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 SAGER, D.A. Florida Power & Light Co.
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SUBJECT: Application for amends to licenses DPR-67 & NPF-16, upgrading TS 3/4.6.2.1 & 3/4.6.2.3 by adapting combined spec for containment spray & cooling sys contained in std TS for C-E plants.

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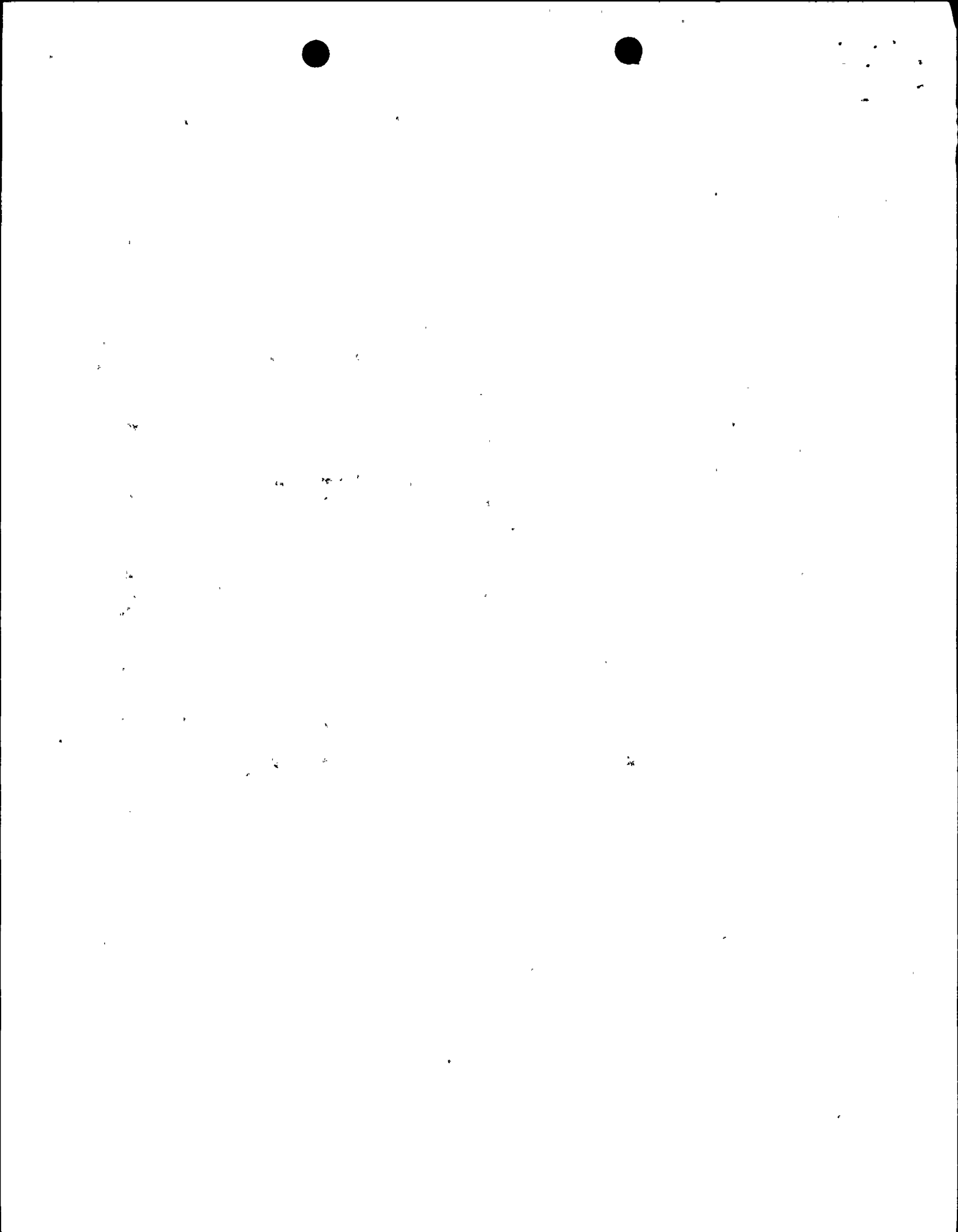
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FPL

November 2, 1994

L-94-260
10 CFR 50.90

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

RE: St. Lucie Unit 1 and Unit 2
Docket Nos. 50-335 and 50-389
Proposed License Amendments
Containment Spray and Cooling Systems

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 Unit 1 and Unit 2, respectively, by incorporating the attached Technical Specifications (TS) revisions. The proposed amendments will upgrade existing TS 3/4.6.2.1 and TS 3/4.6.2.3 by adapting the combined specification for Containment Spray and Cooling Systems, contained in the Standard Technical Specifications for Combustion Engineering Plants, to the St. Lucie units. The changes account for plant specific differences and include all related requirements of NUREG-1432, Rev. 0, specification 3.6.6A. Accordingly, the proposal is consistent with the Commission's Final Policy Statement on Technical Specifications Improvements (58 FR 39132).

It is requested that the proposed amendments, if approved, be issued by January 31, 1995.

Attachment 1 is an evaluation of the proposed changes. Attachment 2 is the "Determination of No Significant Hazards Consideration." Attachments 3 and 4 contain copies of the appropriate technical specifications pages marked up to show the proposed changes.

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

Please contact us if there are any questions about this submittal.

Very truly yours,

D. A. Sager
Vice President
St. Lucie Plant

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DAS/RLD

Attachments

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC.
Senior Resident Inspector, USNRC, St. Lucie Plant.
Mr. W.A. Passetti, Florida Department of Health and
Rehabilitative Services.



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

D. A. Sager 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.

D.A. Sager
D. A. Sager

STATE OF FLORIDA
COUNTY OF ST. LUCIE

The foregoing instrument was acknowledged before me this 2 day of NOVEMBER, 19 94 by D.A. Sager, who is personally known to me and who did take an oath.

Charles D Scott
Name of Notary Public
My Commission expires APRIL 19, 1998
Commission No. CC 368989



St. Lucie Unit 1 and Unit 2
Docket Nos. 50-335 and 50-389
Proposed License Amendments
Containment Spray and Cooling Systems

ATTACHMENT 1

EVALUATION OF PROPOSED TS CHANGES

EVALUATION OF PROPOSED TS CHANGES

Introduction

Florida Power and Light Company (FPL) requests that Appendix A of Facility Operating License DPR-67 for St. Lucie Unit 1 (PSL1) and NPF-16 for St. Lucie Unit 2 (PSL2) be changed to upgrade Technical Specifications (TS) 3/4.6.2.1 and 3/4.6.2.3. The specifications apply to the Containment Spray and Containment Cooling Systems, respectively. This line-item improvement will clarify the actions required for inoperable equipment associated with the depressurization and cooling systems installed in the reactor containment building, and will provide consistency of operations between PSL1 and PSL2.

The proposed changes will combine TS 3/4.6.2.1 and 3/4.6.2.3 into a single Limiting Condition for Operation (LCO) similar to specification 3.6.6A of the Standard Technical Specifications (STS) for Combustion Engineering Plants (NUREG-1432, Rev. 0). The proposed LCO, accounting for plant specific differences, includes all related NUREG-1432 requirements. Accordingly, the proposal is consistent with the Commission's Final Policy Statement on Technical Specifications Improvements (58 FR 39132).

PSL1 and PSL2 Proposed Technical Specification Changes

INDEX Page VI (PSL1) and Page VII (PSL2): The title "Containment Spray System" will be revised to read, "Containment Spray and Cooling Systems." The title "Containment Cooling System" and its reference page will be deleted.

TS 3/4.6.2.1, Containment Spray System: The existing LCO requires two independent containment spray systems to be OPERABLE in MODES 1 and 2, and in MODE 3 when pressurizer pressure is ≥ 1750 psia. The wording for this LCO and the associated ACTION statement(s) for an inoperable spray train will be replaced in their entirety pursuant to the bases and guidance provided in NUREG-1432, specification 3.6.6A, CONTAINMENT SPRAY AND COOLING SYSTEMS. The NUREG-1432 tabular arrangement of conditions, required actions, and action completion times will be restructured into the narrative form consistent with the PSL1 and PSL2 TS format.

The existing surveillance requirements for the Containment Spray System will not be altered. However, the proposed specification will incorporate the surveillances required for the Containment Cooling System.

The footnote "*", which provides an explanation of MODE 3 APPLICABILITY, will be deleted. The proposed LCO has been structured such that the footnote will not be necessary.

TS 3/4.6.2.3, Containment Cooling System: This specification will be deleted in its entirety.

Bases pages B 3/4 6-2 and B 3/4 6-3: Bases section 3/4.6.2.1 will be revised to reflect the bases for the proposed specification. Bases section 3/4.6.2.3 will be deleted.

The applicable TS pages have been marked-up to show the proposed changes, and are provided in Attachments 3 and 4 to this submittal.

Background

The function of the Containment Spray (CS) System is to provide containment heat removal and iodine removal during accident conditions. It accomplishes its function through the use of two redundant spray trains which are capable of taking suction from the Refueling Water Tank (RWT) on a Containment Spray Actuation Signal (CSAS), automatically transferring suction to the containment sump on a Recirculation Actuation Signal (RAS), and transferring heat to the ultimate heat sink via the component cooling water (CCW) and intake cooling water (ICW) systems. Each train consists of a spray pump, shutdown cooling heat exchanger, piping, valves, and spray header; and is capable of satisfying at least 50% of accident heat removal requirements. One train of the CS system, in conjunction with its Spray Additive/Iodine Removal System, can satisfy post-accident iodine removal requirements. In the event offsite power is lost, each train is powered by an emergency diesel generator.

The function of the Containment Cooling System is to provide containment heat removal during both normal operation and accident conditions. It accomplishes its function through the use of two electrically and mechanically independent containment cooling



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trains. Four fan coolers, two per train, transfer heat to the ultimate heat sink via the CCW and ICW systems. Each train is capable of satisfying at least 50% of accident heat removal requirements, and each train is powered by an emergency diesel generator in the event offsite power is lost. Each fan is capable of auto-start on a Safety Injection Actuation Signal (SIAS).

PSL1 and PSL2 each have a plant specific LCO (TS 3.6.1.5) which provides assurance that the average containment temperature will be maintained $\leq 120^{\circ}\text{F}$ for the purpose of preserving the validity of accident analyses assumptions, environmental qualification of equipment located inside containment, and assumptions made for stress analyses of reactor vessel supports. Each PSL unit also has a plant specific LCO for the Spray Additive/Iodine Removal System (TS 3.6.2.2) to ensure that sufficient additives are available for injection into the containment spray.

Evaluation of the Changes Proposed for PSL1 and PSL2

LCO: The containment analyses for PSL1 and PSL2 demonstrate that the removal of design basis accident (DBA) heat loads can be accomplished by at least one train of the containment spray system in conjunction with one train of the containment cooling system; and that requirements for iodine removal from the containment atmosphere can be satisfied by a single CS train. The proposed LCO requires two containment spray trains and two containment cooling trains to be OPERABLE. Therefore, in the event of an accident and considering single failure criteria, the heat and iodine removal requirements will be satisfied. The wording of the proposed LCO is the same as the STS.

APPLICABILITY: The proposed APPLICABILITY for the CS System is the same as existing LCO 3.6.2.1, e.g., MODES 1 and 2, and MODE 3 with pressurizer pressure ≥ 1750 psia. It is noted that the pressure criterion specified for MODE 3 operation is a plant specific difference from the generic STS. FPL desires to retain this previously approved stipulation since, during shutdown and cooldown of the reactor coolant system (RCS), the CS system must be removed from service during the preparations necessary for shutdown cooling operations.

FPL has evaluated the PSL1 and PSL2 containment pressure and temperature response to the limiting loss of coolant (LOCA) and main steam line break (MSLB) accidents during MODE 3 conditions. The results of this evaluation confirm that, with pressurizer pressure < 1750 psia, containment design pressure and temperature will not be exceeded when two containment fan coolers are operable (both CS trains were assumed to be out of service). The proposed LCO requires two trains (two fan coolers per train) of containment cooling to be OPERABLE throughout the entire MODE 3 range of operation. Therefore, retaining the previously approved, pressure dependent MODE 3 applicability for the CS System will afford a more efficient and timely transition to Shutdown Cooling System operation without loss of an acceptable ability to mitigate the postulated accidents. In addition, agreement with the applicability of related LCO 3.6.2.2 (Spray Additive/Iodine Removal System) will be preserved.

The proposed APPLICABILITY for the Containment Cooling System is the same as existing LCO 3.6.2.3, e.g., MODES 1, 2, and 3. To verify that lower mode applicability should not be required; FPL has evaluated the PSL1 and PSL2 containment pressure and temperature response to the limiting LOCA and MSLB accidents for operations with the RCS temperature at 360 °F. The results of this evaluation confirm that the containment design pressure and temperature will not be exceeded with both CS trains and all four fan coolers out of service. Operational MODES 4, 5 and 6 occur at RCS temperatures below 325 °F, and the impact on containment parameters from potential accidents will be further reduced in these lower modes. Therefore, FPL considers the proposed APPLICABILITY for the Containment Cooling System to be acceptable, and to be consistent with the STS.

ACTION-1.a: With one CS train inoperable, proposed ACTION-1.a requires the inoperable train to be restored to OPERABLE status within 72 hours and within 10 days of initial discovery of failure to meet the LCO. In this condition, the remaining OPERABLE spray and cooling trains are capable of providing the iodine removal function and at least 100% of accident heat load removal. The 72 hour completion time takes into account the redundant heat and iodine removal capability afforded by the Containment Spray System, reasonable time for repairs, and the low probability of a DBA occurring during this period. The 10 days (from initial discovery

of failure to meet the LCO) portion of the completion time is based on engineering judgement, and clarifies that failure to completely satisfy the LCO for an excessive interval is not permitted. It takes into account the low probability of coincident entry into two conditions in this specification (defined in proposed ACTION-1.c) coupled with the low probability of an accident occurring during this time. The proposed condition, required action, completion times, and their bases are equivalent to Action "A" of STS LCO 3.6.6A.

If the inoperable spray train cannot be restored to OPERABLE status within the required completion time, proposed ACTION-1.a requires the plant to be in MODE 3 within the next 6 hours and in MODE 4 within the following 54 hours. The proposed action will bring the plant to a MODE in which the LCO does not apply. The 6 hour completion time is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner, and without challenging plant systems; and it is consistent with PSL1 and PSL2 TS 3.0.3. The extended interval to reach MODE 4 includes additional time (48 hours) for restoration of the CS train, beyond the 6 hours typically allotted by TS 3.0.3 to enter this mode. This is reasonable when considering that the driving force for a release of radioactive material from the RCS is reduced in MODE 3. The proposed condition, required action, completion times, and their bases are equivalent to Action "B" of STS LCO 3.6.6A.

ACTION-1.b: With one containment cooling train inoperable, proposed ACTION-1.b requires the inoperable train to be restored to OPERABLE status within 7 days, and within 10 days from initial discovery of failure to meet the LCO. In this condition, the remaining OPERABLE spray and cooling system components are capable of providing the iodine removal function and at least 100% of the heat removal needs after an accident. The 7 day completion time takes into account the redundant heat removal capabilities afforded by the combinations of the CS System and the Containment Cooling System, and the low probability of a DBA occurring during this period. The 10 days (from initial discovery of failure to meet the LCO) portion of the completion time is based on engineering judgement, and clarifies that failure to completely satisfy the LCO for an excessive interval is not permitted. It takes into account the low probability of coincident entry into two conditions in this specification (defined in proposed ACTION-1.c), coupled with the

low probability of an accident occurring during this time. The proposed condition, required action, completion times, and their bases are equivalent to Action "C" of STS LCO 3.6.6A.

If the inoperable containment cooling train cannot be restored to OPERABLE status within the required completion time, proposed ACTION-1.b requires the plant to be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours. The proposed action will bring the plant to a MODE in which the LCO does not apply. The allowed completion 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. The proposed condition, required action, completion times, and their bases are equivalent to Action "F" of STS LCO 3.6.6A; and are consistent with PSL1 and PSL2 TS 3.0.3.

ACTION-1.c: With one CS train and one containment cooling train inoperable, proposed ACTION-1.c allows concurrent entry into ACTION-1.a and ACTION-1.b; and allows the action completion intervals to be tracked separately, starting from the time that each train was discovered inoperable. The remaining OPERABLE spray and containment cooling system components are capable of providing the iodine removal function and 100% of accident heat load removal. Considering the narrative format and existing structure of the PSL1 and PSL2 technical specifications, this action statement provides clarification that entry into both ACTIONS-1.a and 1.b within this LCO is permissible, and specifies how each action completion interval will be tracked. Proposed ACTION-1.c is consistent with Part 1.3, "Completion Times", of the STS "USE AND APPLICATION" section.

ACTION-1.d: With two containment cooling trains inoperable, proposed ACTION-1.d requires at least one cooling train to be restored to OPERABLE status within 72 hours. In this condition, the OPERABLE spray trains are capable of providing the iodine removal function and the heat removal needs after an accident. FPL has evaluated this condition for the limiting LOCA and MSLB accidents postulated for the PSL1 and PSL2 containment analyses, and has confirmed that two CS trains are capable of satisfying 100% of the accident heat removal requirements. The 72 hour completion time takes into account the redundant heat removal capabilities afforded by the CS System, and the low probability of a DBA



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occurring during this period. The proposed condition, required action, completion time, and their bases are equivalent to ACTION "D" of STS LCO 3.6.6A.

If at least one inoperable containment cooling train cannot be restored to OPERABLE status within the required completion time, proposed ACTION-1.d requires the plant to be in MODE 3 within the next 6 hours and in MODE 4 within the following 6 hours. The proposed action will bring the plant to a MODE in which the LCO does not apply. The allowed completion 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. The proposed condition, required action, completion times, and their bases are equivalent to Action "F" of STS LCO 3.6.6A; and are consistent with PSL1 and PSL2 TS 3.0.3.

ACTION-1.e: With two CS trains inoperable or any combination of three or more trains inoperable, proposed ACTION-1.e requires LCO 3.0.3 to be entered immediately. In this condition, the unit is outside the accident analyses for the applicable operational modes. The proposed condition(s), required action, completion time, and basis are equivalent to ACTION "E" of STS LCO 3.6.6A.

ACTION-2.a: With one containment cooling train inoperable during MODE 3 conditions with pressurizer pressure < 1750 psia, ACTION-2.a requires the inoperable train to be restored to OPERABLE status within 72 hours. FPL has verified that, during these conditions, containment design pressure and temperature will not be exceeded when two containment fan coolers are operable (both CS trains out of service). Therefore, the action completion time is reasonable, taking into account the low probability of a DBA occurring during this period and the heat removal capability of the remaining OPERABLE fan coolers.

If the inoperable containment cooling train cannot be restored to OPERABLE status within the required action completion time, ACTION-2.a requires the plant to be in MODE 4 within the next 6 hours. This proposed action will bring the plant to a mode in which the LCO does not apply, and is consistent with PSL1 and PSL2 TS 3.0.3.

ACTION-2.b: With two containment cooling trains inoperable during MODE 3 conditions with pressurizer pressure < 1750 psia, ACTION-2.b requires LCO 3.0.3 to be entered immediately. Since the proposed LCO does not require the CS system to be OPERABLE with pressurizer pressure < 1750 psia, the unit will be outside the containment analysis for this condition. The proposed action will bring the plant to an operational MODE in which the LCO does not apply.

SURVEILLANCE REQUIREMENTS: The proposed surveillance requirements (SR) are equivalent to the surveillances identified in Specification 3.6.6A of the STS. It is noted that neither PSL1 nor PSL2 require a pre-filled spray header to ensure that spray flow will be admitted to the containment atmosphere within the time frame assumed in the safety analyses; therefore, SR 3.6.6A.4 of the STS is not applicable.

Conclusion

The changes proposed for existing TS 3/4.6.2.1 and 3/4.6.2.3 have been verified to be consistent with the PSL1 and PSL2 safety analyses. The proposed restructured TS 3/4.6.2.1, considering plant specific differences, is equivalent to NUREG-1432, Revision 0, Specification 3.6.6A and its associated bases, and includes all related requirements for the Containment Spray and Containment Cooling Systems. Therefore, FPL considers the proposed amendment to be acceptable as a TS line item improvement for St. Lucie Unit 1 and Unit 2, consistent with the Commission's Final Policy Statement on Technical Specification Improvements (58 FR 39132).

St. Lucie Unit 1 and Unit 2
Docket Nos. 50-335 and 50-389
Proposed License Amendments
Containment Spray and Cooling Systems

ATTACHMENT 2

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Pursuant to 10CFR50.92, a determination may be made that a proposed license amendment involves no significant hazards consideration if 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 amendment would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendment will upgrade the existing Limiting Conditions for Operation (LCOs) associated with the Containment Cooling and Spray Systems to be consistent with NUREG-1432, Standard Technical Specifications for Combustion Engineering Plants. The Containment Cooling and Spray Systems are not initiators of accidents previously evaluated, but are included as part of the success paths associated with mitigating various accidents and transients. The redundancy afforded by Containment Cooling and Spray Systems in conjunction with the requirements of the proposed LCO assures that the safety function of these systems can be accomplished considering single failure criteria. Neither the design nor the safety function of the Containment Cooling and Spray Systems have been altered, and the proposed amendment does not change the applicable plant safety analyses. Therefore, operation of the facility in accordance with the proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

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

The proposed amendment will not change the physical plant or the modes of operation defined in the facility license. The changes

are administrative in nature in that they do not involve the addition of new equipment or the modification of existing equipment, nor do they otherwise alter the design of St. Lucie Unit 1 & 2 systems. Therefore, operation of the facility in accordance with the proposed amendment would not create the possibility of a new or different kind of accident from any accident previously evaluated.

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

The safety function of the Containment Cooling System is to provide containment heat removal during normal operation and accident conditions. The safety function of the Containment Spray System is to provide containment heat and iodine removal during accident conditions. The proposed amendment, in conjunction with the redundancy afforded by the Containment Cooling and Spray system design, assures that these safety functions can be accomplished considering single-failure criteria. The bases for required actions and the action completion times specified for inoperable Containment Cooling and Spray trains are consistent with the corresponding specifications in NUREG-1432. The safety analyses for applicable accidents and transients remain unchanged from those previously evaluated and reported in the Updated Final Safety Analysis Report. Therefore, operation of the facility in accordance with the proposed amendment would not involve a significant reduction in a margin of safety.

Based on the above discussion and the supporting Evaluation of Technical Specification changes, FPL has determined that the proposed license amendment involves no significant hazards consideration.