

craft and procedural inadequacies. Insufficient operations involvement in maintenance activities also detracted from the overall performance rating.

Management oversight and involvement in maintenance were significantly improved during the latter part of the assessment period. Maintenance management implemented structural changes to the organization and process enhancements that substantially changed the way maintenance was controlled and executed at the plant. The changes included the implementation of a dedicated planning and scheduling organization. That change transitioned maintenance from shop planning and scheduling to a 5-week look ahead schedule, with measured results and a feedback system to further enhance the process. Structural changes were ongoing that should further enhance the effectiveness and efficiency of the planning and scheduling process. Several maintenance self-assessments had been performed prior to restart from the outage. The assessments were viewed as self-critical and effective. Subsequent to plant restart, there had been no additional self-assessments performed in the maintenance area.

Notwithstanding the structural improvements, there remained significant opportunities for improvement in the control of work. The lack of engineering support to factor risk insights into the maintenance scheduling process and the unnecessary simultaneous removal from service for planned work of two service water booster pumps when parts were only available for one typified the weaknesses. Of particular concern was the work performed by operations personnel to adjust valve limit switch setpoints. For certain valves, this work had the potential to impact safety system interlocks. The work was not performed in accordance with written instructions, was not within the skill of the craft, and was not documented. These recent NRC findings indicated that the control of maintenance work performed by operations personnel continued to need significant management attention.

In addition, NRC inspectors noted that maintenance performance continued to rely on the skill of the craft. As a result, the content of procedures was not critically reviewed and prejob briefings, provided by both operations and maintenance personnel, were not in-depth and comprehensive. Maintenance supervision had placed emphasis on craft training and the training department had improved class availability to facilitate attendance by the crafts. Procedures and instructions for the performance of maintenance were being improved, but challenges to plant workers continued. This was highlighted by the use of a defective procedure which resulted in the omission of a filter on the elevated release point Kaman monitor.

The overall material condition of the plant had improved somewhat and ranged from adequate to good. Some areas, such as the interior of the torus, the interior of large tanks, and the Z sump needed additional attention.

Surveillance test performance was inconsistent. Of concern was a recent NRC finding that indicated continued reluctance by operations to initiate the corrective action process. Operations personnel identified preconditioning concerns with sequencing of high pressure core injection and reactor core

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isolation cooling system surveillance tests and documented these concerns in the test record, but did not initiate the formal corrective action process. Continuing opportunities to improve procedures and instructions for the performance of surveillance testing were indicated by recent NRC observations and licensee event reports. Notwithstanding these concerns, some instances of excellent test performance were noted. *

The performance rating is Category 3 in the maintenance functional area.

C. Engineering

Overall, the safety focus and performance level in this functional area was considered adequate. The performance level declined in a number of areas from the level observed in the previous assessment period. Although management initiated substantial programmatic improvements in the latter part of this assessment period, the effectiveness of those actions had not yet been demonstrated.

In October 1994, an NRC special evaluation team inspection identified significant problems in this functional area and concluded that major programs were ineffective. These areas included engineering support of surveillance testing of equipment and systems, engineering support of plant activities, assurance of operability of plant equipment, control of work, and configuration control. Based on the NRC evaluation team and other NRC inspection findings, it was concluded that weaknesses in the use of design basis information, weak processes and controls, and poor management of engineering resources contributed to the ineffectiveness of the engineering organization.

Deficiencies in the understanding, maintenance, and application of design basis information were contributing factors in several significant issues resulting in enforcement actions and reflected poorly on the engineering organization's involvement in assuring plant safety. For example, engineering failed to identify that the surveillance tests of the electrical distribution system, control room envelope, and containment penetrations were not sufficient to demonstrate that these systems were capable of performing their design functions. Although efforts to improve the implementation of the surveillance testing program were noted near the end of this assessment period, engineering personnel involvement in this effort still required significant improvement.

Actions were taken to effect long-term sustainable improvement in the performance of the Engineering organization. The recent reorganization of all engineering functions and the hiring of new management and staff was viewed as a positive step. However, the reorganization was not completed at the end of this assessment period and, as a result, significant positions in several key areas were vacant.

MEETING: COOPER NUCLEAR STATION PUBLIC SALP MEETING

DATE: AUGUST 18, 1995

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