

WOLF CREEK

NUCLEAR OPERATING CORPORATION

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President and Chief Executive Officer

June 20, 1997

WM 97-0073

U. S. Nuclear Regulatory Commission
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Subject: Docket No. 50-482: Response to Systematic Assessment of
Licensee Performance (SALP) - NRC Inspection Report 50-
482/97-99

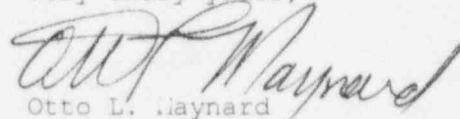
Wolf Creek Nuclear Operating Corporation (WCNOC) acknowledges the NRC staff's Systematic Assessment of Licensee Performance (SALP) Report 50-482/97-99, for the period of October 8, 1995, through April 5, 1997. WCNOC concurs with your finding that licensed activities are acceptable in the area of Engineering and good in the areas of Plant Support, Operations, and Maintenance. Furthermore, WCNOC acknowledges that the overall performance declined in several functional areas and is fully committed to improving performance in all areas to achieve the superior level of performance.

The attachment to this letter is WCNOC's response to the SALP report. It summarizes the actions underway to improve performance in each of the four functional areas. Responses to the specific technical examples cited in the SALP were, in almost all cases previously docketed.

In reviewing the SALP report and reflecting on the issues therein, WCNOC is confident that our priorities are focused in the right direction. Our top three priorities are: 1) Corrective action program improvements, 2) Improving human performance, and 3) Design and licensing basis assurance and fidelity. Correction of the problems identified with development and implementation of in-depth and effective correction actions is a keystone to our future success and our number one priority. The broad based initiatives discussed in the attachment are underway and geared toward reaching across our organization and raising the quality and the effectiveness of our corrective actions.

WCNOC looks forward during the current SALP cycle to sharing our progress and perhaps providing a broader perspective on plant activities and condition during the bi-monthly meetings with the NRC staff. If you have any questions or desire additional information regarding this response please contact me at (316) 364-8831, ext. 4000 or Richard D. Flannigan, ext. 4500.

Very truly yours,


Otto L. Maynard

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Attachment

cc: W. D. Johnson (NRC), w/a
E. W. Merschoff (NRC), w/a
J. F. Ringwald (NRC), w/a
J. C. Stone (NRC), w/a



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I. Issues Applicable to all Functional Areas

- The SALP report noted one area of weakness where implications were endemic in all of the functional areas. Throughout the assessment period, there were problems with developing and implementing in-depth and effective corrective actions to identified problems.

As described in our February 7, 1997, response to the request for information pursuant to 10 CFR 50.54(f) entitled, "Adequacy and Availability of Design Bases Information," WCNOG has the necessary processes and procedures in place for a corrective action program. However, as identified by WCNOG management assessment, Quality Evaluation audit results, and NRC inspection findings, implementation of our corrective action program during the last SALP cycle was not a strength. Although identification of problems was good, comprehensiveness of root causes and corrective action plans was weak. At the end of the SALP cycle, the NRC recognized that our corrective actions for this weakness were in place, but that it was too early to determine their effectiveness. As the number one priority for the plant, our broad based initiatives address the weaknesses and are targeted toward developing and implementing root cause analysis and corrective action plans that are effective in all functional areas. The elements of this program are outlined below.

A Corrective Action Review Board (CARB) was initiated in November 1996. The CARB is comprised of senior level management personnel who review root cause and corrective action plans for significant level PIRs. They are chartered to ensure consistency in the execution of management expectations for thoroughness and accuracy of significant PIRs. To date the CARB has been effective in providing senior management oversight as part of the process. This oversight includes directly communicating expectations for root cause training, level of documentation, literal compliance with procedures, and the requirements for corrective action plans to each employee and manager that comes before them.

PIR Coordinators, whose primary responsibility is to support the corrective action process, were assigned to all groups that receive PIRs on a regular basis. To date their responsibilities include coordinating the dispositioning of PIRs, tracking the timeliness of PIR completion, and participating in CARB meetings as required. In the near future they will be applying cause codes to PIRs to increase our trending capabilities. Feedback from CARB personnel to date, indicates that PIR coordinators have an increased understanding of management's expectations such that root cause analyses and corrective action plans presented to the CARB are more comprehensive.

Performance Improvement International (PII), an industry leader in corrective action, has provided training for managers, supervisors and PIR Coordinators on root cause analysis and human error prevention. Additional training on human error prevention is in progress for plant personnel. Additionally, WCNOG has implemented a new PIR trending program using PII cause codes. These cause codes help to identify organizational and programmatic causes thereby enhancing trending capabilities. The trending data will be used to identify problem areas requiring additional resources and actions to prevent recurrence.

Leadership and selected membership changes to the Plant Safety Review Committee and the Nuclear Safety Review Committee (Offsite) were made in order to provide consistency in executing management's expectations.

II. Functional Area: Plant Operations

The SALP Board assigned a Category 2 rating to the Plant Operations area noting performance was good. Several areas of concern were identified in the report. These areas of concern and WCNO's response are outlined below:

- Operators were challenged by non-routine and complex events notably the January 1996 frazil ice event.

WCNO has successfully implemented "poison pill" and complex scenario training. WCNO's alarm response procedures were revised to offer a greater level of detail to the operators to support them during non-routine evolutions.

WCNO Operations led the plant in adopting a codeword philosophy that allows plant personnel to stop activities and get questions answered before further actions are taken. Since its implementation after the January 1996 frazil ice event, the codeword philosophy has been proceduralized and implemented site wide. During the last half of the SALP period there were many examples of good use of the codeword in and out of the Control Room.

- Operators accepted a number of inappropriate Technical Specification Clarifications (TSCs).

WCNO aggressively pursued the depth and cause for this problem and put in place corrective actions to correct the ambiguities and to prevent future conflicts with Technical Specifications. In an effort to reduce the number of TSCs, operation's support personnel have deleted, proceduralized, or obtained a license amendment for 37 of the original 46 TSCs. Senior Operations Management set the example by performing a detailed review of all the existing TSCs and presenting the remaining TSCs to PSRC. Operations also requested that the functional assessment teams review applicable TSCs as part of their scope. The TSCs were compared and incorporated into the Improved Technical Specifications (ITS) when possible to avoid future ambiguities. Today WCNO has confidence that the few remaining TSCs do not conflict with the Technical Specifications.

Site-wide meetings were held by executive management personnel to educate plant personnel on the importance of literal compliance, and to enforce that Technical Specifications and procedures must be complied with or the change process utilized.

- Operators continually committed minor errors involving procedure implementation, log taking, equipment configuration control, and acceptance of poorly supported or documented operability determinations.

In response to the individual items noted, specifically, documentation for operability determinations and control room logs, WCNO has revised procedures or reinforced the expectations for the level of documentation required. Operation's management expects that log entries will be detailed and able to support any conclusions reached. The applicable administrative procedure was revised to clearly reflect that a detailed log entry will be made by the Shift Supervisor (SS) whenever the SS records a decision concerning operability. This entry will include the basis for the operability decision. Additionally, an operability checklist was added to ensure thoroughness of evaluation and consistency of documentation. If the SS should need engineering support for an operability determination, engineering has stationed an engineer in the work control center and has two engineers on the back shift.

Operations identified similar attention to detail problems in other areas of the organization and recognized that broad corrective actions were needed.

To improve knowledge on the dynamics of human performance, WCNOG provided training courses from Management Associated Results Company (MARC), Inc. and Performance Improvement International (PII), noted specialists in the area of human performance. As discussed in Section I, PII is providing human error reduction training. MARC provided training to managers and supervisors on how to effectively and consistently counsel and discipline when errors do occur.

Improving human performance is a top priority and an achievable goal. WCNOG expects to see improvement in Operations and in all functional areas due to the human performance training, increased trending, and hands-on management oversight.

III. Functional Area: Maintenance

The SALP Board assigned a Category 2 rating to the area of Maintenance. Performance in this area continued to be good. The areas of concern identified in the SALP report and WCNOG's response are outlined below:

- The SALP report noted some instances of nonadherence to procedures and lack of clarity in work instructions.

In addition to the programmatic improvements in the area of human performance, steps have been taken to address weaknesses in attention to detail in the Maintenance organization. The Maintenance Manager and Superintendents have instituted training on procedural compliance as part of the continuing training program. Maintenance has also requested Quality Evaluations to surveil Maintenance activities on an increased basis. In addition, supervisors are performing evaluations of work in progress in order to provide direct feedback to craft personnel.

To improve work package quality and clarity, portions of the planning process will be moved into craft crews. Additionally, the craft are being trained on planning skills. Pre-job walkdowns are emphasized and planning of work is now conducted six weeks prior to job performance. Post-maintenance testing (PMT) is integral to the planning and development of maintenance activities, and a self assessment is planned to evaluate the effectiveness of the current program.

- Problems with the Auxiliary Feedwater System were evident throughout the assessment period.

The Auxiliary Feedwater System status was discussed and presented to the NRC in a management meeting held May 16, 1997. Details of system challenges that occurred during the SALP cycle are discussed in the Engineering section of this response.

- There were several examples of inadequacies in surveillance procedures, that resulted in some tests being missed and others being improperly conducted.

WCNOG has completed reviews of surveillance requirements and acceptance criteria. Operations performed a review of all surveillances required to be performed at shutdown, and also performed a larger review of the surveillance requirements, acceptance criteria, and procedures for acceptability. Further efforts underway in this area include the system functional assessments, improved technical specification initiative, and

an assessment of Maintenance surveillance procedures to ensure that the proper Technical Specifications are referenced.

- While the process for considering the effect of risk on emergent work activities was in place, its effectiveness was limited and the protected train concept was not always maintained.

Problems with implementation of the protected train philosophy were corrected in the Fall of 1996. WCNOG has seen improvement in this area by providing personnel training, requiring train specific work package tasks, and installing work status boards throughout the power plant identifying train authorized activities.

WCNOG plans to install risk monitoring software prior to the next refueling outage scheduled for Fall 1997. The software is state-of-the-art and will allow immediate feedback on the effect of emergent work on the plant. Additional program improvements underway include a system and equipment out-of-service risk matrix and an emergent work checklist. WCNOG is also addressing the human performance issues in this area by requiring emergent work activities be directed by personnel who have completed qualification guidelines for team leader responsibilities.

IV. Functional Area: Engineering

The SALP Board assigned a Category 3 rating to the area of Engineering. Performance in this area was acceptable. The areas of concern identified in the SALP report and WCNOG's response are outlined below:

- Support to Operations often lacked rigor and comprehensiveness. For example, operability evaluations did not provide rigorous technical bases to support the operability determination.

To ensure prompt response to plant concerns, an engineer is now stationed in the work controls center to offer immediate support and a night shift engineering rotation was initiated so that two engineers are available on the second shift. If additional engineering expertise is needed, these individuals will be able to get the right people involved in a timely manner.

Two program weaknesses were identified during Engineering's evaluation of the frazil ice event: 1) Engineering workload was not being managed; and, 2) Management was not consistently reinforcing expectations. These programmatic weaknesses diluted Engineering's ability to accurately support the Operations staff. Two specific program actions were taken. First, an Engineering scheduling and work prioritization system was implemented. As a result, Engineering resources are scheduled and prioritized, new performance indicators are in place, tracked, and displayed, and bi-weekly Engineering production meetings are held to identify and resolve work load issues. Secondly, an Engineering work product evaluation was implemented. Currently, each engineer is evaluated on qualified activities once per quarter. A sample of the evaluations are reviewed by management personnel to assure that expectations relative to technical rigor, questioning attitude, and documentation, are being consistently reinforced.

Results to date have been encouraging and Engineering has already evaluated these programs and made enhancements such as streamlining the work product evaluation form, adding two schedulers to ease supervisor burden, and switching to improved scheduling software. We have also selected two additional supervisors to help address the added burden we are placing on our supervisors.

- Support to maintenance was inconsistent and contributed to instances of equipment inoperability and unavailability. Incomplete engineer support resulted in improper material procurement and a subsequent feedwater regulating valve failure.

The actions in place to further support Operations will also benefit Engineering's relationship with Maintenance. In addition to trending required by the Maintenance Rule, Engineering is enhancing the system health reports which are used as indicators for maintenance activities that may be required. Predictive maintenance personnel trend component performance and supply information on component status which is then factored into system maintenance decisions. Engineering will continue to pursue and develop these programs that provide valuable feedback to plant groups.

After the June 1996, feedwater regulating valve failure, a multi-disciplined team researched the root cause and developed the corrective actions. Corrective actions included revision of procedures to assure that warehouse inventory and procurement documents are addressed as part of the modification process, and clarifying responsibilities between the designer, implementer, and purchasing personnel. Scope was added to the system functional assessments to look for other occasions where the plant was changed but procurement documents, parts in the warehouse and/or vendor manuals were overlooked.

- Engineering support provided to resolve the Auxiliary Feedwater (AFW) pump problems was poor and resulted in questions concerning the acceptability of the pumps' packing, bearings, and lubricating systems.

WCNOC recognizes the importance of the AFW system and made a conscious decision during the last SALP cycle to make hardware system improvements which increased unavailability during the SALP cycle, but should improve availability in the future. These hardware and some administrative changes have helped to improve AFW system availability to date during the current SALP cycle. The system improvements, historical performance and current goals for the AFW system were presented to the NRC in a management meeting held May 16, 1997. Our commitment to making the AFW system the best it can be is reflected in our continual system monitoring, engineering oversight, and participation in industry user groups.

The problems noted during the period with AFW pump packing have been resolved. Incident Investigation Team 96-001, was formed to research the Turbine Driven Auxiliary Feedwater Pump (TDAFWP) packing failure which occurred during the 1996 frazil ice event. Since that event changes to the material, installation methods, and run-in methods were implemented and have proven to be effective.

The AFW pump bearings are now performing well and the procurement problems identified during the period have been addressed. WCNOC made a proactive change to the balance drum setting on A Motor Driven Auxiliary Feedwater (MDAFW) pump based on increased monitoring. WCNOC currently monitors bearing housing temperatures during each planned run.

The TDAFWP turbine oil level requirements have been clarified by adding an operator aid at the pump and revising procedures so required levels and actions to be taken when outside those levels are clear. WCNOC has improved TDAFWP turbine oil sampling methodology, and as a result discovered a higher than desired moisture intrusion rate, and has taken corrective actions to reduce it.

- While design and vendor information were available, there was difficulty in retrieving this information in a timely manner, and this difficulty was a contributing factor to the problems identified in supporting the operations and maintenance functions.

The decision to discontinue updates to the design basis notebooks was made because this same information is available through the configuration management system or the document control system. WCNOC requested Architect/Engineers with expertise in this area to provide us with recommendations for improving retrieval capabilities before developing an improvement plan. Our preliminary functional requirements include a comprehensive, user friendly, verified and validated cross reference list of all design basis and supporting design basis information. Additionally, we are interested in built-in updating aids to help identify and update all related design basis information during the change package process in a timely and consistent manner. WCNOC currently has the Updated Safety Analysis Report on an electronic medium which provides timely search capability and has proven to be a useful tool for performing regulatory screenings, operability evaluations, and design change packages.

In response to industry and NRC concerns regarding fidelity of design bases, WCNOC has committed to conduct a formal review of the current USAR.

- Weaknesses were noted in the implementation of the 10 CFR 50.59 process.

The weaknesses noted were primarily in the level of documentation provided to support unreviewed safety question determinations (USQDs). Procedural improvements were made to strengthen personnel knowledge and understanding of requirements for documentation in the regulatory screening and USQD processes.

Training and qualification requirements were added for regulatory screenings and USQDs in 1995 and personnel performing these activities have been trained. Additional improvements underway include increasing the proficiency level of personnel performing USQDs by reducing the number of qualified personnel by half by the end of 1997. USQDs will be reviewed for proficiency level to determine who should remain qualified.

During our AFW and Essential Service Water (ESW) Functional Assessments we have reviewed approximately 50 USQDs and although various levels of documentation were found, the conclusions were determined to be correct in each case.

- The most significant shortcoming in the engineering area was the organization's failure to resolve identified problems.

The improvements stated in Section I of this response equally apply to Engineering. Engineering has appointed PIR coordinators and is represented on CAKB. Additionally, Engineering managers and supervisors have participated in the MARC and PII training initiatives underway.

In addition to these programs, Engineering has committed to and is in the process of performing functional assessments of four of the most risk significant systems. The AFW system is complete and the ESW system is close to completion. The results to date indicate that safety related equipment is capable of fulfilling their safety functions. No additional cases similar to the frazil ice event of the plant being outside of the design basis have been identified. In areas where discrepancies were found, such as USAR fidelity and surveillance procedures, our corrective action program is being followed to correct

these discrepancies and additional reviews and assessments have been initiated.

V. Functional Area: Plant Support

The SALP Board assigned a Category 2 rating to the area of Plant Support. Performance in this area was good. The areas of concern identified in the SALP report and WCNO's response are outlined below:

- Radiation Protection Program problems were noted involving postings and barriers of high radiation areas, radiological work practices, contamination controls, and control of radiography that indicated a decline in radiological protection technician and radiation worker performance.

WCNO has implemented specific programmatic changes to address the weaknesses identified in the Health Physics area. A Health Physics corrective action plan is being implemented which will review and address procedural, human performance, personal accountability, and training issues. The plan consists of three parts: Clearly defining expectations (complete), review of procedures to ensure they reflect our expectations (in progress), and monitor and follow-up of personnel performance issues using the learned techniques from PII and MARC. The plan will ensure a clear and solid link between management expectations, procedures, and personnel performance.

Training has been provided on effective methods of fastening barrier rope and signs (i.e. using cable ties instead of tape). Expectations and training have been provided on methods of barricading an area so the worker can enter without removing the boundary (i.e. raising the barricade to head height). Senior Management issued written expectations to site personnel regarding compliance with radiological postings.

In response to the radiography concerns the radiography procedure was revised to strengthen and enhance guidance for Health Physics interface requirements. Communication requirements for performance of radiography on site are now clearly defined for the Shift Supervisor, Health Physics Technician, and Radiographer.

- In the emergency preparedness area failures to effectively communicate and assess available information resulted in delays in emergency action level (EAL) determinations. Additionally, ineffective corrective action implementation stemming from the frazil ice event resulted in inadvertent reduction in emergency planning effectiveness.

In response to the communication issues, a task list for the Duty Emergency Director (DED) and the Duty Emergency Manager (DEM) is being changed to have the DED and DEM provide information to their staff on the likely items that could escalate the classification. Additionally, drills and table top training are now underway on EALs.

Training will be provided to the ERO teams describing the details of the exercise that led to the communication weakness. The key elements of effective communications will be discussed as well as the expectations to ensure effective communications occur.

The EALs were revised to capture lessons learned from the frazil ice event, however, an error was made in drawing the lines from a decision box to a classification box. This error changed the classification from a Site Area Emergency to an Alert. This issue was self identified and the corrective action was to create a matrix that verifies the logic

flow of each EAL chart. A matrix for each EAL chart has been completed and is in place.

An action plan is being developed to improve WCNO's Emergency Response Organization (ERO) and processes. The changes will focus on improving communication across the ERO organization at both the individual and facility level. The improvements planned include organizational, training, and procedural improvements.