POINT BEACH SALP 12

Report Nos. 50-266/96001; 50-301/96001

I. INTRODUCTION

The Systematic Assessment of Licensee Performance (SALP) process is used to develop the Nuclear Regulatory Commission's (NRC) conclusions regarding a licensee's safety performance. Four functional areas are assessed: Plant Operations, Maintenance, Engineering, and Plant Support. The SALP report documents the NRC's observations and insi hts on a licensee's performance and communicates the results to the licensee nd the public. It provides a vehicle for clear communication with licensee management that focuses on plant performance relative to safety risk perspectives. The NRC uses SALP results when allocating NRC inspection resources at licensee facilities.

This report is the NRC's assessment of the safety performance at the Point Beach Nuclear Plant for the period September 18, 1994, through April 27, 1996.

An NRC SALP Board, composed of the individuals listed below, met on May 8, 1996, to assess performance in accordance with the guidance in NRC Management Directive 8.6, "Systematic Assessment of Licensee Performance."

Board Chairperson

J. A. Grobe, Deputy Director, Division of Reactor Safety, Region III

Board Members

J. L. Caldwell, Deputy Director, Division of Reactor Projects, Region III
G. H. Marcus, Director, Project Directorate III-3, NRR

II. PERFORMANCE ANALYSIS

A. Plant Operations

Performance in the operations functional area during this assessment period was good. Previous weaknesses identified in the last SALP report received additional management attention and showed improvement during the assessment period. Operations management typically made conservative operating decisions; however, some inconsistencies occurred. Materiel condition problems identified by the NRC, coupled with an operational event involving opposite train equipment being taken out-of-service, revealed the need for a stronger questioning attitude by the licensee's operating staff. Late in the assessment period, configuration control problems resulted in two events and one operability problem.

In the previous assessment period, weaknesses were noted with the professionalism of day-to-day control room operations, especially regarding communications and the control of work. A management focus on this aspect of operations resulted in improved operator conduct and control room professionalism. Operator distractions caused by high traf and resultant noise were significantly reduced by the effective use of a work control center. As a result, operator attentiveness to panels and monitors improved.

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Response to off-normal events and transients continued to be very good. Good command and control were evident during recovery from a control rod urgent failure and two reactor trips. Routine management evaluations of simulator activities contributed to effective operator training as evidenced by an improved pass rate for initial examinations. By stressing the carryover of simulator performance attributes to the control room, operator performance was improved in both routine and off-normal situations.

The last SALP report noted a tendency in Management Supervisory Staff (MSS) meetings to allow specific issues to detract from focusing on safety. This tendency was reduced and consequently, the safety focus of MSS meetings improved. Probing questions and candid discussions characterized most meetings. The MSS exhibited a generally good safety focus by typically making conservative operating decisions such as taking Unit 1 off-line to repair a leak on a steam generator secondary hand hole. However, the MSS also made some decisions that did not reflect good safety focus. An example was the approval of a temporary change to a surveillance test that deleted a precaution, prohibiting simultaneous safeguards testing on both units, though an approved, governing safety evaluation specifically stated that such testing should not be conducted.

The need for a stronger, more conservative questioning attitude by the licensee's staff was evidenced by certain events and the NRC identification of materiel condition issues. NRC inspectors frequently identified materiel condition problems in the plant which the licensee's staff, particularly auxiliary operators, had not identified. Examples of such deficiencies included blockage of the air intakes for motor driven auxiliary feedwater pumps, residual heat removal pump seal and drain plug leakage, and seat leakage on the main steam supply valve for a turbine driven auxiliary feedwater pump. The need for a stronger questioning attitude contributed to a scheduling error where an operating crew allowed initiation of an emergency diesel generator overhaul while an opposite train component cooling water pump was out of service. Although this was not prohibited by technical specifications, the crew did not question the appropriateness of the evolution from a risk perspective.

During the assessment period, the licensee trended condition reports and identified a slight increase in the frequency of valve positioning and out-of-service errors. Late in the period, the significance of these configuration control problems increased. Examples included taking the reactor critical with the turbine driven auxiliary feedwater pump discharge valves closed, isolating a safety injection flow meter, and leaving an improper lineup on a reactor coolant drain tank pump that resulted in a waste gas decay tank release. At the conclusion of the assessment period, the licensee was evaluating these events for root cause and formulating corrective actions.

The performance rating is Category 2 in this area.

B. Maintenance

Performance in the maintenance functional area during this assessment period was good. The maintenance staff is experienced and supported operations with good response to maintenance problems, including maintenance on a steam dump control valve, maintenance on reactor trip breakers, and preoperational testing of emergency diesel generators. There were also examples of performance concerns. A motor driven auxiliary feedwater pump was inadvertently started during a timing relay calibration and a personnel error resulted in the loss of a safeguards bus and subsequent start of an emergency diesel generator. Early in the assessment period, good foreign material exclusion practices were noted; however, these practices were not sustained.

Safety-related equipment performed as required when called on during plant transients and no significant problems were detected during the surveillance activities observed. However, identification and resolution of material condition deficiencies that could potentially impact reliability and availability during the period was slow. Oil leaks were identified on safety injection and charging pumps, seal leakage was identified on residual heat removal, charging and component cooling water pumps, and packing leaks were identified throughout the plant which were not addressed in a timely fashion.

Several examples of good programs were noted, including the maintenance work request program, the procedure upgrade program, and the application of risk insights to on-line maintenance. In addition, concerns identified during the previous assessment period about the effectiveness of the CHAMPS II maintenance management program and the condition reporting program have shown improvement. There were some improvements noted in maintenance-related quality assurance functions, as evidenced by the quality assurance audit of maintenance. However, there were several instances where procedure problems were identified. These included procedures addressing in-service testing, reactor coolant pump seal leak repair, auxiliary feedwater pump testing, and diesel fire pump engine overhaul.

Instances of ineffective corrective actions and communication weaknesses revealed a need for additional management oversight. Failure to take corrective action for vibration problems with a service water pump resulted in accelerated inservice testing. There were several examples of inadequate communication of management expectations regarding control of portable equipment and foreign material exclusion, and inadequate communications between maintenance and operations and between maintenance and non-destructive evaluation examiners. For example, while preparing to disassemble a reactor coolant pump seal, a spill of about 40 gallons of reactor coolant occurred. Inadequate communications and coordination of work activities between maintenance and operations were significant contributors to this spill and to a similar spill earlier in the assessment period.

The performance rating is Category 2 in this area.

C. Engineering

Performance in the engineering functional area during this assessment period was good. Teamwork and communication between engineering groups (i.e., system, component and design engineering) and other site organizations was generally good. System engineers, component engineers, operations, and maintenance normally worked together as an effective team to perform corrective and preventive maintenance.

Corporate engineers effectively supported design related activities such as major facility modifications. Engineering was able to readily retrieve design documents when questions were asked relative to in-plant conditions. Control of temporary modifications was considered a strength and late in the assessment period there were only 15 temporary modifications installed for both units, with the oldest installed in 1993. The operator work-around list was a proactive engineering effort and a strength. Electrical modification packages showed good technical analyses and good use of engineering judgement. One example was the modification to provide static switch capability for four safety-related instrument bus inverters.

Engineering issues were not always identified or effectively resolved on a timely basis. A 1994 engineering self-assessment identified many issues resulting in several good initiatives. However, implementation of some of these initiatives, including system walkdown guidelines, was slow. This may have contributed to engineers not being actively involved in the identification of materiel condition deficiencies. When significant issues were identified, engineering was normally effective in getting to the root causes and correcting the problems with appropriate short and long term actions. A recent example involved an auxiliary feedwater (AFW) pump motor which tripped on overcurrent while being fed from an isolated bus with a lightly loaded emergency diesel generator. The licensee demonstrated good engineering judgement in addressing the problem, including thorough testing prior to implementation.

However, the following observations indicate a weak questioning attitude and engineering rigor by some engineers. For example, the licensee did not implement industry practices regarding steam generator tube inspections at support plates and u-bends. A weak questioning attitude regarding the basis for testing requirements led to ineffective corrective actions for spent fuel pool cooling heat exchanger testing problems noted in a prior assessment period. Weaknesses were identified in the day-to-day use of the Final Safety Analysis Report (FSAR) and in the engineering rigor applied to assuring consistency between the FSAR and plant operations practices. Insufficient staff attention resulted in several minor examples where the FSAR was not updated in accordance with 10 CFR 50.71. For example, minimum service water flow to the containment accident fan coolers was evaluated to be 920 gallons per minute but the FSAR value of 1000 gallons per minute was not revised. Also, an analysis to justify an minor increase in service water temperature to 75°F resulted in a subsequent FSAR change but the update did not include all applicable sections. Evaluations for these conditions adequately demonstrated that there was minimal effect on safe plant operation. Weaknesses were also noted in the implementation of the program to perform safety evaluations as required by 10 CFR 72.48 for the dry cask storage project.

Engineering performance on major projects was very good. One example was the successful emergency diesel generator (EDG) tie-in activities for the new EDGs. Early in that project, several weaknesses were noted in the control of contractors. Engineering effectively implemented lessons learned and the control of contractors performing engineering activities during the Fall 1995 outage and the EDG tie-in improved.

The performance rating is Category 2 in this area.

D. Plant Support

Performance in the plant support functional area during this assessment period was excellent. Radiation Protection performance was strong as evidenced by continued low dose and an excellent ALARA program. The chemistry program also remained strong as noted through excellent plant water quality, and effective laboratory quality assurance. While deficiencies were evident in the performance of routine security tasks early in the assessment period, effective corrective actions improved performance late in the assessment period. Emergency preparedness (EP) began strong as noted through very good overall operational status of the program, excellent facility maintenance, and excellent drill performance. However, a decline was observed at the end of the assessment period related to the inadequate staffing of the program. Both the security and EP weaknesses appeared to be resource related.

Radiation Protection strengths included continued low dose, an excellent ALARA program, and excellent coverage of outage and Independent Spent Fuel Storage Facility activities. ALARA initiatives included reactor head shielding during head lifts, and permanent shielding for the fuel transfer tube in both units. Improvements were initiated to control cyclical contamination control weaknesses, including the decontamination of several contaminated areas, establishment of a contamination mitigation team, and aggressive pre-outage discussions with various groups to ensure proper radiation work practices were understood and followed. The only identified weakness concerned high radiation area (HRA) control, where three unauthorized HRA entries occurred during the assessment period. The licensee evaluated these events and determined that no appreciable dose was received.

Chemistry program strengths included plant water quality consistently being within industry guidelines, effective quality control and chemistry instrumentation maintenance, and excellent laboratory performance. The Radiological Environmental Monitoring Program (REMP) sample equipment was in good material condition and within calibration, and both REMP and radiochemistry technicians were very knowledgeable of their systems.

During the assessment period, the security program had implementation deficiencies which were evident in routine tasks involving alarm station operator performance, security barrier integrity maintenance, compensatory measure implementation, sensitive information control, and personnel and package access control. However, toward the end of the assessment period, corrective measures were effectively initiated. Appropriate action was directed to correct identified deficiencies to maintain effective plant protection activities. Security program design and implementation practices for the Independent Spent Fuel Storage Facility were excellent.

Emergency Preparedness program strengths included very good operational readiness of the program, excellent facility maintenance, and an excellent annual audit of the emergency preparedness program. Drill performance improved from the previous years. Performance during the 1994 and 1995 exercises was good. Overall management support remained strong. However, beginning in December, 1995, performance declined. Performance problems appeared to be related to staffing of the program. Management was not sensitive to the program impact of staffing changes and was slow to fill vacated positions.

Overall, the performance rating in the plant support functional area is Category 1.