

SALP REPORT - ST. LUCIE
50-335; 50-389
JANUARY 2, 1994 - JANUARY 6, 1996

I. BACKGROUND

The SALP Board convened on January 18, 1996, to assess the nuclear safety performance of St. Lucie Units 1 and 2 for the period of January 2, 1994, through January 6, 1996. The Board Meeting was conducted pursuant to NRC Management Directive 8.6, "Systematic Assessment of Licensee Performance." Board members were Ellis W. Merschhoff (Chairperson), Director, Division of Reactor Projects, Region II (RII); Johns P. Jaudon, Deputy Director, Division of Reactor Safety, RII; and David B. Matthews, Director, Project Directorate II-1, Office of Nuclear Reactor Regulation.

The performance category ratings and the assessment functional areas used below are defined and described in NRC Management Directive 8.6, "Systematic Assessment of Licensee Performance (SALP)."

II. PERFORMANCE ANALYSIS - PLANT OPERATIONS

This functional area assesses the control and execution of activities directly related to operating the plant. It includes activities such as plant startup, power operation, plant shutdown, and response to transients.

Overall performance in the operations area has declined from its previous superior level to an overall rating of good. The plant has been operated safely, although there has been an increase in the number of operational events. This increase is attributable to the following: weaknesses in operator performance, the acceptance of long standing deficiencies in plant equipment, management expectations not effectively communicated to personnel and enforced, weaknesses in procedural adequacy and adherence, and the implementation and adequacy of corrective actions. Quality Assurance activities associated with Operations remained strong and effective in identifying areas for improvement.

Operator performance during the period has, overall, been good, and continued to be strong during unusual plant events or evolutions. Operators showed alert and proper response to ten reactor trips, reflecting well upon the licensee's training program and individual capabilities. Similarly, operator performance during twelve observed startups and seven monitored entries into reduced inventory conditions were typified by excellent command and control and thorough operator knowledge. However, operator performance during less demanding or less focused evolutions showed weaknesses in procedural adherence, the identification and correction of deficiencies, and attention to detail.

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Of particular concern, procedural adherence and adequacy issues resulted in, or contributed to, an increase in the number and severity of operational events. The lack of overall quality in plant procedures was underscored by the sheer volume of procedural changes required when a policy of verbatim compliance was adopted.

The ability of Operations to identify and correct problems in a manner sufficient to prevent recurrence was also of concern. This issue was compounded by identified weaknesses in communications across organizational interfaces, in that failures in informal communications were not compensated for by programmatic methods.

Finally, operator attention to detail has declined during this SALP period. Given that issues of procedural inadequacies existed, the importance of attention to detail by operators was amplified, in that it represents an important barrier to failures. The decline in attention to details was indicative of an onset of complacency through the SALP period, a trend which operations management failed to identify and remedy in a timely manner.

The Plant Operations area is rated Category 2.

III. PERFORMANCE ANALYSIS - MAINTENANCE

This functional area assesses licensee activities in the areas of testing and maintaining plant structures, systems, and components. Activities assessed include preventive, predictive, and corrective maintenance, as well as surveillance, post-modification, and post-maintenance testing.

Overall performance in the maintenance area declined from its previous superior level to an overall rating of good. Maintenance provided generally effective support for plant operations on a day-to-day basis. However, there were problems with equipment that adversely affected overall plant performance and provided unnecessary challenges to operations.

Significant problems related to maintenance were manifested by an operability issue with pressurizer power-operated relief valves, reactor coolant pumps seal failures, and inadequate post-maintenance test determinations. There were also procedural difficulties encountered, especially in surveillance and preventive maintenance procedures. These issues had been present but unrecognized previously, and the licensee's remedial actions included an attempt to utilize a "verbatim compliance" approach. However, the older procedures were not written to a level of detail that would support this methodology, and the plant rank and file were not well oriented in the concept of procedural adherence; therefore, the use of verbatim compliance did not resolve the problems emanating from weak procedures.

Management of the maintenance area changed during this assessment period, and by the end of the assessment period, the new management appeared to be providing the leadership necessary to reverse the observed negative trends. In the area of procedures, the new management team instituted a dual approach of correcting the procedures and training the personnel to use them which has seen some preliminary successes.

The surveillance program was implemented satisfactorily, but the procedural problems discussed above kept it from rising to the superior level. Corrective maintenance was performed acceptably and generally had strong management involvement.

In addition to the apparent strength of the new management team, the predictive maintenance group was considered a strength. The group was adept at vibration analysis, thermography, and lubrication analysis. The predictive maintenance group had strong and positive interactions with the operations and maintenance programs and, furnishing early warning of incipient equipment failures, and long-term degradation of important components.

Licensee preparations to implement the new maintenance rule were successful in identifying equipment such as the radiation monitoring system and the emergency diesel generators which were not performing to the licensee's expectations.

The Maintenance area is rated Category 2.

IV. PERFORMANCE ANALYSIS - ENGINEERING

This functional area assesses activities associated with the design of plant modifications and engineering support for operations, maintenance, surveillance, and licensing activities.

The overall performance in the Engineering area remained superior.

The strength of the engineering group was shown in the area of design and installation support. This was manifested by a number of well engineered and implemented plant modifications. In the area of design control and maintenance of the current licensing basis, the engineering organization typically performed well with occasional weaknesses.

The plant's operations were supported successfully throughout the assessment period. Of particular note was the design and installation on Unit 2 of the condenser tube cleaning system. In addition, the licensee has undertaken several initiatives to reduce the number of jumper/lifted leads, eliminate operator work-arounds, reduce the number of old work orders, and to improve the performance of contractors. The fuel vendor independence program will result in better control of core design, improved support for the plant and enhanced fuel utilization. The support of maintenance activities remained strong. The 45th Street Laboratory provided good support with component specialists along with

effective nondestructive examination services. A comprehensive program of monitoring Alloy 600/690 applications focused on the pressurizer, reactor vessel and loop piping penetrations. The recently implemented maintenance specification program should result in effective maintenance support, efficient engineering, and enhanced plant safety. In light of the weaknesses discussed in the Maintenance section, the support of maintenance activities by engineering is an area where improvements could be achieved.

Throughout the assessment period, licensing submittals have been consistently of high quality, reflecting sound engineering judgment and appropriate attention to detail. Safety evaluations demonstrated the licensee's commitment to safety and compliance with regulations.

The Engineering area is rated Category 1.

V. PERFORMANCE ANALYSIS - PLANT SUPPORT

This functional area addresses radiological controls, radioactive effluents, chemistry, emergency preparedness, security, fire protection, and housekeeping controls.

The overall performance in the Plant Support area has remained superior.

The radiation protection program received strong management support. The accumulated dose goal was met for the first year of the assessment period but not for the second year. This was the result of the maintenance problems and the resulting increased outage time. The radiation protection organization continued to implement strong initiatives in the "as low as reasonably achievable" (ALARA) program through the use of remote monitoring of potentially high radiological dose work and the introduction of electronic dosimetry. Management involvement and support was evidenced by the small amount of surface area contamination, a significant reduction in the volume of solid waste, and the readiness of the post accident sampling system. Training and self-assessments were found to be effective. Thus, the combination of management support and an innovative health physics organization resulted in superior performance.

Security maintained an excellent level of performance during a staff reduction of the guard force and the introduction of biometrics. Measures used included effective training, which included the use of a combat firing range and good self-assessments. Changes to the security plan were both appropriate and made in a timely manner. However, there were some performance problems such as a repeat instance of failure to compensate in a timely manner for a computer failure; this suggested a problem with the effectiveness of corrective action from a previous event.

In the fire protection area, combustible control was effective and the fire brigade performed well during drills and during an actual event. However, observation of surveillance testing of the fire protection

systems revealed weak procedures, poor attention to detail, as well as minor past errors that had gone uncorrected. On balance, procedural and surveillance problems detracted from the otherwise excellent level of performance in the fire protection area.

In the emergency preparedness area, the full participation exercise conducted in 1994 was successful, and appropriate emergency classifications were made. Overall exercise performance was rated as good. The status of equipment and supplies needed to support emergency preparedness was found to be adequate. The emergency preparedness program maintained a good state of readiness for event response.

The Plant Support area is rated Category 1.

ACTION

EDO Principal Correspondence Control

FROM: DUE: 02/27/95

EDO CONTROL: GT96019
DOC DT: 12/27/95
FINAL REPLY:

Sen. Bob Graham
(2/5/96 DOE Referral)

TO:

Hazel O'Leary, DOE

FOR SIGNATURE OF :

** GRN **

CRC NO:

Executive Director

DESC:

ROUTING:

ENCLOSES LTR FROM BETTY NAPIER CONCERNING SAFETY
OF THE ST. LUCE NUCLEAR POWER PLANT

Taylor
Milhoan
Thompson
Blaha
Ebnetter, RII
SECY
OCA

DATE: 02/08/96

ASSIGNED TO:

CONTACT:

NRR

Russell

SPECIAL INSTRUCTIONS OR REMARKS:

Reply to Tallahassee, FL Office.
Mark envelope ATTN: Pat Grise.

NRR RECEIVED:

FEBRUARY 9, 1996

NRR ACTION:

DRPE:VARGA

NRR ROUTING:

RUSSELL
MIRAGLIA
THADANI
ZIMMERMAN
CRUTCHFIELD
BOHRER

ACTION

DUE TO NRR DIRECTOR'S OFFICE

BY Feb. 22, 1996