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SUBJECT: Forwards update re items completed during Cycle 13
 refueling outage conducted on 921001-921203.Items include,
 degraded voltage protection scheme & NRC Bulletin 88-008 re
 thermal stresses in piping connected to RCS.

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L-93-74

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

Gentlemen:

Re: Turkey Point Unit 3
Docket No. 50-250
Activities Completed During Cycle 13 Refueling Outage

The purpose of this letter is to provide an update to the NRC on items completed by Florida Power & Light Company (FPL) at Turkey Point Unit 3 during the Cycle 13 refueling outage.

FPL conducted a refueling outage of Turkey Point Unit 3 from October 1, 1992, until December 3, 1992. Regulatory activities, and items of regulatory interest, for which action was taken during this refueling outage are summarized in the attached.

Should there be any questions regarding this information, please contact us.

Very truly yours,

T. F. Plunkett
Vice President
Turkey Point Nuclear

TFP/ejw

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

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Activities Completed During Cycle 13 Refueling Outage

Degraded Voltage Protection Scheme

By License Amendment No. 152 to the Turkey Point Unit 3 Operating License, dated August 20, 1992, the NRC approved the addition of one definite time delay relay per channel in the existing non-safety injection degraded voltage protection scheme for safety-related load centers, and the elimination of the reference in the Turkey Point Units 3 and 4 Technical Specifications to a specific type of relay used in the degraded voltage protection scheme.

The implementation of the time delay relays for the 480 Volt under-voltage protection scheme, in accordance with Turkey Point Unit 3 License Amendment No. 152, was completed as PC/M 91-128 on Turkey Point Unit 3 on October 20, 1992.

NRC Bulletin 88-08; Thermal Stresses in Piping Connected to Reactor Coolant Systems

NRC Bulletin 88-08, "Thermal Stresses in Piping Connected to Reactor Coolant Systems", dated June 22, 1988, requested that licensees (1) review their reactor coolant systems (RCS) to identify any connected, unisolable piping that could be subjected to temperature distributions which would result in unacceptable thermal stresses and (2) take action, where such piping is identified, to ensure that the piping will not be subjected to unacceptable thermal stresses. Supplements to NRC Bulletin 88-08 provided additional information concerning industry events and emphasized the need for (1) sufficient examinations of unisolable piping connected to the RCS to assure that there are no rejectable crack or flaw indications and (2) enhanced ultrasonic testing (UT) and experienced personnel to detect cracks in stainless steel piping.

FPL, by letter L-90-226, dated June 19, 1990, reported that non-destructive examination of piping falling within the scope of NRC Bulletin 88-08 had been completed for Turkey Point Unit 3. FPL committed to re-examine the piping of Turkey Point Unit 3 during the Cycle 13 refueling outage.

Welds within the scope of NRC Bulletin 88-08 were re-inspected on Turkey Point Unit 3 during the Cycle 13 refueling outage. No reportable indications were found. This information was also reported via the Turkey Point Unit 3, Cycle 13 outage NIS-1 forms, submitted to the NRC by FPL letter L-93-060, dated March 10, 1993. This completes FPL's required activities with respect to NRC Bulletin 88-08 for Turkey Point Unit 3.

NRC Bulletin 88-11; Pressurizer Surge Line Thermal Stratification

NRC Bulletin 88-11, "Pressurizer Surge Line Thermal Stratification", dated December 20, 1988, requested that licensees (1) establish and implement a program to confirm pressurizer surge line integrity in view of the occurrence of thermal stratification and (2) inform the NRC staff of actions taken to resolve the issue.

FPL, by letter L-91-316, dated December 13, 1991, submitted plant-specific analyses considering the effects of thermal stratification on the Turkey Point Units 3 and 4 pressurizer surge lines. The analyses demonstrated acceptable pressurizer surge line stress levels and fatigue life for the remaining life of each unit considering the effects of thermal stratification. The acceptability was contingent on modifications to the surge line spring hanger to accommodate surge line thermal stratification displacement. The modifications assured surge line piping stresses and cumulative usage factors remain acceptable for the remainder of the 40 year licensed life of each unit. FPL committed to complete the modification on Turkey Point Unit 3 during the Cycle 13 refueling outage.

By PC/M 91-199, FPL completed the modification to the Turkey Point Unit 3 pressurizer surge line spring hanger. This PC/M for Turkey Point Unit 3 was completed on October 19, 1992. This completes FPL's required activities with respect to NRC Bulletin 88-11 for Turkey Point Unit 3.

NRC Bulletin 89-02; Stress Corrosion Cracking of High-Hardness Type 410 Stainless Steel Internal Preloaded Bolting in Anchor Darling Model S350W Swing Check Valves or Valves of Similar Design

NRC Bulletin 89-02, "Stress Corrosion Cracking of High-Hardness Type 410 Stainless Steel Internal Preloaded Bolting in Anchor Darling Model S350W Swing Check Valves or Valves of Similar Design", dated July 19, 1989, requested licensees to identify, disassemble, and inspect certain types of swing check valves which may contain Type 410 stainless steel bolting material. The NRC requested that, if the Type 410 stainless steel bolting material is of sufficiently high hardness that it is susceptible to stress corrosion cracking, or has failed; appropriate action be taken.

FPL, by letter L-90-195, dated June 8, 1990, reported the results of its review identifying check valves within the scope of NRC Bulletin 89-02 for Turkey Point Units 3 and 4. In the June 8, 1990, letter, FPL also discussed the scope and status of its activities with respect to the bulletin for Turkey Point Units 3 and 4. In that same letter, FPL committed to take action, in accordance with

the guidance of the bulletin, for four valves for Turkey Point Unit 3 during the Cycle 13 refueling outage.

FPL completed the disassembly and inspection of four model S350W Anchor Darling swing check valves on the Safety Injection Accumulator discharge check valves during the Turkey Point Unit 3, Cycle 13 refueling outage. As committed to in FPL letter L-90-195, three valves remain to be inspected on Turkey Point Unit 3 and are scheduled to be completed during the Turkey Point Unit 3 Cycle 14 refueling outage.

Generic Letter 89-13; Service Water System Problems Affecting Safety-Related Equipment

By Generic Letter 89-13, "Service Water System Problems Affecting Safety-Related Equipment", dated July 18, 1989, the NRC forwarded to licensees operating experience and studies addressing nuclear power plant compliance with the General Design Criteria (GDC) in 10 CFR Part 50 and quality assurance requirements for service water systems. Generic Letter 89-13 required licensees to supply information about their service water systems to assure the NRC of compliance and to confirm that the safety functions of the service water systems are being met.

FPL, by letter L-90-29, dated January 30, 1990, responded to Generic Letter 89-13. In letter L-90-29, FPL stated that a chemical injection program had been implemented on the Turkey Point Unit 3 Intake Cooling Water (ICW) system (as Turkey Point Plant calls its service water system). This chemical injection was intended to prevent fouling and inhibit corrosion of tube material in the Component Cooling Water (CCW) system heat exchangers. Chemical injection was to be implemented at Turkey Point Unit 4 following the demonstration of effectiveness on Turkey Point Unit 3.

While the chemical injection system was effective in maintaining CCW heat exchanger cleanliness, stress corrosion cracking in some CCW heat exchanger tubes was identified. The exact cause of the CCW heat exchanger tubes' stress corrosion cracking has not been identified. Laboratory testing of the Turkey Point Unit 3 stress-corrosion-cracked heat exchanger tubes, coupled with the lack of similar cracking in the Turkey Point Unit 4 CCW heat exchanger tubes, has resulted in FPL re-evaluating its plans with respect to ICW chemical injection.

Since the chemical injection program was suspended, no chemicals have been injected in either unit's ICW system. During the Turkey Point Unit 3 Cycle 13 refueling outage, the Turkey Point Unit 3 CCW heat exchangers were examined and no further stress corrosion cracking was identified.

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Mechanical cleaning has proven to be a practical, cost-efficient method for ensuring the maintenance of the required heat exchange characteristics of the CCW heat exchangers. While at the present time FPL has no plans to install a chemical injection system, future technological improvements may result in Turkey Point re-evaluating its position on the implementation of chemical injection, as opposed to continued mechanical cleaning.

