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 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251

AUTH. NAME AUTHOR AFFILIATION
 SAGER, D.A. Florida Power & Light Co.
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SUBJECT: Forwards response to Generic Ltr 88-14, "Instrument Air Supply Sys Problems Affecting Safety-Related Equipment."

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MARCH 10 1989

L-89-63
10 CFR 50.54(f)

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
Instrument Air Supply System Problems Affecting
Safety-Related Equipment (Generic Letter 88-14)

Generic Letter (GL) 88-14, "Instrument Air Supply System Problems Affecting Safety Related Equipment", issued by the NRC on August 8, 1988, requested that licensees review NUREG-1275, "Operating Experience Feedback Report - Air System Problems, Volume 2, and perform a design and operations verification of the instrument air system.

Due to the extended refueling/reliability outage on Unit 4 and the unscheduled outage on Unit 3, Florida Power & Light Company (FPL) has not completed all actions required by the generic letter. Attached is the status of FPL's response to GL 88-14, and a schedule for completion of the remaining actions.

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

Very truly yours,

W. F. Conway

W. F. Conway
Senior Vice President - Nuclear

WFC/TCG/gp

Attachment

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

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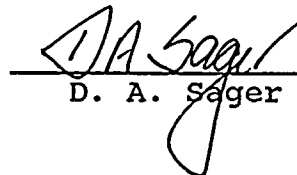
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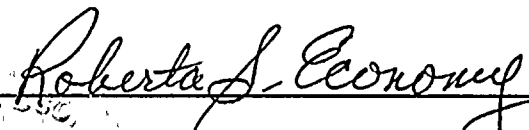
D. A. Sager being first duly sworn, deposes and says:

That he is Acting Vice President, Nuclear Energy 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

Subscribed and sworn to before me this
10 day of March, 1989.



NOTARY PUBLIC, in and for the County
of Palm BEach, State of Florida


My Commission expires: Notary Public, State of Florida
My Commission Expires June 1, 1989
Bonded Through Fidelity Insurance, Inc.

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ATTACHMENT
TURKEY POINT UNITS 3&4
GENERIC LETTER 88-14

INTRODUCTION

Turkey Point suffered degradation of safety-related components in July of 1985, due to contamination of the plant's instrument air system. Ref: LER 250-85-021; IE Inspection Report 85-40, 1/2/86; SSFI Report 85-32, 10/7/85. Since then, FP&L has aggressively pursued improved system performance via upgraded maintenance and operating procedures, additional training of licensed and non-licensed operators, and reviews of system design and capacity. Specific actions related to requirements of GL 88-14, and completion schedules for these actions still ongoing are delineated.

SCOPE

A list of air operated valves was developed, based on the Total Equipment Data Base listing. This list has been verified complete by comparison to instrument air system drawings as marked up during the Select System Program walkdown.

From this complete list, those valves relevant to GL 88-14 were selected. Selection was based primarily on the safety classification of the valves. The final test list comprises 11 unit-common valves and 230 unit-specific valves.

REQUIREMENTS/STATUS

The requirements of the verification are quoted from GL 88-14 below, with the status of related activities:

1. "Verification by test that actual instrument air quality is consistent with the manufacturer's recommendations for individual components served."
 - 1a. Eighteen air quality sample points have been selected to obtain samples from diverse locations throughout the instrument air system. Additional sample points are being evaluated.
 - 1b. An independent laboratory will be selected to analyze the air quality samples.

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- 1c. FP&L Engineering is providing the air quality requirements for those valves on the test list. These requirements will be based on manufacturer's recommendations.
- 1d. Operating Procedure 15604.1, Instrument Air System - Dew Point Check, provides instructions for checking air quality. Instrument air dewpoint is required to be monitored weekly. Surveillance frequency increases if the dewpoint is above the alert range. Off normal operating procedure provides instructions for response to, and correction of, abnormal air dryer indications, including high dewpoint. Additional test connections for monitoring dewpoint at the auxiliary feedwater control valves have been added.

Collation of the component air quality requirements and comparison of the analyzed samples to these requirements is expected to be completed by September 30, 1989.

- 2. "Verification that maintenance practices, emergency procedures, and training are adequate to ensure that safety-related equipment will function as intended on loss of instrument air."

- 2a. Maintenance

Selected maintenance procedures related to the availability of instrument air were reviewed. Many of these were created or revised since the 1985 events, specifically to upgrade the reliability of safety-related functions. These improvements were controlled via administrative procedure 0-ADM-705, Guidelines for the Analytical Based Preventive Maintenance Program. Application of this guiding procedure to the instrument air system is discussed later in this attachment. Several additional improvements were identified during the latest review and appropriate procedure changes have been implemented.

- 2b. Emergency Procedures

FP&L's procedure for Loss of Instrument Air is an off normal operating procedure (0-ONOP-013) rather than an emergency procedure. This off normal procedure was reviewed with regard to the concerns expressed in SOER 88-1, and validated on the training simulator; to date, no changes have resulted from this review and validation.

With the exception of restoration of instrument air inside containment (if possible), the emergency operating procedures do not address or take credit for instrument

air availability. A success path is still available if an air operated valve is manipulated and "Response Not Obtained." Alternative action is then indicated, which is usually manual operation or operation of a manual valve.

2c. Training

All operators receive specific training on the off normal procedure for instrument air, and systems training on plant air systems. Licensed operators also receive simulator training on complete and partial loss of instrument air, as well as the more traditional simulations of individual component malfunctions.

Curricula for maintenance personnel include systems training, and component training (e.g., repair of air-operated valves).

Conclusion

Based on the above information, maintenance practices, emergency procedures, and training are considered adequate to ensure that safety-related equipment will function as intended on loss of instrument air.

3. "Verification that the design of the entire instrument air system including air or other pneumatic accumulators is in accordance with its intended function, including verification by test that air-operated safety-related components will perform as expected in accordance with all design-basis events, including a loss of the normal instrument air system. This design verification should include an analysis of current air operated component failure positions to verify that they are correct for assuring required safety functions."
- 3a. Procedure changes, and in some cases plant modifications, have been initiated for 22 of 54 air operated valves which utilize accumulators. These actions are being taken to ensure proper testing of the check valves associated with the accumulators for backleakage during a loss of instrument air. Surveillance requirements for the remaining valves are still under review.
- 3b. The valves on the test list will have their failure positions verified by test. Credit will be taken for valves tested under the Inservice Testing program, and for valves tested via post maintenance testing.

- 3c. FPL Engineering is compiling the design failure positions for valves on the test list. This information will be based on reviews of the design documentation.
- 3d. Comparison between the as-built failure positions and the plant design will be made to verify that the current failure positions are correct for assuring required safety functions. Any discrepancies will be resolved via engineering disposition of a non-conformance.

A final response to item 3 will be provided by March 31, 1990.

- 4. "In addition to the above, each licensee/applicant should provide a discussion of their program for maintaining proper instrument air quality."

Turkey Point has an extensive program for ensuring that proper instrument air quality is maintained. This program consists of proper operation, surveillance, maintenance and ongoing design review of the system to ensure it functions as intended. These four areas are discussed below.

Operation

Operation of the system is controlled by plant procedures which control the configuration of the system and the operation of system components. These procedures ensure that the normal system configuration from the compressors through the dryer after filters is such that compressor discharge air is cooled, the liquid water and any oil is removed, the air is dried, and particulates are removed prior to admitting the air to the distribution portion of the system. Component redundancy allows for maintenance without compromising air quality.

Surveillance

Plant procedures direct various surveillance activities to identify degradation of air quality. Plant Operator logsheets require (1) blowing down of drain traps upstream of the air dryers (to check for excessive moisture, indicative of trap sticking), (2) checking for proper operation of the after cooler automatic drain traps, and (3) blowing down the dryer after filter drains to check for moisture downstream of the dryers. The dryer control panels are equipped with alarm lights for control malfunctions and high outlet dewpoint.

Plant procedures require dryer outlet dewpoint to be tested weekly. Out of specification dewpoint requires action (notification of the system engineer, increased surveillance, troubleshooting per plant procedure, and blowdown of system drains). The extent of this required action is determined by the dewpoint.

Plant procedures also call for monitoring of system performance and reliability by the system engineer. This is accomplished through frequent system walkdowns to identify potential problems. The system engineer also performs other systematic activities to prevent system failure, predict system degradation, correct system problems, and thereby improve system reliability.

Maintenance

The Instrument Air System maintenance program has been developed in accordance with the Analytical Based Preventive Maintenance (ABPM) program. The goal of the program is to support the plant to preserve the operability and safety of plant system, structures, and components. The ABPM program prioritizes plant systems based on the need for improvement in system maintenance practices. For a particular system, analytical methods are used to generate a set of preventive maintenance (PM) procedures, and the periodicity under which each PM task is to be performed.

The Instrument Air System maintenance program was among the first to be upgraded under the ABPM program. The resulting PM procedures have ensured that instrument air system components are properly maintained at appropriate intervals. This in turn, ensures that the instrument air system continues to supply clean, dry, high quality air as designed.

The compressors currently in use are diesel driven, 100% oil free, rotary screw units. These have provided a reliable source of compressed air. The original plant electric compressors have been removed from service due to concerns about Emergency Diesel Generator loading. The diesel compressors and air-cooled aftercoolers provide a source of compressed air independent of both onsite and offsite electrical power. Maintenance of these units is performed by the vendor.

Design Review

To further enhance confidence in instrument air quality, a system upgrade project has been undergoing development for some time. Several preliminary conceptual designs have been prepared and are being reviewed. Upgrades under consideration include new electric air compressors to replace those currently

unused, new air dryers, on-line dewpoint monitoring, and fewer unit crossties. The conceptual design is expected to be finalized by September 30, 1989.

Interfaces between the instrument air system and other systems which may result in contamination of the instrument air system are minimized by design. The remaining interfaces are being reviewed for possible elimination. For example, the use of the instrument air system to provide supervisory air to fire protection system dry piping is being examined.

Summary

Considerable effort has gone into upgrading and expanding the operations, surveillance and maintenance practices regarding instrument air at Turkey Point, particularly since the occurrences described in LER 250-85-021. To date these efforts have included: 1) improvements to the plant operating procedures to ensure the system and its components are operated per design, 2) improvements to surveillance practices to ensure that component malfunctions or system problems are identified in a timely manner, and 3) improvements to the preventive maintenance program to ensure that system components are properly maintained, with the goal of preventing failures.

The result of these efforts has been to ensure that proper instrument air quality will be maintained at Turkey Point. In addition, efforts to further improve and refine these practices are continuing, as evidenced by the descriptions of the actions and ongoing programs described herein.