment vacuum relief line to operable status. The primary intent of the proposed TS changes is to facilitate compliance with the Inservice Testing Program without placing the plant at risk for an unnecessary forced shutdown. The extended allowed outage time will provide sufficient time to perform the required surveillance operability tests and make any required adjustments on the containment vacuum relief valves. The proposed changes to the allowed outage times and the wording of TS 3.6.5 at St. Lucie are modeled after Section 3.6.12 of the *Standard Technical Specifications (STS) Combustion Engineering Plants*, NUREG 1432 Revision 2. To be consistent with NUREG 1432 Revision 2, the Unit 1 specific TS stroke time surveillance test at 3-year intervals will be deleted. The setpoint and stroke time will be added to the TS Bases for Unit 1. Unit 2 does not have a similar TS specific stroke time surveillance test interval. The setpoint will be added to the Unit 2 TS Bases. Unit 1 and Unit 2 stroke time testing will be performed using the interval and methods described in the IST Program.

No Significant Hazards Consideration

The standards used to arrive at a determination that a request for amendment involves a no significant hazards consideration are included in the Commission's regulation, 10 CFR 50.92, which states that no significant hazards considerations are involved if the operation of the facility in accordance with the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. Each standard is discussed as follows:

(1) Operation of the facility in accordance with the proposed amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed changes do not create any new system interactions and have no impact on operation or function of any system or equipment in a way that could cause an accident. The primary containment to annulus vacuum relief valves are part of the containment vacuum relief system and are not initiators of any events nor affect any accident initiators of any events previously analyzed in Chapters 6 or 15 of the UFSAR.

The primary containment to annulus vacuum relief valves are designed to mitigate the consequences of an inadvertent containment spray system actuation during normal plant

operation. The UFSAR analysis determined that with one of the two containment vacuum lines failed, the resultant peak calculated external pressure load on the containment was less than the design external pressure loading of 0.7 psi. These proposed changes do not affect any of the assumptions used in the analysis. Hence, the consequences of the design basis accident previously evaluated do not change.

Therefore, these changes do not involve a significant increase in the probability or consequences of any accident previously evaluated.

(2) Operation of the facility in accordance with the proposed amendments would not create the possibility of a new or different kind of accident from any previously evaluated.

The proposed changes do not alter the design, configuration, or method of operation of the plant. There is no change being made to the parameters within which the plant is operated. The setpoints at which the protective or mitigating actions are initiated are unaffected by this change. As such, no new failure modes are being introduced that would involve any potential initiating events that would create any new or different kind of accident.

Therefore, these changes do not create the possibility of a new or different kind of accident from any previously evaluated.

(3) Operation of the facility in accordance with the proposed amendments would not involve a significant reduction in a margin of safety.

The proposed changes do not affect the bases used in or the results of the analysis to establish the margin of safety. The margin of safety is established through equipment design, operating parameters, and the setpoints at which automatic actions are initiated. None of these are impacted by the proposed change. The proposed change is acceptable because it assures at least one vacuum relief line will remain available in the event of a single failure. This further assures the ability to actuate upon demand for the purpose of mitigating the consequences of the design basis accident (inadvertent actuation of the containment spray system during normal operation). The remaining vacuum relief line provides sufficient vacuum relief capacity to prevent exceeding the design external pressure loading on containment of 0.7 psi.

Therefore, these changes do not involve a significant reduction in the margin of safety.

Based on the above, we have determined that the proposed amendments do not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the probability of a new or different kind of accident from any previously evaluated, or (3) involve a significant reduction in a margin of safety; and therefore, does not involve a significant hazards consideration.

Environmental Impact Consideration Determination

The proposed license amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The proposed amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released off-site, and no significant increase in individual or cumulative occupational radiation exposure. FPL has concluded that the proposed amendments involve no significant hazards consideration, and therefore, meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment need not be prepared in connection with issuance of the amendment.

ATTACHMENT 3

ST. LUCIE UNIT 1 MARKED UP TECHNICAL SPECIFICATION PAGE

3/4 6-26

CONTAINMENT SYSTEMS

3/4.6.5 VACUUM RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.6.5.1 Two vacuum relief lines
~~The containment vessel to annulus vacuum relief valves~~ shall be OPERABLE with an ~~actuation setpoint of 2.25 ± 0.25 inches Water Gauge differential.~~

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

72 line Vacuum relief line

With one ~~containment vessel to annulus~~ vacuum relief ~~valve~~ inoperable, restore the ~~valve~~ to OPERABLE status within X hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.1 No ~~additional Surveillance~~ Requirements other than those required by ~~the~~ Inservice Testing Program and ~~at least once per 3 years~~ verify that the vacuum relief valves open ~~fully within 8~~ seconds at 2.25 ± 0.25 inches Water Gauge differential.

Verify each vacuum relief line Operable in accordance with the Inservice Testing Program.

ATTACHMENT 4

ST. LUCIE UNIT 2 MARKED UP TECHNICAL SPECIFICATION PAGE

3/4 6-26

CONTAINMENT SYSTEMS

3/4.6.5 VACUUM RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.6.5 Two vacuum relief lines
~~The primary containment vessel to annulus~~ vacuum relief ~~valves~~ shall be OPERABLE with an actuation setpoint of ~~9.85 ± 0.35~~ inches water gauge.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

vacuum relief line 72

With one ~~primary containment vessel to annulus~~ vacuum relief ~~valve~~ line inoperable, restore the ~~valve~~ to OPERABLE status within ~~X~~ hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5 ~~No additional Surveillance Requirements other than those required by the Inservice Testing Program~~.

Verify each vacuum relief Line Operable in accordance with the Inservice Testing Program.

ATTACHMENT 5

INFORMATION COPY OF PLANNED

UNIT 1 TECHNICAL SPECIFICATION BASES CHANGES

Unit 1 Bases Insert

BACKGROUND: The vacuum relief valves protect the containment vessel against negative pressure (i.e., a lower pressure inside than outside). Excessive negative pressure inside containment can occur if there is an inadvertent actuation of the containment cooling system or the containment spray system. Multiple equipment failures or human errors are necessary to have inadvertent actuation.

The containment pressure vessel contains two 100% vacuum relief lines installed in parallel that protect the containment from excessive external loading. The vacuum relief lines are 24-inch penetrations that connect the shield building annulus to the containment. Each vacuum relief line is isolated by a pneumatically operated butterfly valve in series with a check valve located on the containment side of the penetration.

A separate pressure controller that senses the differential pressure between the containment and the annulus actuates each butterfly valve. Each butterfly valve is provided with an air accumulator that allows the valve to open following a loss of instrument air. The combined pressure drop at rated flow through either vacuum relief line will not exceed the containment pressure vessel design external pressure differential of 0.7 psid with any prevailing atmospheric pressure.

APPLICABLE SAFETY ANALYSES: Design of the vacuum relief lines involves calculating the effect of an inadvertent containment spray actuation that can reduce the atmospheric temperature (and hence pressure) inside containment. Conservative assumptions are used for all the pertinent parameters in the calculation. The resulting containment pressure versus time is calculated, including the effect of the vacuum relief valves opening when their negative pressure setpoint is reached. It is also assumed that one vacuum relief line fails to open.

The containment was designed for an external pressure load equivalent to 0.7 psig. The inadvertent actuation of the containment spray system was analyzed to determine the resulting reduction in containment pressure. This resulted in a differential pressure between the inside containment and the annulus of 0.66 psid, which is less than the design load.

The vacuum relief valves must also perform the containment isolation function in a containment high-pressure event. For this reason, the system is designed to take the full containment positive design pressure and the containment design basis accident (DBA) environmental conditions (temperature, pressure, humidity, radiation, chemical attack, etc.) associated with the containment DBA.

The vacuum relief valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO: The LCO establishes the minimum equipment required to accomplish the vacuum relief function following the inadvertent actuation of the containment spray system. Two

vacuum relief lines are required to be OPERABLE to ensure that at least one is available, assuming one or both valves in the other line fail to open.

APPLICABILITY SAFETY ANALYSES: In MODES 1, 2, and 3 with pressurizer pressure equal to or greater than 1750 psia, the containment cooling features, such as the containment spray system, are required to be OPERABLE to mitigate the effects of a DBA. Excessive negative pressure inside containment could occur whenever these systems are OPERABLE due to inadvertent actuation of these systems. In MODES 1, 2, 3, and 4, the containment internal pressure is maintained between specified limits. Therefore, the vacuum relief lines are required to be OPERABLE in MODES 1, 2, 3, and 4 to mitigate the effects of inadvertent actuation of the containment spray system or containment cooling system.

In MODES 5 and 6, the probability and consequences of a DBA are reduced due to the pressure and temperature limitations of these MODES. The containment spray system and containment cooling system are not required to be OPERABLE in MODES 5 and 6. Therefore, maintaining OPERABLE vacuum relief lines is not required in MODE 5 or 6.

ACTIONS: With one of the required vacuum relief lines inoperable, the inoperable line must be restored to OPERABLE status within 72 hours. The specified time period is consistent with other LCOs for the loss of one train of a system required to mitigate the consequences of a LOCA or other DBA. If the vacuum relief line cannot be restored to OPERABLE status within the required ACTION time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within the next 6 hours and to MODE 5 within the following 30 hours. The allowed ACTION times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS: This SR references the Inservice Testing Program, which establishes the requirement that inservice testing of the ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda and approved relief requests. Therefore, the Inservice Testing Program governs SR interval. The butterfly valve setpoint is 2.25±0.25 inches of water gauge differential. The maximum butterfly valve stroke time is within 8 seconds when tested in accordance with the IST Program.

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3/4.6 CONTAINMENT SYSTEMS (continued)

BASES (continued)

3/4.6.5 VACUUM RELIEF VALVES

Replace with INSERT

~~The OPERABILITY~~ of the containment vessel to annulus vacuum ~~relief~~ valves ensures ~~that they will open at a pressure differential~~ of 2.25 ± 0.25 inches Water Gauge. ~~This condition is necessary to~~ prevent exceeding the ~~containment design~~ limit for internal pressure ~~differential of~~ 0.70 psi.

3/4.6.6 SECONDARY CONTAINMENT

3/4.6.6.1 SHIELD BUILDING VENTILATION SYSTEM

The OPERABILITY of the shield building ventilation systems ensures that containment vessel leakage occurring during LOCA conditions into the annulus will be filtered through the HEPA filters and charcoal adsorber trains prior to discharge to the atmosphere. This requirement is necessary to meet the assumptions used in the accident analyses and limit the site boundary radiation doses to within the limits of 10 CFR 100 during LOCA conditions.

3/4.6.6.2 SHIELD BUILDING INTEGRITY

SHIELD BUILDING INTEGRITY ensures that the release of radioactive materials from the primary containment atmosphere will be restricted to those leakage paths and associated leak rates assumed in the accident analyses. This restriction, in conjunction with operation of the shield building ventilation system, will limit the site boundary radiation doses to within the limits of 10 CFR 100 during accident conditions.

3/4.6.6.3 SHIELD BUILDING STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment shield building will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to provide 1) protection for the steel vessel from the external missiles, 2) radiation shielding in the event of a LOCA, and 3) an annulus surrounding the steel vessel that can be maintained at a negative pressure within two minutes after a LOCA.

ATTACHMENT 6

INFORMATION COPY OF PLANNED

UNIT 2 TECHNICAL SPECIFICATION BASES CHANGES

Unit 2 Bases Insert

BACKGROUND: The vacuum relief valves protect the containment vessel against negative pressure (i.e., a lower pressure inside than outside). Excessive negative pressure inside containment can occur if there is an inadvertent actuation of the containment cooling system or the containment spray system. Multiple equipment failures or human errors are necessary to have inadvertent actuation.

The containment pressure vessel contains two 100% vacuum relief lines installed in parallel that protect the containment from excessive external loading. The vacuum relief lines are 24-inch penetrations that connect the shield building annulus to the containment. Each vacuum relief line is isolated by a pneumatically operated butterfly valve in series with a check valve located on the containment side of the penetration.

A separate pressure controller that senses the differential pressure between the containment and the annulus actuates each butterfly valve. Each butterfly valve is provided with an air accumulator that allows the valve to open following a loss of instrument air. The combined pressure drop at rated flow through either vacuum relief line will not exceed the containment pressure vessel design external pressure differential of 0.7 psid with any prevailing atmospheric pressure.

APPLICABLE SAFETY ANALYSES: Design of the vacuum relief lines involves calculating the effect of an inadvertent containment spray actuation that can reduce the atmospheric temperature (and hence pressure) inside containment. Conservative assumptions are used for all the pertinent parameters in the calculation The resulting containment pressure versus time is calculated, including the effect of the vacuum relief valves opening when their negative pressure setpoint is reached. It is also assumed that one vacuum relief line fails to open.

The containment was designed for an external pressure load equivalent to 0.7 psig. The inadvertent actuation of the containment spray system was analyzed to determine the resulting reduction in containment pressure. This resulted in a differential pressure between the inside containment and the annulus of 0.615 psid, which is less than the design load.

The vacuum relief valves must also perform the containment isolation function in a containment high-pressure event. For this reason, the system is designed to take the full containment positive design pressure and the containment design basis accident (DBA) environmental conditions (temperature, pressure, humidity, radiation, chemical attack, etc.) associated with the containment DBA.

The vacuum relief valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO: The LCO establishes the minimum equipment required to accomplish the vacuum relief function following the inadvertent actuation of the containment spray system. Two

vacuum relief lines are required to be OPERABLE to ensure that at least one is available, assuming one or both valves in the other line fail to open.

APPLICABILITY SAFETY ANALYSES: In MODES 1, 2, and 3 with pressurizer pressure equal to or greater than 1750 psia, the containment cooling features, such as the containment spray system, are required to be OPERABLE to mitigate the effects of a DBA. Excessive negative pressure inside containment could occur whenever these systems are OPERABLE due to inadvertent actuation of these systems. In MODES 1, 2, 3, and 4, the containment internal pressure is maintained between specified limits. Therefore, the vacuum relief lines are required to be OPERABLE in MODES 1, 2, 3, and 4 to mitigate the effects of inadvertent actuation of the containment spray system or containment cooling system.

In MODES 5 and 6, the probability and consequences of a DBA are reduced due to the pressure and temperature limitations of these MODES. The containment spray system and containment cooling system are not required to be OPERABLE in MODES 5 and 6. Therefore, maintaining OPERABLE vacuum relief lines is not required in MODE 5 or 6.

ACTIONS: With one of the required vacuum relief lines inoperable, the inoperable line must be restored to OPERABLE status within 72 hours. The specified time period is consistent with other LCOs for the loss of one train of a system required to mitigate the consequences of a LOCA or other DBA. If the vacuum relief line cannot be restored to OPERABLE status within the required ACTION time, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within the next 6 hours and to MODE 5 within the following 30 hours. The allowed ACTION times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS: This SR references the Inservice Testing Program, which establishes the requirement that inservice testing of the ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda and approved relief requests. Therefore, the Inservice Testing Program governs SR interval. The butterfly valve setpoint is 9.85±0.35 inches of water gauge differential.

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3/4.6 CONTAINMENT SYSTEMS (continued)

BASES (continued)

3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with 1) zirconium-water reactions, 2) radiolytic decomposition of water and 3) corrosion of metals within containment. These hydrogen control systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," March 1971.

The containment fan coolers and containment spray ensure adequate mixing of the containment atmosphere following a LOCA. This mixing action will prevent localized accumulations of hydrogen from exceeding the flammable limit.

3/4.6.5 VACUUM RELIEF VALVES

Replace with Insert

~~The OPERABILITY~~ of the primary containment vessel to ~~atmosphere~~ vacuum relief ~~valves ensures that the~~ containment ~~internal~~ pressure differential does not become more ~~negative than 0.615~~ psi. This condition is necessary to ~~prevent exceeding~~ the containment design ~~limit for~~ internal ~~pressure~~ differential of 0.7 psi.

3/4.6.6 SECONDARY CONTAINMENT

3/4.6.6.1 SHIELD BUILDING VENTILATION SYSTEM

The OPERABILITY of the shield building ventilation systems ensures that containment vessel leakage occurring during LOCA conditions into the annulus will be filtered through the HEPA filters and charcoal adsorber trains prior to discharge to the atmosphere and also reduces radioactive effluent releases to the environment during a fuel handling accident in the spent fuel storage building. This requirement is necessary to meet the assumptions used in the safety analyses and limit the site boundary radiation doses to within the limits of 10 CFR 100 during LOCA conditions.

Operation of the system with the heaters on for at least 10 hours continuous over a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters.

ATTACHMENT 7

RETYPED UNIT 1 TECHNICAL SPECIFICATION PAGE

CONTAINMENT SYSTEMS

3/4.6.5 VACUUM RELIEF VALVES

LIMITING CONDITION FOR OPERATION

3.6.5.1 Two vacuum relief lines shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one vacuum relief line inoperable, restore the vacuum relief line to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.1 Verify each vacuum relief line OPERABLE in accordance with the Inservice Testing Program.

ATTACHMENT 8

RETYPED UNIT 2 TECHNICAL SPECIFICATION PAGE

CONTAINMENT SYSTEMS

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