

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-482/95-16

License: NPF-42

Licensee: Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, Kansas

Facility Name: Wolf Creek Generating Station

Inspection At: Burlington, Kansas

Inspection Conducted: August 28 through September 1 and September 11-15, 1995

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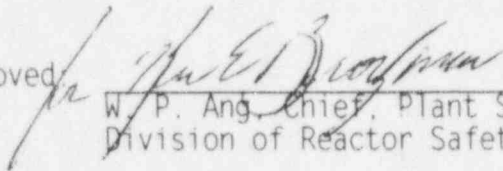
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11/2/95
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EXECUTIVE SUMMARY

The inspection was conducted using Inspection Procedure 40500, "Effectiveness of Licensee Controls in Identifying, Resolving and Preventing Problems." The inspection predominantly focused on the Operations and Maintenance functional areas.

Management Systems and Processes

Overall, the team found that Wolf Creek had a good self-assessment capability. Performance issues were known and identified, and usually addressed. The team found that management attention and priority had been recently provided to change and enhance the corrective action and work control programs. At the time of the inspection, those changes were still in the initial stages of implementation. The team noted that the licensee needed to continue to assess the effectiveness of their efforts and to provide further changes where problems are identified.

The team found that there was a common understanding of management expectations in the area of procedural adherence and work and safety practices at Wolf Creek. Safety was predominantly considered a first priority. The team did note that management expectations related to when to write a performance information report (PIR) were not consistently understood at the lowest level of the organization.

The team observed good communications in several regularly scheduled meetings associated with the licensee's corrective action and work control programs. However, the team also noted that a meeting used to screen performance information requests was not proceduralized and the limited composition of the group did not appear adequate to ensure an understanding of the generic implications of each problem reviewed.

The licensee's corrective action program was generally good but in transition. There were some areas which required further attention. Incompatible procedures concerning the review of performance information requests were identified. The team also observed that no formal checks and balances existed for assuring that the decisions by the Central Work Authority were effective in ensuring a site-wide perspective.

Although the licensee's corrective action program was in the middle of a major revision, the team concluded that it was generally effective in identifying and resolving both hardware and nonhardware problems. Overall, good root cause analyses were performed for the significant performance information requests reviewed and appropriate corrective actions to prevent recurrence were taken. However, for two performance information requests, appropriate corrective action was less than adequate. Additional attention by the licensee to address this problem is considered appropriate.

The licensee had implemented a comprehensive self-assessment program. The self-assessments reviewed were well planned and identified valid weaknesses and appropriate recommendations. The team considered the use of the performance information request process a good way to ensure that the assessment results were tracked and closed.

Although the licensee's self assessments were good, some performance information requests generated from self-assessments were found to be narrowly focused and did not address all of the issues contained in the self assessment. Some performance information requests did not always result in rigorous root cause determinations and subsequent short-term and long-term corrective actions.

Based on the audits reviewed, the licensee had a good audit program that produced valuable feedback to the audited organization.

Operations

The team noted good operational controls. Management expectations were well understood and implemented. Procedures were clear and technically accurate. The licensee implemented good followup to the September, 1994 draindown event and the team closed 3 violations and the licensee event report associated with that event.

The licensee effectively implemented a systematic approach to training. The licensee adequately defined training needs and incorporated industry and on-site events into lesson plans. A recent audit of the licensee's training program was thorough and self-critical. Operator work-arounds were adequately identified and tracked.

The team observed selected surveillances and noted good performance, effective communications, and clear procedures. One minor vulnerability was noted which presented a potential challenge to successfully completing some surveillances. This item involved a procedure performance method which could result in being unable to adequately perform independent verification as a result of actions taken in subsequent procedure steps. The licensee acknowledged this vulnerability and stated that the procedure information program would address this concern.

During observations of the operating crews' performance, the team noted that an uncontrolled binder containing operations information reports was available in the control room. This matter was of concern because it potentially could result in the use of uncontrolled and inaccurate information for the control of the plant.

Maintenance

The team performed a limited observation of work activities due to the relatively small amount of ongoing safety-related work in the maintenance area. It was noted that some activities considered good shop practice were not routinely included in nonsafety-related work instructions. Although this was not a regulatory concern for nonsafety-related work, the team felt that

consideration should be given to formally incorporating these work practices into safety-related work packages. There were no instances identified where safety-related work packages relied on good shop practices.

The licensee was in the process of changing the work control program at the time of the inspection. These changes included adopting an electronic work control system, requiring qualification cards for work planners, and developing a formal process for building a work package. Since the licensee was in the early phases of modifying these processes, the overall effectiveness of these changes will need to be evaluated in the future. It appeared to the team that the changes will result in an improvement to the effectiveness of the work control program.

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ATTACHMENTS

- Attachment 1 - Persons Contacted and Exit Meeting
- Attachment 2 - List of Documents Reviewed

DETAILS

1 INTRODUCTION

This inspection was conducted to evaluate the effectiveness of the licensee's quality oversight and corrective action programs with an emphasis on operations and management's involvement in defining and monitoring expectations. The inspection also focused on how previously identified performance problems have been addressed by the licensee.

2 OPERATIONS

The area of operations was evaluated through a review of licensee program requirements and their implementation, procedure usage and quality, daily control room shift and work control activities, and response to events and self-assessments.

2.1 Training

The licensee's training program is defined and implemented through various procedures, which the team reviewed for clarity and adequacy. ADM 06-224, Revision 12, "Licensed Operator Requalification Training Program," was the primary focus of this review, however other procedures associated with the design, development, implementation and evaluation of the licensee's training programs were also reviewed. The team noted the procedures were well formatted, clearly described licensee programs, and met the qualitative guidelines of NUREG-1220, Revision 1, "Training Review Criteria and Procedures." Training needs were defined and completed training was effectively identified and tracked.

Several changes have been made to the training process for the operator training programs in 1995. The changes were characterized by greater formality and structure for the process activities. Of particular note were the improvements made to the program evaluation elements of the systematic approach-to-training process. The training advisory group meets more frequently and is now governed by a formal agenda outlining standard topics for discussion, minutes from the last meeting, and evaluations of the effectiveness of previous corrective actions. The licensee had initiated an end-of-cycle meeting between operations management, the shift supervisor and the training staff to assess the effectiveness of the training cycle based on immediate feedback. The crews were given an opportunity to participate in the end-of-cycle evaluation and discussion. All those interviewed about these changes characterized them as improvements. Additionally, the licensee had proceduralized the improvements to ensure continued adherence to a rigorous systematic approach-to-training methodology.

The licensee implemented a plant wide procedure upgrade program in early 1994, and had completed the upgrade of 88 percent of approximately 2500 procedures, ahead of the established program schedule goal. The percent completion of major operating procedure revisions were as follows: 100 percent of plant general procedures; 100 percent of alarm response procedures; 89 percent of off-normal procedures; 100 percent of emergency procedures. Surveillance

procedure revisions were 51 percent completed. Important changes were identified and operations personnel were either given formal classroom training on the revision, assigned required reading, or were briefed during shift turnovers on the nature of the revision. These methods appeared to be effective in promulgating the changes to the operations department.

The team reviewed the current cycle lesson plans for training on recent industry events. The lesson objectives were stated clearly and supported by the details of the reference material in the lesson plan. During personnel interviews, the team questioned several licensed operators about training received on industry events. The operators consistently stated that they had received extensive training on the September, 1994 reactor coolant system draindown event, and other site events, with the Salem loss of reactor coolant system flow reactor trip noted most frequently.

2.2 Surveillance Procedure Adequacy

The team reviewed fifteen completed and observed four in-progress surveillances. In each case, the procedure was technically accurate, adequately documented, and professionally conducted with the appropriate initial conditions verified.

The team noted one potential vulnerability to the successful completion of some surveillances. Procedure AP 15C-002, Revision 3, "Procedure Use and Adherence," states that, for continuous use procedures, steps shall be conducted in order; however, independent verification that is required for designated steps may be conducted after the procedure has been completed. The team noted that the ability for a second independent operator to verify the completion of a procedural step was sometimes impossible, such as when a final valve position was different than the position required to be independently verified. The Manager, Operations, acknowledged this potential vulnerability and agreed that it could impact scheduling from an efficiency standpoint due to the need to reperform the surveillance.

2.3 Daily Operations and Work Control

The team performed observations of day-to-day activities in the control room, coordination of control room activities with various site departments, daily work control planning and management meetings, and other observations of site housekeeping and material condition.

The team obtained a schedule of planned surveillances for the duration of the inspection period. The plan was detailed and outlined the specific surveillance, the responsible work group, and the expected date and time frame the surveillance was to be performed. The team noted that the activities outlined on the schedule were performed substantially as planned, with minor exceptions.

The team questioned several licensed operators about operator work-arounds in the control room. The operators had a consistent understanding of the definition of a work-around, were familiar with the previously identified operator work-arounds in the control room and the associated compensatory

actions required, and were knowledgeable in the planned corrective actions for the associated component/system. The licensee updates the current status of operator work-arounds monthly. The update is published as an addendum to the Wolf Creek Generating Station monthly management report. There were 17 identified operator work-arounds in the report, reduced from the 21 identified in the report in April of this year when the licensee first began to formally identify and track operator work-arounds. The central work authority was responsible for maintaining the current status of operator work-arounds.

The team observed effective communication practices in the control room, although minor instances of informality were noted. One instance was observed where another department failed to notify the control room of an emergency planning response training drill that was being conducted. This resulted in distraction and momentary confusion in the control room. The control room discovered the drill was being performed when drill participants mistakenly utilized the designated control room operational radio channel in lieu of the designated drill channel. The on-shift supervising operator contacted the responsible department to change to a different communications channel. The supervising operator stated that this had happened before when the normal channel for that group malfunctioned, and the drill was performed without notifying the control room. A performance information request was not generated for the improper use of the control room operational communication channel.

The team observed good command and control from the senior licensed operators, consistently noting formal control of access into the designated "at the controls" area of the control room. The shift supervisor was also noted to be in the "at the controls" area frequently. In one instance, the inspector observed a fire panel alarm annunciate and the supervising operator respond. The supervising operator announced the alarm, referred to the alarm response procedure, and directed action to identify the cause and validity of the alarm. Within a few minutes, the supervisor had established that the alarm was valid but there was no fire, and that the smoke was from a testing procedure being conducted by the chemistry department on the flame atomic charcoal adsorber. The supervising operator stated that this had occurred before, and that a performance information request had been generated and subsequently closed. The supervising operator initiated an action request, after first considering initiating a performance information request. A performance information request was not generated for this occurrence. The licensee identified that the cause of the fire alarm was a misaligned exhaust plenum, which became misaligned during maintenance activities in the overhead near the plenum. The inspector verified that the performance information request for the past occurrence had been generated, but noted that no corrective action had been taken to prevent future occurrence of the event, and that this was the apparent cause of the observed occurrence. The team considered the actions of the supervising operator to be timely and well directed.

The team observed that the major areas of the plant that required operational interface were well maintained and lighted. Housekeeping throughout the plant was considered to be good.

2.4 Followup on Open Items

2.4.1 (Closed) Violation (482/9418-01) and Licensee Event Report (94-13): Rapid drain-down of the pressurizer and partial depressurization of the reactor coolant system.

Failure to adhere to Technical Specification requirement 6.8.1.a was cited when licensee operators opened a residual heat remover valve. This was inconsistent with the reactor coolant system boundary conditions that had been established for reactor coolant system cooldown and resulted in a partial blowdown of the reactor coolant system to the refueling water storage tank. A licensee event report had been issued to address the event and to delineate the corrective actions. The licensee event report was reviewed and is closed based on completion of the corrective actions.

All corrective actions to which the licensee committed in the response to the violation and in the individual licensee event report had been completed. The team reviewed each of the corrective actions and concluded that they were responsive, appeared to be adequate, to preclude a recurrence of the draindown event, and reasonably addressed the root cause of ineffective work control.

2.4.2 (Closed) Violation (482/9418-02): Inappropriate omission of a procedural step, resulting in a violation of a procedural precaution statement.

Failure to adhere to Technical Specification requirement 6.8.1.a was cited when a surveillance was conducted in a mode not allowed by the precautions of the surveillance. The precaution and related step in question were inappropriately marked as not applicable (N/A). All corrective actions to which the licensee committed in the response to the violation had been completed. The team concluded that the actions appeared to be responsive and adequate to reasonably prevent recurrence of the violation.

2.4.3 (Closed) Violation (482/9418-03): Failure to determine if an emergency declaration such as a notification of unusual event should have been declared.

Failure to adhere to Technical Specification requirement 6.8.1.a was cited when, in response to the reactor coolant system partial draindown, the operators failed to reference EPP 01-2.1, "Emergency Classification," to determine an appropriate emergency action level for the event. All corrective actions to which the licensee committed in the response to the violation had been completed. The team reviewed the actions and concluded that they appeared to be adequate to reasonably prevent recurrence of the violation.

3 MANAGEMENT SYSTEMS AND PROCESSES

In the area of management systems and processes, the team assessed the ability of the plant's management team to provide direction to the plant staff by evaluating meeting effectiveness, priority setting, and interdepartmental

teamwork. The team also assessed organizational communication by evaluating the staff understanding and implementation of management expectations, particularly in the area of procedural adherence and problem identification.

These assessments were performed by conducting numerous interviews and attending several meetings regarding management issues. The group of individuals interviewed were representative of all levels, from the president to the technician, and all segments, from operations to maintenance to engineering to quality assurance, of the plant population. The interviews included questions to determine the level of understanding of management expectations and to assess the degree to which those expectations are being performed.

3.1 Standards and Expectations

Licensee management has used a variety of methods to communicate and reinforce their expectations of plant workers. For example, newsletters are published on a weekly basis to provide updates to items of current interest; wall postings outlining the management expectations underlying all work activities are prominently displayed; and, meetings are held by each department.

Based on interview results, the team determined that there was a common understanding of management expectations in the areas of procedural adherence and work and safety practices. All personnel interviewed identified safety as the first priority when performing all work activities. The upper levels of the organization have a common understanding of management expectations in the area of problem identification. However, isolated cases at the technician level were identified that indicated that there was some confusion as to when a performance information request should be written.

Some workers believed that it was unnecessary to write a performance information requests if they could immediately correct a problem. This appeared to be especially true if they believe that the outcome with a performance information requests would be the same as fixing the problem without initiating a performance information request. When asked for examples, one technician indicated that the door of the dumb-waiter used to transport samples between floors did not lock easily despite the fact that the door had to be verified-locked after use. Some of the technicians indicated during interviews that they would not write a performance information request if they could successfully get the problem fixed themselves, in this case getting the door locked in some manner. Other technicians indicated that they would write a performance information request to document the problem.

An additional situation related to radiation work permits was also discussed with technicians and provided mixed responses. When an radiation work permit is suspended, the data must be logged on the radiation work permits and also in a counterpart computer record. When it was discovered that the suspense date was noted in the computer but not written on the radiation work permit, one technician believed that a performance information requests was not needed

since the problem could be solved by writing the suspense date on the radiation work permit. However, a supervisor in the same group indicated that a performance information request was the expected response in this situation.

Both of these situations are indications that there was not a common understanding of when a performance information request should be written at the lowest levels of the organization. The mindset of not documenting minor problems by writing a performance information request if the problem can be fixed immediately, circumvents the trending dimension of the performance information request process. Other limitations of the performance information request process have been identified but not yet successfully corrected and are discussed in Section 4.1.4 of this report.

3.2 Organizational Communication

Several regularly scheduled inter-departmental meetings provided the opportunity to observe communication and teamwork. The morning briefing by the shift supervisor provided the opportunity to inform all work groups about the work plan for the day as well as to update the groups on progress from the previous day. The effectiveness of this meeting varied, based on the individual shift supervisor conducting the meeting.

The management meeting held each morning was effective in keeping the managers of the various work groups informed of the current status of the plant and of the work priorities for the day. Management expectations in key areas such as safety, procedure compliance, and problem identification were frequently reinforced. Teamwork was stressed with some efforts to coordinate interdepartmental activities evident.

The team also observed the conduct of the daily performance information request review meeting. The three groups represented at the meeting were the central work authority, performance assessment and engineering. The review of the performance information request was appropriately focused when operability or reportability was an issue. However, the discussions and questions during the meeting indicated that the limited composition of the group did not appear adequate to ensure an understanding of the generic implications of each problem reviewed, particularly in those work areas not represented at the meeting.

4 PROBLEM IDENTIFICATION AND CORRECTIVE ACTION PROGRAMS

The adequacy of the licensee's problem identification and corrective action programs was evaluated through a review of licensee program requirements and their implementation, procedure usage and quality, and through interviews.

4.1 Corrective Action Program

The licensee was in the process of revising the corrective action program during this inspection. The use of action requests had recently been implemented. At the time of the inspection, action requests were initiated for any hardware deficiency or problem. An action request was originated by inputting a request into a paperless computer based system called the

electronic work request system in accordance with Procedure AP 16C-001, "Action Request." All action requests were reviewed promptly (usually the same day) by an individual designated as the central work authority in accordance with Procedure AP 16C-002, "Work Controls." The central work authority reviewed the action request for potential operability and reportability determinations and forwarded the action requests to the planning group to generate the Work Packages.

Prior to the implementation of the action request/electronic work request system on July 25, 1995, Work Requests were used to initiate corrective action for hardware problems. All of the Work Requests had not been completed and were still being used to control hardware related work at the time of the inspection. In order to track Work Requests in the tracking system for Work Packages, a Work Package cover sheet was attached to all open Work Requests.

Nonhardware deficiencies or problems were reported on a performance information request. Performance information requests were initiated in accordance with Procedure AP 28A-001, "Performance Information Requests." At the time of the inspection, performance information requests were processed as a hard-paper system separate from the action request/electronic work request system. The licensee planned to combine the two systems in the near future by reporting all plant deficiencies or problems as action requests using the electronic work request system.

4.1.1 Action Request Procedures Review

The team reviewed the following procedures:

- AP 16C-001, "Action Request." Revision 0, effective date June 23, 1995.
- AP 16C-002, "Work Controls." Revision 1, effective date July 28, 1995.
- AP 29-001, "Central Work Authority." Revision 1, effective date May 1, 1995.

The procedures described a workable problem identification, corrective action and resolution system for hardware related problems. However, the team identified an apparent conflict between Procedures AP 16C-002 and AP 28A-001. Attachment B, paragraph B.2.1.6 of Procedure AP 16C-002 stated that "If the AR is for a performance information request then the central work authority will perform the following:

- Review the performance information request type action requests in accordance with AP 28A-001."

Procedure AP 28A-001, paragraphs 5.2.1 and 6.2 stated that the review of performance information request is performed by performance assessment. The licensee stated that the conflict was due to a change in the process that was not incorporated into Attachment B of AP 16C-002. The licensee initiated PIR 95-2275 to address the problem.

4.1.2 Action Request Process Observations

The team observed the central work authority process action requests 8641 and 8642. Action Request 8641 became Work Package No. 104864 which was to clean the "O" rings on Radiation Monitor GHRE 0023 and Action Request No. 8642 became Work Package No. 104866 for the repair of the relief valve on the cooling water supply to Air Compressor "A". Both action requests were for nonsafety systems. The central work authority processed the action requests in accordance with Procedures AP 16C-002 and 29-001.

4.1.3 Review of Work Packages and Work Requests

The team selected nine Work Packages and ten Work Requests to review. The Work Packages and Work Requests reviewed are listed in Attachment 2. The team determined that the licensee had assigned the proper safety classification and the corrective actions taken were appropriate. None of the Work Packages or Work Requests were classified by the licensee as significant and therefore, did not require a root cause analysis. The team agreed with the licensee's classification.

4.1.4 Performance Information Request Procedure Review

The team reviewed Procedure AP 28A-001, "Performance Information Request," Revision 2, dated May 19, 1995. The team determined that the procedure generally provided an acceptable process for identifying and resolving nonhardware problems. However, the team was concerned that the performance information request review performed by the performance assessment organization was not comprehensive. According to the Supervisor of Plant Trending and Evaluations, the performance information requests were reviewed by one of four individuals in the Plant Trending and Evaluation Organization in accordance with the licensee's Procedure AP 28A-001. These individuals determined the potential affect of the reported condition on the operability of the plant and the potential reportability. Except for one person, these individuals did not appear to have the necessary training and experience to make the potential operability and reportability assessments required by the procedure.

The team interviewed the four individuals that were performing the reviews of the performance information requests. One of these individuals was a past licensed senior reactor operator (SRO) at Wolf Creek. Although he was the training manager in 1994 and possessed a cold license, he had no additional training in the operations area. Two of the individuals had 8 to 10 years experience as quality assurance/quality control auditors. Their training in the operations area consisted of an approximately 10 week PWR systems course given at the site during 1985 and 1986. The fourth individual also received the same training and had 12 years of clerical and data base management experience. This individual spent approximately 99 percent of the time coordinating the input of completed performance information requests data into the performance information request data base. Performance information requests that were considered easy and had no potential operability or reportability concerns were reviewed by this individual.

In discussions with the licensee the team learned that each day one of the performance information request reviewers met with the central work authority and a representative from Engineering. The purpose of this meeting was to discuss the potential operability and reportability decisions made by the performance information request reviewers. The team determined that this review provided adequate assurance that potential operability and reportability issues would be identified. However, this meeting was not required by any of the licensee's procedures. The team recognized that this was a temporary problem. When performance information requests are to be included in the action request/electronic work request system, Procedure AP 29-001, Revision 1, "Central Work Authority," the central work authority will be required to perform initial operability and reportability evaluations. Procedure AP 29-001 also required the central work authority to have or have had a Senior Reactor Operator license or certification at the Wolf Creek Generating Station. The team interfaced with the two individuals assigned as the central work authority during the inspection. Both were well qualified by training and experience to determine the potential operability and reportability of a condition.

Several quality assurance assessments had identified problems with the performance information request process. A quality assurance report issued in January 1995, indicated that a lack of understanding of the performance information requests program requirements could be contributing to the performance information request problems identified in that report. An engineering corrective action investigation dated June 1995, indicated that some engineers were unclear as to whether or not a performance information request must be written when a mistake can be simply corrected. These facts about the performance information request process were also reflected in the interview results documented by the team in the management programs and processes section of this report. The performance information requests and related action request processes were currently in a state of transition, however, the problems identified by the team appeared to be related to management expectations rather than process deficiencies.

4.1.5 Performance Information Request Process Observations

The team observed the review of PIR 95-2241. The problem described by the performance information request was a gas cylinder inappropriately tied to Conduit 5U5R1B. The conduit was not safety-related, but the gas bottle had the potential to become a missile when improperly secured. The reviewer processed the performance information request in accordance with Procedure AP 28A-001.

4.1.6 Review of Performance Information Requests

The team selected 11 performance information requests for review. The performance information requests reviewed are listed in Attachment 2. The team determined that the performance information requests had been processed as required by Procedure AP 28A-001. Three of the performance information requests were appropriately categorized as significant and included the required root cause analysis. The actions taken to prevent recurrence, in all three cases, were appropriate. The other eight performance information

requests were closed. Three of the performance information requests were closed by reference to other performance information requests that were not closed. With the exception of PIR 95-1087, all the closed performance information requests were found to have adequate corrective actions. The team verified that the actions were complete by review of the closure documents.

Performance Information Request 95-1087 was issued because changes were made to the description of two essential service water Valves (EFV202 and EFV222) and no request was made to change the configuration status accounting retrieval system (CSARS) data base. The apparent cause of the failure to request a change to the configuration status accounting retrieval system data base was stated as "AP 03-007 (Plant Labeling Guidelines) was not followed to ensure all items were changed when a component name was changed." The action taken to address this problem was "CSARS has been changed to incorporate the new names for EFV202 and EFV222." No action was taken to address the apparent root cause. This was one of two performance information request (see Section 4.3 below) that was closed without action to address the apparent root cause. Since neither of these failures to take appropriate action were significant, no additional NRC action was warranted. However, the licensee was asked to consider whether additional action to address this weakness in their corrective action program was warranted.

4.2 Self-Assessments

The licensee was found to have a comprehensive self-assessment program. Guidance had been issued to all Division Managers to require that they conduct self-assessments of their organizations on an annual basis. The Coordinator of Self-Assessments maintained a schedule of planned and completed self-assessments. The Coordinator had issued a self-assessment report, dated August 29, 1995, which indicated that 57 self-assessments had been completed since April 1994.

4.2.1 Self-Assessment Procedure Review

The team reviewed Procedure AP 28D-001, "Self Assessment Process," Revision 0, dated December 16, 1994. The team found that the procedure provided instructions for planning, conducting and reporting self-assessments. All self-assessments were required to have a plan approved by the responsible manager. The team noted that all weaknesses and recommendations for improvement were required to be documented on one or more performance information requests. The team considered the use of the performance information request process a good method to ensure of self-assessment results were tracked and closed.

4.2.2 Review of Self-Assessments

The team reviewed the Self-Assessment Report dated August 29, 1995 and verified that all Division Managers for Divisions that performed safety related work had conducted one or more self-assessments of their organizations in the past year.

The team selected the following self-assessment reports for review:

- SEL 94-049 Self-Assessment of the QA Audit Process
- SEL 95-023 Work Process Functions
- SEL 95-018 Operations Functions
- SEL 95-031 Electronic Work Controls System
- SEL 95-025 Periodic Assessment of the Maintenance Rule Implementation Effectiveness
- SEL 95-019 Instrumentation & Controls Surveillance Testing Procedure Performance
- SEL 95-017 Electrical Maintenance Procedures
- SEL 95-006 WCNOC Mid-Term Self-SALP Evaluation (1995)
- SEL 94-047 Electrical Maintenance Training Program
- SEL 94-046 Mechanical Maintenance Training Program
- SEL 94-045 I&C Technician Training Program
- SEL 94-039 Maintenance Rule Implementation Program

This group of reports included all maintenance department self-assessments conducted since January 1, 1994. All of the reviewed self-assessments had an approved plan. The team found the plans to be well written to include the areas to be evaluated and the methods of evaluation. The evaluations resulted in the identification of weak areas and the development of many good recommendations. Each area of weakness and each recommendations were documented on a performance information request. The team reviewed all of the performance information request associated with the self-assessments listed above. For the closed performance information request, the team found the actions taken were adequate to address the issues raised. Except in two cases where the performance information requests was closed by reference to another performance information requests, the team verified by review of closure documents that the actions were completed.

4.3 Audits

The team selected the following audits for review:

- K-413 3/18/94 Organization and Quality Assurance Program
- K-439 7/13/95 Corrective Action Program
- K-440 7/13/95 Plant Maintenance
- K-444 7/14/95 Performance Assessment Division

The team found that each of the audits reviewed had an approved audit plan and the audits were conducted by following the plan. The audits had good findings and recommendations for which performance information requests were initiated. The audits provided valuable feedback to the audited organizations. The team reviewed each of the closed performance information requests and verified, with the exception of PIR 95-1499, that the actions taken to address the issues were adequate and that the actions were complete.

Performance Information Request 95-1499 was initiated to followup an audit finding for Audit K-440. The auditor identified that the pressure regulator for the Steam Generator Atmospheric Relief Valve Backup Nitrogen Accumulator (KAPCV0103) was set low. The work instructions and the Total Plant Setpoint Document (WCRE-01) indicated the set point was 90 psig, +3, -0 psig. Maintenance personnel signed Work Request 02119-91, Rev. 2, indicating that the pressure was 88 psig. This value was verified as correct by a second person. The original instructions on the Work Request indicated 90 psig, +3, -3 psig, however, the revision indicated the proper pressure. The performance information request evaluation stated that the cause was attributed to "lack of attention to detail." However, no corrective action was taken to address the apparent cause of the error.

5 MAINTENANCE

The area of maintenance was evaluated through a review of licensee program requirements and their implementation, procedure usage and quality, and daily work control activities.

5.1 Work Package Quality

The team reviewed seven safety-related work packages that were either completed or under final Quality Control review. The work packages reviewed are listed in Attachment 2. The purpose of this review was to confirm that all required sign-offs and work steps were completed, and that Action Requests were generated for any noted discrepancies. The team found the work packages to be satisfactory.

5.2 Maintenance Performance

5.2.1 Observation of Work Activities

The team observed work being performed under Work Package 10148, Task 8, "Mechanical Maintenance to Rework Valve Internals." Task 8 of this work package included corrective maintenance on Steam Dump/Cooldown Valve (ABUV0034) to the Low Pressure Condenser. This was not a safety-related work package task, therefore no independent quality control inspections were required, nor were any performed except by the craft performing the work. The valve was disassembled and work instructions 5.4 "Trim Maintenance," 5.5 "Stem Replacement (if required)," and 5.6 "Valve Reassembly" were observed by the team for compliance with the work package instructions. The vendor manual was attached to the work package for reference information.

The team noted that the work package did not include all the relevant criteria for determining that important work instructions were satisfactorily accomplished. For example, Instruction 5.4.2 stated that a maximum of 0.015 inches of material may be removed from the seating surfaces. This instruction provided no further explanation regarding disposition of the valve part if this criteria was exceeded. Also, Instruction 5.5 described how the

stem was to be replaced, if required. However, there was no instruction describing the criteria for stem replacement. The team was informed by the licensee that the determination for stem replacement was made by the system engineer and the mechanical maintenance personnel.

The team observed an activity being performed that was not described in the work package instruction called a blue check. Blue checking was done to ensure that the mating surfaces would have 360 degree contact. The team considered this activity to be vital for the valve to function as designed.

The team acknowledged that the above examples represented good shop practice which were done routinely. The team concluded, however, that while these practices may be acceptable for nonsafety-related work packages, consideration should be given to formally incorporating these activities into safety-related work packages.

The team observed the valve reassembly operation involving torquing the nuts on the studs. Before torquing was performed, the maintenance mechanic conferred with the calibration lab to verify the correct use of the torque-nut with a multiplier. The calibration lab verified that the torque-nut with multiplier was in the right configuration. Utilizing the work package instructions, the team verified that the torquing was performed in a diagonal sequence to the required 1100 foot-pounds.

The team also observed surveillance activities for calibration of the following Gas Analyzer Rack Monitors: Inlet Hydrogen (HARC-1104B), Outlet Hydrogen (HAIC-1118B), Inlet Oxygen (OAIC-1112B), Outlet Oxygen (OARC-1119B). This was performed in accordance with procedure STS IC-470B "Gaseous Radwaste H₂ and O₂ HA-162 Train B-Channel Calibration," Revision 14, dated September 14, 1995. Completion of this procedure was done correctly and satisfied Technical Specification 4.3.3.11, Table 4.3-9 (2a, 2b, 2c and 2d), for Train B.

The specific steps of the calibration procedure observed were 8.1, the initial valve line-up, and 8.2 the analyzer as-found data. These two steps in the procedure involved 124 actions by the I&C technicians. The technicians performed these actions simultaneously in the Radwaste Building and in the Radwaste Control Room. The team noted that there was good coordination of work activities between the technicians located in these two locations. The team found that all procedural steps were performed as specified on the surveillance procedure.

5.2.2 Quality Control Involvement

The team noted that quality control involvement was essentially nonexistent for work packages that were not safety-related. Quality Control involvement, however, was evident on all safety-related work packages reviewed.

5.2.3 Interfaces

The team interviewed several craft and engineering personnel. These interviews revealed that there was good interface and cooperation between various plant organizations, such as, Operations, Maintenance, Engineering, and Chemistry. All personnel interviewed stated that the action request process was easy to use and that it was a simple procedure to generate the action request document on a computer.

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Wolf Creek Nuclear Operating Corporation

- M. Barbee, System Engineering
- *M. Blow, Superintendent, Chemistry
- N. Carns, Chief Executive Officer
- *T. Damashek, Supervisor, Regulatory Compliance
- *D. Dullum, Supervisor, Plant Trending & Evaluation
- *D. Fehr, Superintendent, Operator Training
- *S. Ferguson, Supervising Operator
- *R. Flannigan, Manager, Nuclear Engineering
- D. Gerrelts, Superintendent, I&C
- R. Guyer, Supervisor, Initial Training
- R. Hammond, Supervisor, HP
- *S. Hatch, Performance Assessment Specialist
- *R. Johannes, Chief Administrative Officer
- *S. Koenig, Supervisor, Quality Evaluations
- *W. Lindsay, Manager, Performance Assessments
- L. Litch, Quality Analyst
- *B. Loveless, Superintendent, Resource Protection
- *O. Maynard, Vice-President, Plant Operations
- *B. McKinney, Manager, Operations
- G. Miller, Self Assessment Coordinator
- *R. Miller, Superintendent, Mechanical Maintenance
- *D. Moore, Manager, Maintenance
- *K. Moles, Manager, Information Systems
- *W. Norton, Manager, System Engineering
- *L. Parmenter, Supervisor, Operations Support
- *G. Pendergrass, Supervisor, Support Engineering
- *E. Peterson, Supervisor, Quality Evaluations
- *R. Sims, Operations Support Supervisor
- *B. Smith, Superintendent, Maintenance Planning
- G. Smith, Licensed Supervising Instructor
- *J. Weeks, Assistant to Vice President of Plant Operations
- *S. Wideman, Supervisor, Licensing
- *M. Williams, Manager, Plant Support
- C. Younie, Operations Supervisor

1.2 Nuclear Regulatory Commission

- *J. Dixon-Herrity, Resident Inspector
- *F. Ringwald, Senior Resident Inspector

In addition to the personnel listed above, the inspectors contacted other personnel during the inspection period. Those employees included members of the licensee's technical and management staff.

*Denotes those that attended the exit meeting conducted on September 15, 1995.

2 EXIT MEETING

An exit meeting was conducted on September 15, 1995. During this meeting, the team summarized the scope and conclusions of the inspection. The licensee acknowledged the conclusions presented at the exit meeting. The licensee did not identify as proprietary any information provided to, or reviewed by, the team.

ATTACHMENT 2

List of Documents Reviewed

Work Packages Reviewed

<u>WP/WR No.</u>	<u>System</u>	<u>Safety Related</u>	<u>Description</u>
103561	FC	NNSR	Sight glass on Tank TAQ02A leaking.
103045	GK	NNSR	Pump PWT02A Running gage press. less than 5 psig.
101067	EG	SR	PM oil sample of CCW pump motor DPEG01D.
100011	MA/MB	NNSR	PM shaft voltage measurements, Generator (MA010 and Alternator Exciter (MB01) inspection
100551	BM	NNSR	Cond. Element BMCE33 leak.
104045	HA	SR	Flexible conduit for EMHV8923A pulled out of actuator.
100595	BG	SR	Conduit separated from Letdown HX flow transmitter BGFT0132.
103208	BB	SR	Solenoid cover torqued to 8 ft-lbs. should be 30 ft-lbs.
104256	KE	SR	Remote control box (HKE14) has broken wire.
06628-94	BM	NNSR	Leaking plug valve (BMV0136).
02876-94	BM	SS	Top nut broken off stem of valve (BMV0135).
03383-94	BG	SR	CVCS demin. divert valve (BGTCV129) would not shift when the air to the solenoid valve was isolated.
05198-94	BB	SR	Flexible conduit is broken at the connector to BBFT0425, RCS Loop 2 flow transmitter.

05513-94	BB	SR	Flexible conduit (6J2112) is out of fitting at the Reactor Coolant Pump D (DPBB01D) motor. Flexible conduit (6J2018) is loose at the motor connection.
05167-94	BB	SR	Studs to Loop 3 SI Accumulator (BB8948C) check valve are unsatisfactory.
01125-95	KJ	SR	Emerg. Diesel Gen. B (KKJ01B) has loose relief valve cover on cylinder No. 6.
05156-94	NK	SR	124 VDC Breaker (NK22-CB2) failed test.
01063-94	AL	SR	Replace AFW butterfly valve (ALHV0031) with a new stainless steel valve.
05247-94	EF	SR	Replace Essential Service Water valve (EFHV0032) with new stainless steel valve.

Performance Information Requests Reviewed

<u>PIR No.</u>	<u>Significant</u>	<u>Description</u>
94-1548	Y	Manually opened Rx trip breakers due to two source range nuclear monitors SE N-31 and SE N-32 inoperable.
95-0115	N	Breaker NG04DAF4 on MCC NG04D in the "B" EDG room.
95-0178	N	Procedure SYS BM-120 does not require the isolation valve for the Blowdown Surge TK discharge to be closed after blowdown.
95-0369	Y	Rx tripped while performing STS IC-746B.
95-0645	N	Potential cracking of CCW system piping due to nitrite-type chemicals used as a microbiocide in other nuclear plants.
95-0733	N	"B" SI accumulator valve leak.

95-0958	Y	Liquid Rad. Waste evaporator (RHUT "A") pumpdown caused increase in evaporator (RHUT "B").
95-1087	N	Changes were made to the description of two ESW valves (EFV202 and EFV222) and no request was made to change the CSARS data base.
95-1016	N	Failure of ESW Pump "A" to start.
95-1121	N	High back pressure on ESW and SW systems causing low cooling water flow through air compressors and high temp. trips.
95-1620	N	Industry Tech. Info. Program (ITIP) 03043, oversight of design and fabrication activities for metal components.