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PLUNKETT,T.F. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Application for amends to licenses DPR-31 & DPR-41,proposing addition of SG water level - high-high protection to TS Tables 3.3-2,3.3-3,4.3-2 & associated bases,in accordance w/ commitment to GL 89-19 for resolution of USI A-47.

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DEC 28 1993

L-93-276
10 CFR 50.90

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

Gentlemen:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Proposed License Amendments -
Steam Generator Overfill Protection (Generic Letter 89-19)

In accordance with 10 CFR 50.90, Florida Power and Light Company (FPL) requests that Appendix A of Facility Operating Licenses DPR-31 and DPR-41 be amended to revise the Turkey Point Units 3 and 4 Technical Specifications (T.S.), in accordance with FPL's commitment to Generic Letter 89-19, Request for Action to Resolution of Unresolved Safety Issue A-47 "Safety Implications of Control Systems in LWR Nuclear Power Plants." By letter L-93-086, dated April 9, 1993, FPL committed to revise the Technical Specifications for Turkey Point Units 3 and 4 to include specific requirements for steam generator overfill protection. In accordance with Generic Letter 89-19, FPL proposes the addition of steam generator water level - high-high protection to T.S. Tables 3.3-2, 3.3-3, 4.3-2 and the associated BASES section.

FPL has determined that the proposed license amendments do not involve a significant hazards consideration pursuant to 10 CFR 50.92. A description of the amendment request is provided in Attachment 1. The no significant hazards determination in support of the proposed Technical Specification change is provided in Attachment 2. Attachment 3 provides the proposed revised Technical Specification changes.

In accordance with 10 CFR 50.91(b)(1), a copy of these proposed license amendments is being forwarded to the State Designee for the State of Florida.

The proposed amendments have been reviewed by the Turkey Point Plant Nuclear Safety Committee and the FPL Company Nuclear Review Board.

Should there be any questions on this request, please contact us.

Very truly yours,

T.F. Plunkett
Vice President
Turkey Point Nuclear

TFP/RJT/SAV

Attachments

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9402080241 931228
PDR ADOCK 05000250
P PDR

A001

cc: S. D. Ebneter, Regional Administrator, Region II, USNRC
T. P. Johnson, Senior Resident Inspector, USNRC, Turkey Point
W. A. Passetti, Florida Department of Health and Rehabilitative Services

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

T. F. Plunkett being first duly sworn, deposes and says:

That he is Vice President, Turkey Point Nuclear Plant, of Florida Power and 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.

T. F. Plunkett

Subscribed and sworn to before me this

28 day of DEC, 1993.

Cheryl A Kelly

CHERYL A. KELLY

Name of Notary Public (Type or Print)

NOTARY PUBLIC, in and for the County of Dade, State of Florida

My Commission expires

Commission No.

CHERYL A. KELLY
MY COMMISSION # CC 223781
EXPIRES: September 27, 1996
Bonded Thru Notary Public Underwriters

T. F. Plunkett is personally known to me.

ATTACHMENT 1

DESCRIPTION OF AMENDMENTS REQUEST

DESCRIPTION OF AMENDMENTS REQUEST

Introduction

As a result of the technical resolution of Unresolved Safety Issue (USI) A-47, "Safety Implication of Control Systems in LWR Nuclear Power Plants," the NRC concluded that protection should be provided for certain control system failures and that selected emergency procedures should be modified to assure that plant transients resulting from control system failures do not compromise plant safety. The NRC concluded that all PWR plants should provide automatic steam generator overfill protection, and that plant procedures and technical specifications for all plants should include provisions to verify periodically the operability of the overfill protection and to assure that automatic overfill protection is available to mitigate main feedwater overfeed events during reactor power operation.

In response to these conclusions, Generic Letter 89-19 was issued. Generic Letter (GL) 89-19, "Request for action related to resolution of Unresolved Safety Issue A-47...", dated September 20, 1989 requested that licensees incorporate features of steam generator overfill protection into plant procedures and the plant Technical Specifications.

USI A-47 - Steam Generator Overfill Protection

The steam generator (SG) overfill event can affect the safety of the plant in several different ways. The more severe scenarios could potentially lead to either a steamline break or a SG tube rupture event. As addressed in Generic Letter 89-19, the basis of the NRC's concern deals with (1) the increased dead weight and potential seismic loads placed on the main steamline and its supports should the main steamline be flooded; (2) the loads placed on the main steamlines as a result of the potential for rapid collapse of steam voids resulting in water hammer; (3) the potential for secondary safety valves sticking open following discharge of water or two-phase flow; and (4) the potential inoperability of the main steamline isolation valves (MSIVs), main turbine stop or bypass valves, feedwater turbine valves, or atmospheric dump valves from the effects of water or two phase flow.

An amendment to the Technical Specifications for the Turkey Point Units 3 and 4 is being proposed in response to Generic Letter 89-19, "Safety Implication of Control Systems in LWR Nuclear Power Plants." The Generic Letter requested that the proposed Technical Specification changes consider including appropriate limiting conditions of operation (LCO) and surveillance requirements in future Technical Specifications improvements. This proposed change

implements such improvements and includes the addition of SG High-High level feedwater isolation signals to Technical Specification Tables 3.3-2, 3.3-3 and 4.3-2 under the heading SG Water Level - High-High along with a corresponding addition to the Section 4.3 Technical Specification BASES.

Turkey Point Plant Configuration

Steam generator overfill protection is provided by the SG Water Level - High-High signal. The signal is actuated when the level in any steam generator exceeds the high-high water level setpoint and upon actuation the system responds by: tripping the main Turbine (reactor trip will occur on a turbine trip); tripping the Main Feedwater (MFW) pumps; initializing feedwater isolation; and shutting the MFW regulating valves and the MFW regulating valve bypass valve.

The SG Level Protection Channels I, II and III are designed to combine redundant sensor, independent channel circuitry, coincident trip logic and different parameter measurements so that a safe and reliable system is provided. The SG overfill protection at Turkey Point is initiated on a SG Water Level High-High signal, based on a 2 out of 3 initiating logic, which is safety related. Use of the SG level protection system for the SG Water Level High-High trip is similar to its use for the SG Water Level Low-Low trip. As such, the LCO requirements and surveillance requirements are similar.

As described in the generic letter, Turkey Point corresponds to a Westinghouse designed PWR Plant with a Group I plant design with the 2 out of 3 initiating logic.

Differences from NUREG-1431, Standard Technical Specifications Westinghouse Plants, are discussed below:

1) The Turkey Point Engineered Safety Features Actuation System (ESFAS) utilizes a 2 out of 3 initiating logic design therefore, consistent with Turkey Points licensing basis, the SG Water Level - High-High instrumentation utilizes a 2 out of 3 logic design.

2) The ACTION statement for SG Water Level High-High is consistent with the ACTION statement for the SG Water Level Low-Low level AFW initiation. As these two functions are derived from essentially the same instrumentation, their ACTION statements are identical.

3) SURVEILLANCE REQUIREMENTS are consistent with the requirements of the SG Water Level Low-Low trip. The modes for which the surveillance are required is consistent with the guidance of NUREG-1431.

The SG Water Level High-High setpoint is established by an uncertainty calculation utilizing the Westinghouse 5 column methodology which considers instrument and loop uncertainties to insure that the steam generator will not be overfilled.

The SG Water Level High-High trip functions prevent any further addition of water to the steam generators and excessive cooldown of the primary system. The main turbine is consequently tripped to prevent carryover of excessive moisture to the turbine, which could damage the turbine.

Currently, Turkey Point has no Technical Specifications requirements in place for SG Overfill Protection, or more specifically, the SG Water Level High-High trip. However, as addressed in FPL Letter L-90-108, dated March 19, 1990, although FPL does not have a Technical Specification requirement to provide steam generator overfill protection, the Turkey Point plant procedures do include requirements to periodically verify the safety function of the Low-Low level trip operability of the S/G Level Control Channels for the S/G Level Control and Protection System. The procedures which perform the function of verifying operability of the Low-Low level reactor trip also check the SG Water Level - High-High (80%) trip. Other procedures, not required by Technical Specifications, provide for monthly analog channel operational testing, periodic (CHANNEL) calibration and functional testing of instrumentation and operability tests of the feedwater control valves. Feedwater isolation testing, which includes tripping of the feedwater pumps and closure of the feedwater control valves, is performed with the unit in cold shutdown in accordance with the applicable engineering safeguards integrated test procedures.

No credit is taken for the SG Water Level High-High trip in the Updated Final Safety Analysis Report (UFSAR) for Turkey Point. Requirements for the inclusion of this instrumentation and the associated trip function in the technical specifications originated with Generic letter 89-19.

Proposed Technical Specification Changes

1. FPL proposes to add SG Water Level - High-High protection logic to Table 3.3-2, Engineered Safety Features Actuation System Instrumentation. The proposed logic is for 2 out of 3 channels. The requested revision specifies the appropriate protection logic for the TOTAL NO. OF CHANNELS, CHANNELS TO TRIP, MINIMUM CHANNELS OPERABLE, APPLICABLE MODES, and (appropriate) ACTION.

   Justification:

   The SG Water level - High-High setpoints are established by utilizing the Westinghouse 5 column methodology as described in WCAP 12201, Rev. 1.

SG Water Level High-High signal, based on a 2 out of 3 initiating logic is safety related. Use of the SG level protection system for the SG Water Level High-High trip is similar to its use for the SG Water Level Low-Low trip. As such, the LCO requirements and SURVEILLANCE REQUIREMENTS are similar.

The SG overfill protection function is added to the Technical Specification ESFAS table without requiring modification to the current plant design. Portions of the circuitry for SG water level High-High protection, since it was not originally considered part of an ESFAS function, may not meet all the criteria which apply to other ESFAS functions. The design is further described in FPL letter L-90-108 dated March 1, 1990.

The ACTION statement requires "With the number of OPERABLE channels one less than the Total Number of Channels, operation may proceed until performance of the next required ANALOG CHANNEL OPERATIONAL TEST or TRIP ACTUATING DEVICE OPERATIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour." Applying ACTION STATEMENT 15 to the Steam Generator Water Level High-High protection is consistent with the requirements specified for the Steam Generator Water Level Low-Low protection logic.

2. FPL proposes to add SG Water Level - High-High protection logic to Table 3.3-3, Engineered Safety Features Actuation System Instrumentation Trip Setpoints. The requested revision specifies the appropriate values for the ALLOWANCE (TA), Z, S, TRIP SETPOINT and ALLOWABLE VALUE. The specific trip setpoint is $\leq$ 80% of narrow range instrument span, with an allowable value of $\leq$ 81.9% of narrow range instrument span.

Justification:

The SG Water Level - High-High setpoints are established by an uncertainty calculation utilizing the Westinghouse 5 column methodology as described in WCAP 12201, Rev. 1. This methodology is the same methodology performed to develop the current Technical Specifications used in Table 3.3-3.

Turkey Point's nominal trip setpoint was originally established as 80%. Based on the plant and NSSS vendor operating history and experience this nominal trip setpoint has been found to be acceptable. The calculations performed in accordance with the Westinghouse 5 column methodology confirmed the original nominal setpoint of 80% as being acceptable. The uncertainty methodology calculated the channel statistical allowance by including the process measurement accuracy, sensor calibration accuracy, sensor and rack drift, the effects of temperature and pressure on the racks and sensors, etc.

3. FPL proposes to add SG Water Level - High-High protection logic to Table 4.3-2, Engineered Safety Features Actuation System Instrumentation Surveillance Requirements. The requested revision specifies the appropriate frequency for the CHANNEL CHECK, CHANNEL CALIBRATION, ANALOG CHANNEL OPERATIONAL TEST, and MODES FOR WHICH SURVEILLANCE IS REQUIRED.

Justification:

The SURVEILLANCE REQUIREMENTS for the Steam Generator Water Level - High-High protection logic are consistent with the requirements specified for the SG Water Level Low-Low protection, since the instrumentation utilized is essentially the same.

In accordance with Generic Letter 89-19, the selection of the SURVEILLANCE interval frequency ensures that provisions are included to periodically verify the operability of the SG overfill protection and ensure overfill protection is operable during reactor power operation.

4. FPL proposes to change BASES B 3/4 3-2 to include the following statement:

> "This system also provides a feedwater system isolation to prevent SG overfill. Steam Generator overfill protection is not part of the Engineered Safety Features Actuation System (ESFAS), and is added to the Technical Specifications only in accordance with NRC Generic Letter 89-19."

Justification:

The proposed change is made to ensure consistency with the proposed changes to Technical Specification Tables 3.3-2, 3.3-3 and 4.3-2.

Summary

As discussed in this submittal, beyond the inclusion of these items into the Technical Specifications, there are no physical changes to the plant required as a result of the proposed license amendments. The instrumentation required for the SG Overfill Protection function is currently in place and is in use. This amendment simply formalizes the operability and testing requirements of the overfill protection system and prescribes the required actions if the SG overfill protection function is inoperable. The SG overfill protection function is added to the Technical Specification ESFAS table without requiring a modification to the current plant design. Portions of the circuitry for SG Water Level High-High overfill protection, since it was not originally considered part of an ESFAS function, may not meet all the criteria which apply to other ESFAS functions. The design is further described in FPL letter L-90-108 dated March 1, 1990, which was FPL's original response to GL 89-19.

ATTACHMENT 2

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Description of Proposed License Amendments

Generic Letter (GL) 89-19, "Request for action related to resolution of Unresolved Safety Issue A-47...", dated September 20, 1989, requested that licensees incorporate features of SG Overfill protection into plant procedures and the plant Technical Specifications.

The proposed Technical Specification change adds a LIMITING CONDITION FOR OPERATIONS (LCO) and SURVEILLANCE REQUIREMENTS and related BASES description associated with SG Water Level - High-High trip. Specifically, Technical Specification Tables 3.3-2, 3.3-3 and 4.3-2 are revised to include the SG Water Level - High-High trip requirements. BASES Section 4.3 includes the addition of a description of SG Overfill protection.

Currently, Turkey Point has no Technical Specifications requirements in place for SG Overfill Protection, or more specifically, the SG Water Level - High-High trip. However, as addressed in FPL Letter L-90-108, dated March 19, 1990, although FPL does not have a Technical Specification requirement to provide steam generator overfill protection, the Turkey Point plant procedures do include requirements to periodically verify the safety function of the Low-Low level trip operability of the S/G Level Control Channels for the S/G Level Control and Protection System. The procedures which perform the function of verifying operability of the Low-Low level reactor trip also check the SG Water Level - High-High (80%) trip. Other procedures, not required by Technical Specifications, provide for monthly analog channel operational testing, periodic (CHANNEL) calibration and functional testing of instrumentation and operability tests of the feedwater control valves. Feedwater isolation testing, which includes tripping of the feedwater pumps and closure of the feedwater control valves, is performed with the unit in cold shutdown in accordance with the applicable engineering safeguards integrated test procedures.

FPL proposes the addition of the Steam Generator water level - high-high trip setpoint to the Turkey Point Units 3 and 4 Technical Specifications, to meet the requirements of Generic Letter 89-19.

Introduction

The Nuclear Regulatory Commission has provided Standards for determining whether a significant hazards consideration exists (10 CFR 59.92 (c)). A proposed amendment to an operating license for a facility 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 below for the proposed amendment.

Discussion

(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.

Including the SG Overfill protection requirements in the Technical Specifications is not assumed in the initiation of any analyzed event. These amendments will not increase the probability or consequences of an accident previously evaluated since the SG overfill event is not required or assumed for accident mitigation in any Updated Final Safety Analysis Report (UFSAR) safety analyses that comprise Turkey Point licensing basis. The additional requirements for the SG overfill system helps ensure that continuous addition of feedwater and carryover of excessive moisture to the turbine, is prevented. As a result, equipment protection is improved by the availability of this system function. As such, 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.

(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 accident previously evaluated.

The operation of the facility will not change as a result of the proposed license amendments, since Turkey Point currently maintains this protection logic. This change involves only the inclusion of the systems requirements into the Technical Specifications. The proposed change will not impose any new or unique requirements. Therefore, operation of the facility in accordance with the proposed amendments will 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 amendments would not involve a significant reduction in a margin of safety.

The proposed change does not involve a significant reduction in a margin of safety as the function, operation and testing of the installed SG Overfill protection is not described in the UFSAR. In addition, the SG overfill protection logic is not required or assumed for accident mitigation in any of the safety analyses that comprise the Turkey Point licensing basis. The proposed change formalizes

the existing design, operating and testing requirements in the Technical Specifications. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Summary

Based on the above discussion, FPL has determined that the proposed amendment request does not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (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; and therefore the proposed changes do not involve a significant hazards consideration as defined in 10 CFR 50.92.