

APPENDIX B

U.S. NUCLEAR REGULATORY COMMISSION

NRC Inspection Report: STN 50-482/85-11

Construction Permit: CPPR 147

Docket: 50-482

Licensee: Kansas Gas and Electric Company (KG&E)
Post Office Box 208
Wichita, Kansas 67201

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: Wolf Creek Site, Coffey County, Burlington, Kansas

Inspection Conducted: February 1-28, 1985

Inspectors:

Jaw *J.E. Martin*
W. G. Guldemon, Chief, Resident Inspection
Program, Wolf Creek Task Force
(pars. 2, 3, 4, 5, 6, 7, 8, 9, 11, and 13)

4/24/85
Date

H.F. Bundy
H. F. Bundy, Resident Reactor Inspector,
Operations, Wolf Creek Task Force
(pars. 2, 9, 10, 12 and 14)

4-23-85
Date

Bruce L. Bartlett
B. L. Bartlett, Resident Reactor Inspector,
Operations, Wolf Creek Task Force
(pars. 3, 10, 11, and 12)

4-23-85
Date

Jaw *J.E. Martin*
J. E. Cummins, Resident Reactor Inspector,
Operations, Wolf Creek Task Force
(par. 13)

4/24/85
Date

Approved:

J.E. Martin
L. E. Martin, Chief, Wolf Creek Task Force

4/24/85
Date

Inspection Conducted February 1-28, 1985 (Report STN 50-482/85-11)

Areas Inspected: Routine, unannounced inspection including licensee actions on previous inspection findings; Generic Letter 83-28; 10 CFR 50.55(e) reports; preoperational test procedure/results review; preoperational test deficiency deferral review; procedure review; IE Bulletin and Circular followup; surveillance testing; conduct of operations; independent inspection; SER review; site tours; and event reports. The inspection involved 635 inspector-hours onsite including 24 inspector-hours onsite during offshifts.

Results: Within the 13 areas inspected, three violations were identified (failure to follow plant administrative procedure, paragraphs 3 and 10; and failure to operate plant in accordance with procedures, paragraph 12). Twenty open items were identified (paragraphs 2, 5, 6, and 11).

DETAILS

1. Persons Contacted

Principal Licensee Personnel

- *C. C. Mason, Director-Nuclear Operations
- *R. Stright, Licensing
- *W. M. Lindsay, Supervisor Quality Systems
- *M. G. Williams, Supt. of Regulatory Quality Administration
- *K. Peterson, Licensing
- *F. D. McLaurin, Assistant Startup Manager
- *D. L. Reed, Independent Safety Engineering Group
- *T. Deddens, Jr., Maintenance Consultant
- *A. S. Mah, Superintendent of Training
- *C. J. Hoch, QA Technologist
- *K. R. Ellison, Startup Technical Support Supervisor
- J. Zell, Operations Superintendent
- F. T. Rhodes, Plant Superintendent
- J. J. Johnson, Chief of Security
- R. M. Grant, Director-Quality
- O. L. Maynard, Licensing Supervisor

NRC Personnel

- *W. G. Guldemon, Chief, Resident Inspection Program
- *H. F. Bundy, Resident Inspector
- *B. L. Bartlett, Resident Inspector
- *J. E. Cummins, Resident Inspector

The NRC inspectors also contacted other members of the licensee's staff during the inspection period to discuss identified issues.

*Denotes those personnel in attendance at the exit meeting on March 1, 1985.

2. Licensee Actions on Previous Inspection Findings

(Closed) Open Item (482/8444-03): This item tracked resolution of a concern over the lack of formal documentation for post trip review training as specified by Generic Letter 83-28. The licensee is in the process of implementing a training program including the following elements:

- . Formal lesson plans

- . Examinations which are maintained on file
- . Computerized scheduling
- . Mandatory attendance sheets

(Closed) Safety Evaluation Report (SER) Item (482/84-00-127): This item tracked incorporation of safety-related valve thermal overload setpoints into Technical Specification. The licensee chose to jumper out the thermal overloads, thereby making setpoint incorporation unnecessary. As documented in Supplement 5 to the SER, this approach was deemed acceptable. The inspector reviewed completed Work Request 01259-85 which documented an inspection performed to verify that all jumpers were installed, and Work Request 01667-85 which corrected identified discrepancies, and found them acceptable.

(Closed) Open Item (482/8444-01): This item tracked licensee resolution of NRC inspector concerns regarding prompt notification of an item reportable pursuant to 10 CFR 50.55(e). In response to the NRC inspector's concerns, the licensee conducted an investigation which determined that the failure to report was due to an oversight on the part of personnel assigned responsibility to disposition this report. Additional training has been provided to the affected personnel. Additionally, the licensee conducted a file search of the administrative mechanism for dispositioning incoming notifications and confirmed that no similar oversights had occurred. These actions are acceptable for closing this item; however, the licensee is encouraged to incorporate reportability evaluation into the administrative controls.

(Closed) Open Item (482/8444-09): This item tracked licensee retest of control rod drive mechanism (CRDM) fans response to a safety injection signal. The NRC inspector reviewed data taken during the performance of Test SU3-NF02 on January 18/19/21, 1985, and verified that the retest was adequate.

(Closed) SER Item (482/84-00-140): This item tracked installation of instruments to detect inadequate core cooling. Completion of this item has been deferred until prior to startup following the first refueling outage. The instruments have been installed and tested, but system qualification is not complete. The licensee has placed tags on the installed instrumentation alerting the operators to this condition. The Wolf Creek operating license will be conditioned to reflect the deferred completion of the system.

(Closed) Open Item (482/8504-02): This open item tracked NRC inspector review of the licensee's ability to categorize work requests relative to operational mode constraints. The inspector performed a line item review of the licensee's work request printout dated February 4, 1985, and determined that, with a few exceptions, all 1425 items were properly categorized.

(Closed) Open Item (482/8455-08): This item tracked completion of corrective actions committed to by the licensee in 10 CFR 50.55(e) Report TE53564-K147 on failure to control activities on charging and safety injection pump lube oil systems. The inspector reviewed Startup Field Reports 1-EM-46 and 1-BG-140 which provided Westinghouse disposition of the identified problems and found that disposition acceptable. The inspector also reviewed completed Work Request 16681-84 which implemented the Westinghouse disposition and found it acceptable.

(Closed) Open Items (482/85-03 and 04): These items tracked inspector concerns on the manner in which certain valves were cycled during the performance of Preoperational Test SU3-0009 and retesting of a portion of the same test. The licensee has adequately addressed the NRC inspector's concerns and has completed the required retesting.

(Closed) Open Items (482/8448-04 and 8460-06): These items tracked NRC inspector concerns over the timeliness of the review of post fuel load test data. In response to these concerns, the licensee revised Procedures ADM 01-070, "Startup Testing Program" and SU7-S008, "Startup Test Program Reference Document" requiring data review at each major testing plateau prior to proceeding to the next plateau. The NRC inspector reviewed these revisions and found them acceptable for closure of these open items.

(Closed) Unresolved Item (482/8444-07): This item documented storage of approximately 150 pounds of activated charcoal in the auxiliary building without implementing adequate compensatory fire protection measures. This condition resulted in issuance of a violation in NRC Inspection Report 50-482/84-49 which was subsequently closed in NRC Inspection Report 50-482/85-08.

(Closed) Violation (482/8449-02): This violation documented a failure on the part of the licensee to properly review a temporary modification to the reactor coolant pump seal injection lines with the result that water of inadequate quality was injected into the seals. In response to this condition, the licensee disassembled and inspected the seals on all four reactor coolant pumps. Additionally, the radial bearings on all four pumps were inspected. No evidence of degradation was discovered. One disassembled seal was also inspected by an NRC inspector. To prevent recurrence, the licensee has implemented their operation phase work request program which required additional reviews prior to installation of temporary modifications.

(Closed) SER Item (482/84-00-111): This item tracked an SER requirement to perform a post hot functional test inspection of the reactor vessel and internals for evidence of vibration, loose parts, and/or wear. This inspection was performed with satisfactory results. The NRC inspector reviewed inspection documentation and concluded it was acceptable.

(Closed) Violation (482/8445-01): This violation documented a failure on the part of the licensee's home office quality assurance (QA) organization to ensure that quality concerns generated during two vendor audits were resolved in a timely manner. In response to this item, the licensee contacted the vendors in question and resolved the items of concern. Involved personnel were provided additional instruction on the need to aggressively pursue outstanding issue to ensure resolution. In subsequent discussions with the NRC, the licensee's home office (QA) manager agreed to change his organization's procedures to require that he periodically review all outstanding items with particular emphasis on overdue items. These actions resolve NRC concerns in this area.

(Closed) Open Item (482/8460-04): This open item tracked licensee actions in response to ferro-resonant transformer deficiencies identified in IE Information Notice (IEN) 84-84. The licensee has 5 such safety-related units in 7.5 KVA static inverters (4 installed in the plant and 1 to spare). All 5 were inspected for the capacitor termination problem documented in IEN 84-84 with no deficiencies noted. Three of the 5 units had been operated successfully for 6 months or greater indicating that deficiencies leading to the grounding problem described in the IEN were not present. The other two units were successfully hi-pot tested confirming that the grounding problem did not exist in those units. The NRC inspector reviewed the test and inspection documentation associated with these activities and found it acceptable.

(Closed) Open Item (482/8427-02): This open item tracked licensee actions to resolve inspector concerns over the controls associated with normally installed plant instrumentation used to support Technical Specification required surveillance testing. In response to these concerns, the licensee has prepared a list of all such instruments and cross referenced the instruments to the surveillances they support. The list has been incorporated into Procedure ADM 02-300 along with requirements for the instrument and control department to notify operations any time one of the instruments is found out of service or out of calibration. Operations is tasked with the responsibility for assessing the impact of the instrument problem on the validity of the surveillance tests that instrument supports.

(Closed) SER Item (482/84-00-50): This item tracked completion of a post implementation appraisal of emergency response facilities. This is a routine programmatic inspection requirement and need not be tracked as a separate item.

(Closed) Open Item (482/8449-08): This item tracked revision to certain operating procedures in response to NRC comments. The NRC inspector verified that the required revisions have been completed.

(Closed) Open Item (482/8460-05): This item tracked completion of certain committed-to modifications of operator interface modules. As documented in SNUPPS Letter SLNRC 85-7, the required modifications have been completed.

(Closed) Open Item (482/8426-XX): This open item tracked inspector review of reactor coolant pump (RCP) seal leakage data. This data was reviewed following the last RCP seal replacement and was found acceptable. It will continue to be monitored as part of the routine inspection program.

(Closed) Open Item (482/8460-07): This item tracked the Office of Nuclear Reactor Regulation (NRR) approval of a licensee request to defer completion of preoperational testing of certain process radiation monitors until after fuel load. The subject testing has been completed.

(Closed) Open Item (482/8460-03): This item documented deficiencies discovered in Off-Normal Procedure OFN 00-005, RCP malfunctions. The licensee has prepared changes which correct the observed deficiencies.

(Closed) Open Item (482/8407-01): This item tracked review of the refueling water storage tank (RWST) valve house flooding (by NRR, during the licensing process). Discussions with NRR indicated that no further action was required on this matter.

(Closed) Open Items (482/8455-01 and 8455-03): These items tracked NRR approval to use, on an interim basis, vendor supplied Viking pumps as lube oil keep warm pumps on the emergency diesel generators and deferral of retesting pressurizer power operated relief valves until after fuel load. Both items have been approved but will result in conditions to the Wolf Creek operating license.

(Closed) Open Item (482/8443-05): This open item tracked licensee revision to Startup Procedure SU7-SF03.1, "Cold, No Flow Control Rod System Testing," to ensure no flow conditions were established and maintained as necessary. The NRC inspector reviewed the revised test and found it acceptable including adequate references to Technical Specification requirements.

(Closed) Open Item (482/8459-10): This open item tracked licensee revision to power ascension test procedures to incorporate independent verification and review and hold points. The NRC inspector reviewed Procedures SU7-SJ01, "Reactor System Sampling for Core Loading," SU7-S011, "Initial Criticality and Low Power Test Sequence," and SU7-SF03.1, "Cold, No Flow Control Rod System Testing," and verified that the required revisions had been made.

(Closed) Unresolved Item (482/8445-02): This unresolved item documented a concern relating to the licensee's home office QA organization ability to

effectively implement an audit schedule which would provide assurance that those functions required to support plant operation were in place and working. Delay in the performance of a procurement audit was cited as an example of this problem. The licensee has completed the procurement audit and audits of the following areas: Control and release of design documents, control and release of design drawing changes, design drawings, safety-related and special scope purchase requisitions, organization and staffing, nuclear design section design process, nuclear design section instructions, design drawing modifications, nuclear design section drafting procedure, and nuclear design section drawing checking procedure. Additional audit activities are appropriately scheduled.

(Closed) Open Item (482/8448-03): This item tracked resolution of NRC inspector questions concerning what credit the licensee was taking for previously performed preoperational tests during power ascension testing. In response to those questions, the licensee prepared a matrix of Regulatory Guide 1.68 requirements and those procedures in place to satisfy those requirements. The NRC inspector reviewed this matrix and compared it to the SNUPPS FSAR and Wolf Creek Addendum. Minor discrepancies were noted and subsequently resolved with the licensee.

(Closed) Open Items (482/8426-07, 08, and 09): These items are duplicated by corresponding items from NRC Inspection Report 50-482/84-06 and will be tracked via those items.

(Open) SER Item (50-482/84-00-144): This item tracked licensee completion of valve and system lineups required to support fuel load. The NRC inspectors verified that the majority of valve lineups were completed by February 26, 1985. The remaining lineups were either in progress or scheduled, and operations personnel were cognizant of those items remaining to be completed. This item is now a constraint on entry into Mode 5.

(Closed) 482/84-23 Items: During inspection activities associated with NRC Inspection Report 50-482/84-23, four issues were identified which potentially impacted fuel loading. Each issue was discussed with the licensee during the exit interview conducted for the subject report.

Subsequent to the exit interview, the licensee provided information to the inspector which resolved these issues. A discussion of each item is provided below:

- a. (Closed) Violation (482/8423-01) Failure to incorporate certain Regulatory Guide 1.85 requirements on ultimate strength of materials into Bechtel Specifications 10466-M-218A, 218B, and 216.

Bechtel Specifications 10466-M-218A, 218B, and 216 were revised to incorporate the ultimate tensile strength (UTS) limits contained in

Regulatory Guide 1.85 and paragraph 4.5.2.2. of the AWS D.1.1 Code. This was verified by inspector review of the subject specifications. Incorporation of the revisions put the licensee in noncompliance with the specifications due to the use of high strength cap screws in Bergen-Paterson snubbers. This condition was evaluated by Bergen-Paterson and Bechtel and found acceptable based on a provision of Regulatory Guide 1.85 which states, "... The maximum measured UTS of the component support material should not exceed 170 Ksi in view of the susceptibility of high strength materials to brittleness and stress corrosion cracking. Certain applications may exist where a UTS value of up to 190 Ksi could be considered acceptable for a material and, under this condition, the Design Specification should specify impact testing for the material. For these cases, it should be demonstrated by the applicant that (1) the impact test results for the material meet code requirements and (2) the material is not subject to stress corrosion cracking by virtue of the fact that (a) a corrosive environment is not present and (b) the component that contains the material has essentially no residual stresses or assembly stresses, and it does not experience frequent sustained loads in service."

Pursuant to this provision the following determinations were made:

- (1) Bergen-Paterson determined that the specific service conditions of these cap screws are such that (1) a corrosive environment does not exist, (2) stresses are low, and (3) it does not experience frequent sustained loads while in service and therefore these cap screws are not susceptible to brittleness nor stress corrosion cracking which is the concern of the Regulatory Guide.
- (2) The faulted loads of the snubbers transferred via the cap screws are significantly lower than the ultimate tensile strength of the A574 material used.
- (3) The preload stress on the cap screws caused by the assembly torque results in a low initial stress when compared to the yield strength of the material, i.e., the torque required by installation as shown on the load capacity data sheet will develop a stress of approximately 30 percent of the material minimum yield stress. No increase in stress occurs as a result of loads on the snubbers within the limits of the certified load capacity data sheets.
- (4) The snubbers are loaded mainly during the infrequent design basis seismic events and do not restrain the piping system during normal plant operations.

- (5) The cap screws used are limited to the smaller snubbers (size 0.35 to size 15).

This rationale is acceptable.

- b. (Closed) Violation (482/8423-02) Failure to perform the proper nondestructive examination (NDE) of pipe supports.

In response to the issue on pipe support NDE, the licensee reviewed all Class 1 supports to determine if other supports had not received proper NDE. Thirty-six such supports were identified. This information was recorded on Nonconformance Report (NCR) 1SN 21296 HW. Each of the supports was then reinspected using proper NDE techniques. Additionally, personnel were assigned responsibility for establishing NDE requirements. The NRC inspector verified completion of the training by review of the associated training report.

- c. (Closed) Violation (482/8423-03) Failure to evaluate and report a nonconforming condition pursuant to 10 CFR 50.55(e) in a timely fashion.

In response to the issue of failure to evaluate and report a nonconforming condition in a timely manner, the licensee took the following actions:

- (1) NCRs were reviewed to determine if reportability evaluations had been performed in accordance with procedural requirements. Sixteen NCRs originating from three individuals in the Daniel International Corporation (DIC) hanger engineering department were identified as not receiving the required evaluation due to a failure to process the NCRs in accordance with existing procedures. These NCRs were subsequently evaluated for reportability and a report was made to the NRC.
 - (2) All individuals with the DIC hanger engineering organization and having authority for the discipline manager were retrained in requirements for reportability evaluation. The documentation associated with this training was reviewed by the inspector and found acceptable.
- d. (Closed) Deviation (482/8423-04) Failure to control spacing of electromagnet yokes used for magnetic particle inspections in accordance with ASME Section V.

The 1974 Editions including the 1975 Summer Addenda of ASME Section V specifies an electromagnetic yoke pole spacing of 3 to 6 inches. The basis for this specification is to ensure sufficient magnetism for magnetic particle examinations. This is demonstrated by establishing

that the yoke is capable of lifting 10 pounds when energized with AC power. The licensee is committed to this code revision; however, procedures in place allowed yoke pole spacing of up to 8 inches. In response to this issue, the licensee performed a test which demonstrated that with a yoke pole spacing of 8 inches, a 10 pound weight could be lifted. It should be noted that subsequent editions of ASME Section V do not specify yoke pole spacing but only require demonstration of lift capacity.

Based on the above information, these four issues are considered resolved; however, the licensee is still responsible for providing any formal responses to these issues as directed by NRC Inspection Report 50-482/84-23.

(Closed) 482/8457 Violations and Enforcement Action

On December 4, 1984, the NRC conducted an Enforcement Conference with members of the licensee's management, the subject of which was observed inadequacies in the licensee's preoperational test program. The conference was convened following NRC identification of four items of noncompliance relative to technical inadequacies in preoperational tests that were not identified by the licensee's review process. A detailed discussion of these issues and their discussion at the Enforcement Conference is presented in NRC Inspection Report 50-482/84-57.

Four conclusions were reached as a result of the Enforcement Conference. These conclusions are:

- a. A programmatic breakdown had occurred in execution of the preoperational test program.
- b. The technical adequacy of the tests completed prior to the Enforcement Conference was likely not affected by the breakdown in view of the fact that the licensee corrected all specific deficiencies identified by the NRC; however, this conclusion required confirmation through rereview of completed test packages.
- c. The licensee needed to implement prompt corrective actions to eliminate the identified weaknesses and prevent future problems which might otherwise compromise the technical adequacy of the preoperational test program.
- d. The licensee needed to review the causes of the identified weaknesses for applicability to the power ascension test program and routine operations and take those corrective actions deemed necessary to prevent recurrence.

The licensee formally responded to the issues discussed in the Enforcement Conference by letter dated December 11, 1984. In that response the following corrective actions were committed to:

- a. A review of licensing documents would be performed to identify all preoperational testing commitments. Subsequently, a review of all preoperational test would be conducted to establish the degree to which testing commitments were incorporated. Licensing documents to be reviewed included the SNUPPS FSAR and the Wolf Creek Addendum, the Wolf Creek Safety Evaluation Report and supplements, Wolf Creek Final Draft Technical Specifications, and selected Regulatory Guides.
- b. A similar review would be performed of the power ascension test program.
- c. Management conducted meetings with all personnel in the startup and operations organizations emphasizing adherence to procedures and stressing the need to avoid direct or implied schedular pressure.
- d. More realistic schedules would be developed.
- e. Daily site management meetings will be conducted to review quality concerns, tasks in progress, and problem areas.
- f. Management involvement in planning, coordinating, and in field activities will be increased.
- g. Examinations will be administered to key personnel to the execution of the preoperational test program to establish existing levels of knowledge of program administrative requirements. Retraining and retesting will be conducted based on a stated 80 percent pass/fail criteria.
- h. A nuclear department policy entitled "Adhering to Established Guidelines" was issued and will be placed on the required reading list for plant operating personnel. Startup management will review the policy with all test engineers (TE).
- i. Administrative Procedure ADM 14-200, "Preoperational Testing Implementing Procedure," will be revised to clarify the requirements for use of temporary change notices and to establish a limit on the allowable number of test discrepancies.
- j. A 100 percent rereview of all completed FSAR required preoperational test packages will be performed using the strengthened administrative procedure requirements to establish test validity. Packages not completed will be reviewed using the new procedures.

- k. Supervisory involvement in pretest activities will be increased as will daily in-progress involvement.
- l. Daily independent reviews of active testing will be performed by the startup technical support group. Review results will be provided to the TE and his supervisor for feedback purposes.
- m. Written observations of control room activities will be performed by the shift technical advisors.

On December 31, 1984, the licensee provided, by letter, the results of their review of licensing documents against preoperational test packages. While a number of minor discrepancies were identified, it was concluded that, "The overall results of the study demonstrate a high level of confidence that previous test program preparation efforts aimed at assuring that FSAR commitments were met have been successful and that the relatively small number of exceptions have now been corrected."

In a letter, January 10, 1985, the licensee provided the results of a similar licensing document review for the power ascension test program. While this submittal contained no conclusion relative to the overall results, review of the data supplied indicated that few changes were required and that drawing a conclusion similar to that reached for the preoperational test program would be appropriate.

During this inspection period, the NRC inspector performed the following activities to assess the effectiveness of the implementation of the licensee's committed-to corrective actions:

The data supplied by the licensee relative to their licensing document review studies was reviewed (corrective actions a and b above). The results of this review were then compared to observations made during preoperational test package reviews conducted following the Enforcement Conference.

The number of observations made by the NRC inspector while indicating that the reviews performed by the licensee did not identify all discrepancies, but did represent an improvement and was characteristic of the number of observations made at other facilities at the same point in the test program. With the exception of an incorrect pump performance data problem and one technical problem in the power ascension test procedure, all observations came about as the result of differing interpretations of regulatory requirements. In all cases the licensee took or is taking appropriate corrective actions to resolve these concerns.

Based on the reviews of preoperational test packages, power ascension test procedures, and the results of the licensee's licensing document reviews,

it is concluded that previous failures of commitment incorporation have been satisfactorily resolved.

The NRC inspector reviewed those actions taken by the licensee to improve awareness of the requirement to adhere to procedures and to remove scheduler pressure (corrective actions c, d, and f above). It was determined that site management did meet with all affected plant personnel and did stress the requirements for procedural adherence regardless of schedule. The NRC inspectors review of the schedules that were issued after the Enforcement Conference confirmed they were more realistic than before the conference, however, the NRC inspector felt that the new schedules did not allocate sufficient time for test results review. Review of completed test packages indicated an overall improved quality both in terms of procedural compliance and results review. Those actions taken by the licensee in these areas contributed positively to the ultimate quality of the preoperational test program.

The inspector reviewed those actions taken to strengthen oversight of the preoperational test program (corrective actions e, f, k, l, and m above) with the following results:

- a. On February 21, 1985, the NRC inspector met with the lead system test supervisor and four system test supervisors for preoperational testing to assess their involvement in testing activities following the Enforcement Conference. As a result of this meeting, it was determined that more time was devoted by supervisors to pretest briefings with TEs covering test procedure familiarity, test methods and potential problems, communications with the control room and support groups, prerequisites and preparations, and administrative procedure requirements. In addition, these personnel did increase the amount of time spent in the field during periods of active testing, however, it was determined that the function of reviewing test documentation was delegated to the Technical Support organization.

The NRC inspector met the manager of the onsite QA organization to determine the amount of activity QA devoted to preoperational testing and QA interface with the startup organization. Based on this discussion and review of surveillance reports, it was determined that three surveillances were performed to assess the implementation of corrective actions addressing preoperational testing weaknesses. An additional three surveillances were performed of in process preoperational test activities. All six surveillance reports were distributed directly to startup management or indirectly through operations management. The NRC inspector determined that startup supervision was not aware of these reports.

- b. The inspector reviewed TS comment sheets for 31 preoperational tests monitored following the Enforcement Conference and the guidance provided to the reviewers on the conduct of the reviews. That guidance, promulgated by Interoffice Correspondence KRE-021 dated November 12, 1984, required daily review of active testing using supplied checklists to provide early detection and correction of technical, procedural, or administrative errors. The results of the reviews were to be discussed with individual TEs and provided to startup supervision.

The NRC inspector found the checklist to be comprehensive and detailed. Review of individual comment sheets showed that meaningful observations were made, and generally resolved in a timely manner. The number of observations declined with time indicating a general improvement in test performance; however, continued problems were evident in the use of test change notices and test discrepancies, independent verification, and suspended test restarting.

- c. The NRC inspector reviewed a sample of 39 checklists completed by shift advisors following the Enforcement Conference. It was noted that the checklists, while generally good for assessing operating activities, did not explicitly address preoperational test activities. Six of the thirty-nine checklists did contain minor comments relative to testing activities.
- d. On February 26, 1985, the NRC inspector met with the plant manager to discuss the daily site management meetings conducted to review quality concerns, tasks in progress, and problem areas. Based on this meeting and review of meeting minutes, it was determined that the committed-to meetings did occur and that testing activities were discussed; however, it was also determined that these discussions focused on specific issues or tests rather than consideration of broader issues. Nonetheless, it is concluded that a positive contribution was made to the program by these meetings by contributing to resolution of identified problems.

The NRC inspector reviewed the examination administered to personnel involved in the preoperational test program (corrective action g above) and determined that they were comprehensive and responsive to identified programmatic deficiencies. Eleven completed examination were selected at random and reviewed. Based on this review and discussions with one of the individuals responsible for examination administration, it was determined that adequate security was maintained (four different examinations were administered), grading was reasonable and consistent, results were discussed with all examinees, and retraining and reexaminations were conducted as necessary. Of the 11 examinations reviewed, 2 were taken by startup supervisors with above average results and 9 were taken by TEs and support personnel. Only one person failed and a satisfactory

reexamination was on file. It was concluded that the examinations accomplished their objective of establishing the knowledge level of personnel involved in the preoperational test program and identifying and correcting identified weaknesses. The NRC inspector reviewed the implementation of corrective actions h and i above. Based on this review, it was determined that the committed-to policy was issued and was adequate and that the administrative procedure changes were made as committed. It was also determined that the new policy was not added to the required reading as committed-to. This deviation is minor in view of the discussions conducted with all personnel as detailed above; however, the licensee did add the policy to the required reading immediately upon identification of this problem to them by the NRC inspector.

Implementation of the policy formalized and reemphasized management's position relative to procedural compliance and was a positive contribution not only to the startup program but to continued plant operations. Implementation of the administrative procedure changes imposed added administrative burdens on the program; however, this detractor was more than offset by the fact that it lowered considerably the threshold for managerial and supervisory involvement in problem resolution.

With respect to corrective action j above, the NRC inspector reviewed the results of five rereviews. It was confirmed that the reviews were performed in accordance with a detailed checklist whose contents, with one exception, were acceptable. That exception concerns review of test methodology to that prescribed in the FSAR. This problem was also identified by the licensee and a reverification of test methodology performed on vaulted test packages between December 10, 1984, and January 14, 1985.

The results of the review indicated that numerous administrative errors had been made; however, there is objective evidence that these errors were adequately reviewed with respect to their technical impact. In general, it may be concluded that this rereview process and comment disposition improved the quality of completed preoperational test packages and provided an added measure of assurance that those packages satisfy technical requirements.

The overall conclusions reached as a result of this inspection of the licensee's actions to correct preoperational test program weaknesses are as follows:

- The committed-to corrective actions were implemented as stated with one minor exception which did not compromise the overall effectiveness of the corrective action program.

- The actions implemented resolved the weaknesses identified and provided the needed level of assurance relative to the technical adequacy of the preoperational test program.
- The licensee failed to take advantage of some of the corrective action results as a feedback tool to prevent recurrence of identified problems. This failure complicated the preoperational test program; however, by virtue of improved completed procedure reviews, technical adequacy was preserved.
- With respect to the preoperational test issues identified in NRC Inspection Report 50-482/84-57, the licensee has taken adequate corrective actions and those issues are resolved.

With respect to those actions taken to prevent recurrence of those problems noted during preoperational testing, during power ascension testing, and routine operations, the following observations are pertinent:

- The NRC routine inspection program requires preoperational inspection of power ascension and routine operating procedures, both technical and administrative. These required reviews were, for the most part, conducted after identification of the preoperational test program weaknesses and as such highlighted those weaknesses. The inspection process generated comments which have or are being resolved by the licensee. This provides a level of assurance that previously identified weaknesses will not recur.
- The licensee has made the transition from startup organization control of testing to operations control of testing, thereby eliminating an interface for control of ongoing activities.
- Many of the personnel who were involved in preoperational testing and were retrained and sensitized to procedural requirements and subsequently demonstrated improved performance are participating in the power ascension program.
- The licensee has administered written examinations to those personnel who will be involved in power ascension testing to assess their preparedness and knowledge level. Retraining has been conducted as necessary. The NRC inspector reviewed the examinations and found them adequate.
- The licensee's QA department has established a comprehensive surveillance and audit schedule for power ascension testing. The inspector reviewed this schedule and found it acceptable.
- The licensee has strengthened verification requirements in all procedures, both testing and operating.

On February 23, 1985, the NRC inspector met with the Superintendent of Technical Support and the Reactor Engineering Supervisor to discuss the above actions relative to the power ascension test program. The results achieved were that management is taking action to properly conduct the test program and has integrated the lessons from the preoperational test program into the power ascension program. A formal feedback mechanism has not been established to aid in early detection and correction of adverse trends. The licensee is reviewing this matter and plans to take corrective action. This is an open item (482/8511-16).

Based on the above, it is concluded that the licensee has adequately addressed all of the items in NRC Inspection Report 50-482/84-57 and that these items no longer represent a constraint to fuel load or power ascension. NRC inspection activities will be continued in accordance with existing programmatic requirements in this area.

3. Preoperational Test Procedure/Results Review

The following completed preoperational test packages were reviewed to verify that the procedures reflected Final Safety Analysis Report (FSAR) commitments, that required data was collected and met stated acceptance criteria, and that the required reviews were completed.

- SU3-SP01 - Process Radiation Monitoring
- SU3-NK01 - 125 V Class 1E DC System
- SU3-0005 - Power Conversion and ECCS System Dynamic Test Results Report
- SU3-GS01 - Post Accident Hydrogen Removal System
- SU3-EC01 - Spent Fuel Pool Cooling and Cleanup System
- SU3-AB05 - Secondary System Hydrostatic Test
- SU3-GK01 - Control Building HVAC System Retest
- SU3-GL01 - Auxiliary Building HVAC System Test
- SU3-GL01 - Rev. 1 - Auxiliary Building HVAC System Retest

Detailed reviews of the following completed preoperational test packages were conducted to verify that test performance was properly documented, to verify that instrumentation used was of the correct range and properly calibrated, to verify that acceptance criteria were met, and to verify that the completed packages were properly reviewed and all discrepancies were properly resolved:

- SU3-EM01 - (Retest) Safety Injection System Cold Preoperational Test
- SU3-KE06 - Refueling Machine Indexing Test
- SU3-KE07 - Fuel Handling System Integrated Test
- SU3-EN02 - Containment Spray System
- SU8-BB12 - Pressurizer Continuous Spray Flow Verification
- SU3-EM02 - Safety Injection Flow Verification

For SU3-EM02 the NRC inspector had the following additional comments. It was observed that on Data Sheet 8.16 an equation to convert test data into flow was incorrect. The NRC inspector determined that the correct equation was utilized for the actual calculation; however, the test was deficient in that it required the use of a wrong equation and a test change was not provided. The Notice of Violation was verbally given to the licensee on February 12, 1985. (482/8511-02) The licensee responded by stating:

- a. Corrective steps which have been taken and results achieved:

"A Supplemental Correction Report was issued for SU3-EM02, Data Sheet 8.16 to correct the incorrect value in the flow calculation. The TEs used the correct value in their calculations for Data Sheet 8.16 as they were familiar with the equation having used it previously on Data Sheets 8.8, 8.9, 8.10, and 8.11. The TEs involved in the conduct of the test have received supplemental training in the requirements to properly document procedural discrepancies found during the conduct of testing."

- b. Corrective steps which will be taken to avoid further violations:

"Retraining has been provided to the TEs on the administrative requirements to properly document procedural discrepancies discovered during the performance of a test. Additionally all the joint test group members (JTG) and other individuals involved in the review of preoperational test procedures have been made aware of this noncompliance and will receive a copy of this response for their review and dissemination to their groups as appropriate."

- c. Date when full compliance will be achieved:

Full compliance will be achieved by February 20, 1985.

In discussions with the TEs involved with of this test, the NRC inspector determined that the retraining provided was adequate.

During review of this results package, one item of NRC inspector concern was identified and resolved.

The item of concern was that Valves EM 8923A, EM 8923B, and EM 8924 did not appear to be timed either open or closed. In discussions with the licensee, it was pointed out that these valves were stroke-timed in both directions during Component Test EL0601. The licensee agreed to reference the component test in SU3-EM02. All of the NRC inspector's violations and concerns on this test are closed. The review of this test is complete.

4. Inspection of Generic Letter 83-28, "Required Actions Based on Generic Implication of Salem ATWS Events"

On July 8, 1983, the NRC issued Generic Letter 83-28 to all licensees of operating reactors, applicants for operating licenses, and holders of construction permits. This letter required operating licensee holders and applicants for operating licenses to submit to the NRC no later than November 5, 1983, the status of conformance with the positions on post trip review, equipment classification and vendor interface, post maintenance testing, and reactor trip system reliability improvements contained in the letter. On October 15, 1983, the licensee provided an initial response to Generic Letter 83-28. A final response was submitted on February 29, 1984.

During the inspection period, an inspection was performed to assess the licensee's degree of conformance to Generic Letter 83-28 in the areas of equipment qualification, vendor interface, post maintenance testing, preventive maintenance, and surveillance testing. This inspection consisted of a review of the following documents:

- KLMNRC 84-023 - KG&E Response to Generic Letter 83-28
- KPN-D-303 - Determination of Safety Classification
- KP3-315 - Initial Q-List
- KP-1045 - Maintaining, Releasing, and Controlling the Q-List
- ADM 01-057 - Work Request
- Quality Program Manual
- ADM 01-047 - Classification of Parts
- ADM 01-048 - Material and Services Procurement
- ADM 01-201 - Control of Maintenance and Modifications
- ADM 01-001 - Introduction to WCGS Procedures
- KPN-D-311 - Q-List
- ADM 01-033 - Reportability
- ADM 01-058 - Nonconforming Material, Parts, and Components
- ADM 01-059 - Conditional Releases
- ADM 01-042 - Engineering Study for Plant Modification Request
- ADM 01-049 - Procurement Level I and V List
- ADM 01-041 - Initiation of Plant Modification Request Qualified Supplier List
- SLNRC 83-0015 - SNUPPS Submittal on Equipment Classification
- MPE-M766Q-03 - Reactor Trip Switchgear Breaker
- MPM-M021Q-01 - Auxiliary Feedwater Pump Turbine Annual Inspection
- MCE-M766Q-02 - Rod Drive Motor Generator Set Bearing Replacement
- MPE-M766Q-04 - Instrument AC Power Protection and Alarm Relay Check
- MPM-M721Q-03 - Centrifugal Charging Pump Seal Replacement

The review included discussions with station personnel in the operations, maintenance, training, and licensing departments, and review of technical manuals and bulletins.

Based on this inspection it is concluded that the licensee has adequately implemented the requirements of Generic Letter 83-28 with two exceptions:

- a. MPE-M766Q-03, "Reactor Trip Switchgear Breaker" does not conform to certain requirements in the Technical Manual including lubrication points ~~for~~ the breaker and the type of lubricant to be used.
- b. MPE-M766Q-03, "Reactor Trip Switchgear Breaker" does not specify voltages at which the shunt and undervoltage trip devices are expected to actuate nor are the values recorded and trended over time.

During this inspection the licensee revised MPE-M766Q-03 to incorporate the NRC inspector's comments.

As a result of this inspection Generic Letter 83-28 and Open Items 482/8444-02 and 482/8444-04 are considered closed.

No violations or deviations were identified.

5. 10 CFR 50.55(e) Reports

(Closed) Microbiologically Influenced Corrosion (TE53564-K141): This report documented multiple occurrences of microbiologically induced corrosion (MIC) in systems supplied with cooling lake water. These systems include essential service water (ESW), service water (SW), fire protection (FP), and circulating water (CW). In response to this problem, the licensee has undertaken a chlorination process on CW and SW, has committed to install and have operable an ESW chlorination system prior to entry into Operating Mode 4, and has committed to perform periodic inspections of affected systems/components as follows:

Six month intervals

- a. One Condenser Vacuum Pump Seal Water Cooler
- b. One Water Box Venting Pump Seal Water Cooler
- c. Piping Connected to Water Box Venting Pump Seal Water Cooler
- d. Spool Piece From Outlet of CVCS Chiller

- e. Fire Protection Pipe 204-KBF-2 1/2" Upstream of V244 and Galvanized Pipe Between V323 and V840

At each refueling outage

- a. One of Each of the Diesel Generators Heat Exchangers
- b. Both Component Cooling Water Heat Exchangers
- c. Both Closed Cooling Water Heat Exchangers
- d. Essential Service Water Piping at Component Cooling Water Heat Exchanger Water Box
- e. Essential Service Water Spool Piece Between the Two Diesel Generator B Heat Exchanger
- f. Circulating Water System Piping Located About 50 Feet From Pump House
- g. Fire Protection System Pipe Section in CWSH

These actions are based on studies performed for the licensee by Bechtel. The NRC inspector has reviewed these studies and found the licensee's proposed course of action acceptable. Installation of the ESW chlorination system will be tracked as an open item which must be closed prior to entering Mode 4. (482/8511-04) Completion of the first 6-month inspection will be tracked by an open item which must be closed prior to September 30, 1985. (482/8511-05) Completion of the refueling inspection will be tracked as an open item which must be closed prior to startup following the first refueling outage. (482/8511-06)

(Closed) Main Steam Isolation Valve Lockwashers (TE53564-K157): This report documented missing lockwashers on the four way hydraulic valve mounting screws on the main steam isolation valves and main feedwater isolation valves. The lockwashers are required to satisfy seismic qualification test configuration specifications. The NRC inspector reviewed completed Work Requests 960-85 and 961-85 under which the lockwashers were installed and found them acceptable.

(Closed) TC/CCM Alarm Relays (TE53564-K150): This report documented damage to integrated circuits and an interruption to the central processing unit of the subcooling core monitor system when 125 V DC non-1E annunciator power was interrupted. The cause of the problem was determined to be arcing on two relays resulting in a voltage spike. The system was modified by installation of two additional relays, diodes and capacitors to minimize the voltage transient and has subsequently been

satisfactorily tested. The inspector reviewed the field changes and associated implementation documentation and found them acceptable.

(Closed) Load Sequencer (TE53564-K160): This report documented a vendor wiring error in the load shedding and emergency load sequencers (LSELS) discovered during preoperational testing. A complete inspection of LSELS revealed no other discrepancies. The wiring error was corrected and a satisfactory retest was performed. NRC inspectors reviewed the retest procedure and found it acceptable.

(Closed) ASME Component Removal (TE53564-K143): This report documented potential problems with material substitution on ASME components upon reassembly following disassembly for hydrostatic testing and flushing purposes. In response, the licensee performed as-built inspections of 277 components in the field, documentation review, and review of material control in the startup organization "Q" storage area. Two material substitution errors were discovered in the field and corrected. A number of documentation discrepancies were discovered; however, it was determined that the travelers accurately indicated as-built conditions. Problems were identified in administrative control of removed components primarily relating to bagging, tagging, and logging items. All such material which could not be positively identified was scrapped and dispositioned for "non-Q" use. It is concluded that administrative errors in documenting ASME component removal occurred but that these errors did not result in inappropriate material substitutions.

(Closed) Containment Floor Coatings (TE53564-K159): This report documented apparent discrepancies in the quality of concrete coatings applied to floor surfaces on the 2000' elevation of containment. A statement made by an exiting quality control inspector, to the quality first program, indicated that he had been unable to complete all inspection reports for coatings that he inspected on the 2000' elevation containment floor. As a result of these statements, the licensee performed a series of pull tests on the painted surfaces. Some of these tests yielded pull strengths of less than 200 psig, the adhesion acceptance criteria. The licensee then removed approximately 2000 square feet of coatings from the suspect area and took a number of core samples for qualification testing and adhesion strength analysis. The latter analysis indicated excessive solvent entrapment as the cause of the low adhesion strength. The qualification testing demonstrated that despite the solvent entrapment, the coatings would perform satisfactorily under accident conditions. Thus, additional coatings were not removed.

To prevent excessive solvent entrapment during reapplication of the coatings removed, the licensee revised their application procedures to strictly control cure times and use of solvents for surface preparation. The NRC inspector reviewed these procedures and found them acceptable. Coating application is currently in progress. The licensee has committed

to complete application prior to entering Mode 4 and has presented a detailed work plan to accomplish this. The NRC inspector reviewed this plan and found it acceptable. Completion of coating reapplication will be tracked as an open item which must be closed prior to entry into Mode 4. (482/8511-07)

(Closed) RdF RTD Calibration Uncertainty (TE53564-K161): This report documented a vendor change in resistance temperature detector (RTD) calibration procedures which resulted in greater instrument uncertainty. The problem was discovered by the licensee while reviewing documentation supplied by the vendor with replacement RTDs. Because instrument uncertainty impacts accident analyses and setpoint methodology, the licensee had Westinghouse perform an analysis of the impact of the increased uncertainty. This analysis resulted in identification of the need for changes to Technical Specifications 2.2 and 3.2. These changes were submitted to NRR and have been incorporated into the Wolf Creek Technical Specifications.

6. Preoperational Test Deficiency/Deferral Review

The NRC inspector reviewed the following preoperational test deficiency deferrals and found them acceptable except as indicated. The criteria employed in this review were as follows:

- The deficiency did not create an unreviewed safety question
- The deficiency did not compromise system operability requirements as defined by Technical Specifications
- The deficiency did not represent a potentially significant impact on post fuel load schedules

RD#26 Thermal Expansion Test: This deficiency deferral documents unexpected movements noted on a number of snubbers during the performance of hot functional testing. The licensee has analyzed the observed movements and confirmed that they do not represent a pipe overstress condition. Snubber response will be verified during the performance of Test SU7-0015 prior to initial criticality.

RD#34 Filter Handling: This deficiency deferral documents a design problem which prevents normal transport and handling of the filter handling cask between the auxiliary building and the radwaste building. The licensee is pursuing design changes to permanently rectify the problems. The licensee has developed interim measures to address the problem until the design changes can be implemented. The NRC inspector reviewed these measures and found them acceptable.

RD#40 Process Sampling Valve: This deficiency involves retest of a condensate demineralizer outlet sample throttling valve following rework. The licensee has agreed to perform this retest during initial condensate system operation following fuel load. This will be tracked as an open item. (482/8511-08)

RD#27 Auxiliary Feedwater Pump Turbine Vibration: This deficiency involves slightly excessive vibration of the turbine during operation. The unit has been realigned and a retest, requiring steam, is required. As the prealignment vibration readings did not render the unit inoperable, retest in Mode 3 during the precriticality heatup is acceptable. This will be tracked as an open item which must be closed prior to entering Mode 2. (482/8511-09)

RD#42 Rod Control Cluster Assembly Change Fixture Engage Light: Resolution of this deferral will be tracked by an open item which must be closed prior to rod changes during the first refueling. (482/8511-10)

RD#53 NK II-2 Ammeter: Resolution of this deferral will be tracked as an open item which must be closed prior to exceeding 5 percent power. (482/8511-11)

RD#37 Equipment Floor Drains: This deficiency deferral documents insufficient flow from several equipment floor drain sump pumps. All but two of the pumps are not critical. Two of the pumps service the containment instrument tunnel sump. The licensee has committed to correct the deficiencies in these latter two pumps prior to initial criticality. This is acceptable and will be tracked as an open item. (482/8511-12)

RD#29 Spent Fuel Pool Filters: This deficiency deferral documents an inability on the part of the spent fuel pool filters to remove particulate matter in accordance with FSAR design specifications. Correction of this deficiency can be deferred until the first refueling outage based on the following:

- FSAR design specifications are satisfied when the spent fuel pool demineralizers are used.
- Initial fuel load will be conducted with reduced water level in the pool thereby compensating for any water clarity deficiencies.
- Irradiated fuel will not be placed into the pool until the first refueling outage.

(482/8511-19)

RD#56 ECCS Valve Leakage: This deficiency deferral documents excessive through seat leakage noted on the RHR System Pump A suction valve during the performance of Test SU3-EM03. The valve was repaired and a special

leak test performed which demonstrated its integrity. Final testing will be performed during initial plant heatup prior to criticality.

RD#61 Gaseous Radwaste Analyzers: This deficiency deferral documents an inability to perform Section 7.8 of Test SU3-HA01 due to equipment problems with the hydrogen and oxygen analyzers in the purge line from the volume control tank (VCT) to the gaseous radwaste system. Hydrogen is not supplied to the VCT until Mode 4; thus, this section of the test must be completed prior to entering Mode 4. This will be tracked as an open item. (482/8511-13)

RD#62 Main Steam Isolation Valves (MSIV): This deficiency deferral documents a requirement to perform MSIV fast closure testing following completed work on the valves. Testing cannot be performed until the steam lines are pressurized due to the potential for valve damage during dry cycling. The licensee has committed to perform the retest prior to criticality in accordance with Technical Specification surveillance requirements. (482/8511-20)

RD#64 System PK Batteries: This deficiency deferral documents a slightly low post-discharge test specific gravity measured on 3 of 120 cells on two PK batteries which supply emergency power to inverters which in turn supply power to the balance of plant computer, non-Class 1E radiation monitors, and the radiological release information system. Failure of the cells would result in a degraded terminal voltage acceptable for continued operation. Normal power to the inverters is supplied by a Class 1E 480 V buss which is capable of being ordered from the emergency diesel generators. Thus, the slightly low specific gravity measurements do not render system performance unacceptable.

RD#65 Auxiliary Building/Residual Heat Removal Pump Room Sump Leakage Detection System: This deficiency deferral documents a computer calculation problem of leakage rates into the subject sumps. All indicators are functioning normally. Leakage rates will be calculated using Procedure SYS LF-120 until the computer calculation can be retested. Retest is scheduled prior to heatup above 200°F. (482/8511-21)

RD#66 Containment Normal Sump Leakage Detection System: This deficiency deferral documents computer program errors for calculating normal containment sump inleakage. The program errors have been corrected. Retesting will be completed prior to entry into Mode 4. In the interim, sump inleakage will be manually calculated using Procedure SYS LF-120. Completion of retesting will be tracked as an open item which must be closed prior to entry into Mode 4. (482/8511-14)

RD#67 Solid Radwaste System: This deficiency deferral documents numerous minor deficiencies noted during the performance of the solid radwaste system preoperational test. As solid radwaste will not be generated until

initial criticality is achieved, deferral of correction of these deficiencies will not impact precritical plant operations. Resolution of these deficiencies will be tracked as an open item which must be closed prior to initial criticality. (482/8511-15)

RD#72 Radwaste Concrete Solidification: This deficiency deferral documents difficulties encountered in obtaining satisfactory concrete solidification during resin solidification. The problem occurred due to unique chemistry conditions associated with the preoperational test program. System process capabilities have been demonstrated. Ability to establish proper chemistry to obtain satisfactory solidification was demonstrated on the identical system at Callaway. The licensee has committed to complete retesting prior to criticality. In the event that further problems are encountered, portable processing capability can be made available. (482/8511-22)

RD#74 Decant Station Level Control: This deficiency deferral documented a failure of the radwaste decant tank level controller during preoperational testing. The controller was repaired and immediately retested due to system chemistry. The licensee has committed to complete retesting prior to criticality. This is acceptable particularly in view of the satisfactory operation of the controller as demonstrated on one flow path. (482/8511-23)

7. Procedure Review

The NRC inspector reviewed the following procedures and verified that the deficiencies identified in NRC Inspection Report 50-482/84-56 had been corrected as appropriate:

- STS CH-008A	- STS FP-001	- STS JE-001A
- STS JE-001B	- STS MT-004	- STS MT-020
- STS PE-14	- MGE E00P-02	- FPH 02-007
- FHP 02-001	- ADM 04-005	- ADM 04-010
- ADM 04-013	- ADM 04-015	- ADM 04-020
- STS BG-001	- STS CR-003	- SYS EJ-120
- SYS EJ-110	- SYS NB-331	- SYS NG-331
- SYS BG-201	- CKG JE-120	- SYS BB-202
- ALR 00-035C	- ALR 00-034D	- ALR 00-041C
- SYS BG-202	- SYS BG-203	- SYS BG-204
- SYS BG-206	- SYS EF-200	- SYS GT-120
- MPM-M-713Q-01	- ALR 00-032C	- ALR 00-043A
- ALR 00-044A	- ALR 00-045A	- ALR 00-046A
- ALR 00-049F	- ALR 00-056A	- ALR 00-076D
- ADM 02-021	- SYS BB-201	- ADM 02-102
- SYS EP-200	- ADM 01-057	- MPM-M-721Q-01
- FHP 02-11	- ALR 00-001A through 00-134F	
- ALR 00-24E		

No violations or deviations were identified.

8. IE Bulletin (IEB) and IE Circular (IEC)

(Closed) IEC (77-10): This IEC documented cases of damage to process tanks due to vacuum formation during tank drawdown. As discussed in NRC Inspection Report 50-482/84-44 with respect to IEB 80-05, the licensee has evaluated their tank designs for this problem and concluded that the designs are adequate.

(Closed) IEB (76-06): This IEB documented diaphragm failures in air operated auxiliary actuators for safety/relief valves. The subject valves are not employed at Wolf Creek.

No violations or deviations were identified.

9. Surveillance Testing

The NRC inspector surveyed the status of surveillance testing in preparation for initial fuel load. The mode change checklist for initial entry into Mode 6 was reviewed to verify incorporation of Technical Specification requirements. No discrepancies were noted. Of 156 procedures and logs listed in this checklist, all have been approved and issued.

The status of the Mode 6 initial checklists is being monitored on a daily basis to assure performance within the specified time period.

The NRC inspector observed that completion of surveillances having frequencies greater than one week are not being tracked on the control room schedule. This was discussed with plant management. The Plant Manager implemented a tracking mechanism requiring initialing and dating the control room copy of the schedule as the surveillances are completed.

No violations or deviations were identified.

10. Conduct of Operations

The NRC inspectors witnessed control of plant activities by the shift supervisors and operators periodically during the inspection period. Specific activities witnessed include the following:

- Response to control room alarms and abnormal plant conditions
- Completion of required logs and reports
- Watch turnovers
- Processing of work requests including specification of special conditions and retest requirements

- Processing of clearance orders
- Control room coordination of testing
- Completion of required reading
- Control of jumpers, locked valves and temporary modifications
- Processing of fire permits

Selected NRC inspector observations are discussed below:

- a. During a tour in the main control room, the NRC inspector observed that there were no licensed operators at the controls for approximately 2 or 3 minutes. As the plant has not received a license to operate and no fuel was in the vessel, this item is not a violation. The Superintendent of Operations was informed and cautioned to not let his operators get into the habit of doing something which would be cause for enforcement action after license issuance. During discussions on this item, it was discovered that the licensee's definition of "at the controls" as defined in ADM 02-001 did not meld with the inspector's definition. The licensee agreed to change ADM 02-001 to resolve the inspector's concern. The inspector reviewed ADM 02-001, Revision 7, issued February 15, 1985, and verified that the inspector's concern was resolved.
- b. A significant number of changes in administrative procedures have been made recently or are in process. These are being effectively implemented by special orders or through the required reading log. However, it is difficult for the operations personnel to stay current on retraining because of the abnormally high volume of changes. This observation was discussed with the plant manager and operations superintendent. They acknowledged the potential training problem and indicated they would continue to emphasize timely retraining.
- c. A large number of telephone calls are being made to the shift supervisor just prior to the 3:00 p.m. shift change. These are being processed by the operators with a minimum disruption of the shift change. However, it would be beneficial if plant personnel would postpone nonemergency calls until after the normal shift change period. This concern was discussed with the plant manager who indicated he would attempt to reduce unnecessary communications during shift changes.

The superintendent of operations issued a memo (KWOLKW 85-089) dated February 28, 1985, to other plant superintendents requesting that personnel under their supervision be made aware of the control room shift turnover times and that they minimize communications with the control room during shift turnover. The NRC inspectors will continue to monitor activities in this area on a routine basis.

- d. The NRC inspector observed there was some confusion on the part of the shift supervisors on the limits to their authority over fire protection permits. Administrative Procedure ADM 13-103, Revision 1, Section 2.2 requires evaluation of all permits by the fire protection specialist or, in his absence, the operations superintendent or duty-call superintendent. Contrary to this requirement, several of the shift supervisors were issuing impairment control permits for fire doors without the required evaluation. Examples of these permits were Permit Nos. 85-47 and 85-87. This is a violation. (482/8511-01, Example a) The NRC inspector advised the operations superintendent and the fire protection specialist of this violation. All shift supervisors were advised of the requirement for the fire protection specialist review. The fire protection specialist evaluated all outstanding impairment control permits which had not been previously evaluated. The operations superintendent issued a memorandum to all shift supervisors which contained a comprehensive list of documents which they are authorized to sign. He also requested comments on the list. This should correct any misunderstandings regarding shift supervisor signature authority. Therefore, no written response to the above violation is required.
- e. The NRC inspector could not identify a comprehensive system to ensure completion of required post maintenance testing for all components prior to their use for intended plant safety functions. Components having Technical Specification requirements must have the required testing performed prior to being cleared from the equipment out-of-service log. However, it did not appear that this log would contain all components which have plant safety functions. Furthermore, the NRC inspector found that the equipment out-of-service log had not been fully implemented. This was discussed with the operations superintendent and the shift supervisor assigned responsibility for coordinating its completion. The shift supervisor proposed reviewing all completed surveillances required for fuel load and transferring components to the equipment out-of-service log as appropriate. This proposal was implemented and appears successful. The operations superintendent issued a special order which required all work requests to be evaluated to determine if any equipment which could have an effect on plant safety is being taken out of service. If such equipment is identified by the review, it is to be placed in the equipment out-of-service log. These actions should ensure the equipment out-of-service log is a comprehensive list of out-of-service equipment that could have an impact on plant safety.

Related to the above problem, the NRC inspector reviewed Maintenance Work Request (MWR) 02783-85 for Main Steam Isolation Valve ABHV-20 which did not have a Technical Specification reference (4.6.3.3) in Block 10 as required by ADM 01-057, Revision 4, page 17. The work

had been completed and the clearance removed. The MWR tag had been removed and attached to the MWR form prior to completion of the retesting contrary to ADM 01-057, step 3.6. No entry had been made in the equipment out-of-service log as required by ADM 02-105, Revision 0, step 4.1.1. These actions constitute a violation. (482/8511-01, Example b) No written response is required.

In reviewing MWR 02792-85, "Relief Valve BMV-319," the NRC inspector noted the retest instruction block had been marked not applicable. The NRC inspector asked the shift supervisor that approved the MWR why retesting was not required. He stated he had a list of valves requiring retest according to the Technical Specifications or the In-Service Inspection requirements and that this valve was not on the list. Further inspection of the completed package verified the retest requirements had previously been satisfied through the use of a separate MWR (MWR 90900) which bench tested the valve. The NRC inspector expressed concern to the operations superintendent on relying on lists to determine retest requirements instead of considering each component on a case-by-case basis. The operations superintendent agreed with the NRC inspector's viewpoint and indicated he would discuss this philosophy with his shift supervisors.

The licensee has performed a review of his methods of components control and has issued changes to the procedure for processing work requests to ensure the proper entries are made in the equipment out-of-service log and in addition has issued a special order which expands the scope of the equipment out-of-service log. Also, the operations superintendent has had one-on-one discussions with each shift supervisor on the proper methods for component control. These actions adequately address the conditions which resulted in the above violation, therefore, no written response to this violation is required.

- f. The NRC inspectors reviewed Special Orders 2, 4, 6, 36, and 37 for content and implementation by operations personnel. The following NRC inspector observations were made during this review:
- WCGS Special Order 4, issued on February 3, 1985, stated the instrument tunnel sump pumps (PLF07A and PLF07B) were not operable and that once per shift the temporary sump pumps should be checked operable and recorded in the reactor operator's (RO) log book. The NRC inspector checked the RO log book during day shift on February 5, 1985. The shift supervisor had received the special order at 10:13 CST on February 4, 1985, and the NRC inspector verified the evening and midnight shifts had recorded in the log that the pumps were operable; however, no entry could be found for day shift on February 4, 1985. The shift

supervisor pointed out to the NRC inspector that a late entry had been made for day shift confirming operability of the pump. The NRC inspector verified that the operability of the sump pumps had been checked by the auxiliary building operator and noted that the supervising operator failed to promptly enter this information into the log.

- g. The NRC inspector observed that the shift supervisor and startup information books were not being kept up-to-date and contained information which conflicted with information found in other sources. This observation was discussed with the operations superintendent who indicated an intention to have current information transferred to other sources and then discontinue these books.

11. Independent Inspection

- a. By letter dated February 6, 1985, the licensee committed to submit the following information regarding NRC Generic Letter 83-28 to NRR:
 - (1) "A report describing the vendor interface program, including an explanation of how the NUTAC report has been factored into the vendor interface program, will be submitted and implemented prior to December 31, 1986, or prior to startup from the first refueling outage, whichever is later."
 - (2) "Specific information regarding the periodic maintenance program and trending of parameters for the reactor trip breakers will be submitted within 90 days of receipt of the Operating License."
 - (3) "A report describing the reactor trip breaker testing program, the results of the testing, and the impact of the results on the breakers' demonstrated life cycle and periodic replacement interval will be submitted prior to startup from the first refueling outage."

Items 1 and 3 will be tracked as an open item which must be closed prior to startup following the first refueling outage. (482/8511-16)
Item 2 will be tracked as an open item which must be closed within 90 days of license issuance. (482/8511-17)

- b. During review of licensee's response to Generic Letter 84-21, "Long Term Low Power Operation in PWRs," it was determined the licensee's administrative procedures were still in the process of being revised to ensure the assumptions used in a given fuel cycle are not exceeded. The revised administrative procedures need to be in place prior to 5 percent power. This will be tracked as an open item. (482/8511-18)

c. During the inspection period, the NRC inspector reviewed Wolf Creek Event Report Nos. 85-14, 15, and 16. These events, occurring over a 2-day period, each involved personnel errors. On February 22, 1985, the inspector expressed to plant management concern over the many personnel errors in a short time period and requested how management was responding to this situation to determine if an adverse trend was developing. The licensee responded with the following information:

- The Superintendent of Regulatory, Quality, and Administrative Services is tasked with trending event reports and early identification of adverse trends.
- All event reports are reviewed by the PSRC. The generic implication of events is considered during this review.
- Event reports are distributed to all department heads for applicability review.

These actions should be sufficient to identify adverse trends in a timely fashion. The effectiveness of this program will be the subject of continuing routine NRC inspection efforts.

No violations or deviations were identified.

12. Site Tours

The NRC inspectors toured the site at various times during the inspection period. Areas toured included fuel building, radwaste building, technical support center, essential service water building, control building, turbine building, auxiliary building, and containment. Areas were inspected for:

- Housekeeping
- Maintenance activities
- Temporary modifications
- Tagouts
- Fire protection
- Security
- Operations

Selected NRC inspector findings are discussed below:

- The NRC inspector questioned the superintendent of operations on the lack of administrative control on the locking of the safety-related cabinets (reactor protection system, emergency safety features actuation systems, etc.) located in various rooms about the plant. He agreed that this was a situation which should be addressed and agreed to either write a new procedure or amend an existing procedure

to address locking the cabinets behind the control room and to investigate the advisability of locking other safety-related cabinets. The NRC inspector will follow up on this item at a later date.

- During a tour of the RHR pump rooms, the NRC inspector observed two plastic electrical tie wraps fastened to the upper room sump level instrument in such a way as to prevent the proper operation of the float mechanism. The licensee was informed and requested to investigate the matter. The licensee informed the NRC inspector that the tie wraps had held quality control (QC) hold tags and that, when the QC hold tags had been removed, proper care was not taken to ensure the entire tag had been removed. It should be noted that the proper operation of the lower float mechanism would not have been affected and; thus, the high level alarm would have come in, if required.
- The director of quality was informed and will caution his employees on the proper method of removing tags. The NRC inspector's concern with this item has been resolved.
- The NRC inspector observed that the blind flanges downstream of Safety Injection (SI) Valves V-79, 80, 81, 82, 83, 84, 85, and 86 to Flow Elements (FE) FE-924, 925, 926, and 927 were removed and that test flanges were installed without a temporary modification tag being attached. The NRC inspector determined that during the performance of Surveillance Technical Specification (STS) CV-216, Revision 2, "Boron Injection Flow Path Check Valve Test," the blind flanges were removed and the test flanges installed in accordance with the procedure. However, when personnel went to reinstall the blind flanges, they discovered they were unable to reach the flanges due to fresh paint on the floor. To enable STS CV-216 to be closed out, MWR 03644-85 was issued to reinstall the blind flanges. STS CV-216 was then closed out. A temporary modification was not issued as was required by ADM 02-101. The shift supervisor approved the STS CV-216 without issuing a temporary modification, the personnel performing the STS CV-216 did not request issuance of a temporary modification and the operations coordinator did not identify the need for a temporary modification. This failure to perform testing in accordance with written test procedures is a violation. (482/8511-03)
- During a walkdown of the main control panel by the NRC inspector, it was observed that the open/closed indicating lights to two condensate valves did not agree with their respective position controllers. The control room operators had not observed that this problem existed. The plant management was informed by the NRC inspector of this situation and they stated that they would emphasize to their

personnel to pay more attention to plant equipment condition. The supervising operator issued an MWR to repair the indicators.

- During a joint plant tour conducted by the NRC inspector and the operations superintendent on February 25, 1985, excessive vibration of an instrumentation containing Valve EJW-180 was observed. This line is connected to one side of FE EJFO-3 which is in a line from "B" RHR pump to the "C" accumulator discharge line. The NRC inspector observed that this vibration would cause the line to eventually break and the operations superintendent initiated an engineering evaluation. However, before corrective action was completed, a leak developed in the line on February 27, 1985. The licensee is in the process of evaluating this problem for appropriate corrective action.

During the tour, the operations superintendent pointed out a blue light which he stated would be energized for site evacuation. The NRC inspector was not aware of the significance of this light after having successfully completed general employee training. Several other site employees who had completed this training were interviewed and the only one who knew the significance of the light was the superintendent of plant support. He knew from individual study. This concern was discussed with the plant manager and operations superintendent. They stated they would strengthen their training programs to adequately cover this area.

- On February 26, 1985, the NRC inspector observed that Fire Door 13221 to the south mechanical penetration room was propped open with a piece of steel. Electrical cables from a welder were run through the door and craftsmen were observed to be working in the room. No impairment control permit was posted as required by licensee Administrative Procedure ADM 13-303, Revision 2. The NRC inspector contacted the fire protection specialist and learned that he had issued an ignition source permit for this room. At the time of issuance, he stated that he inquired about the necessity of having Fire Door 13221 open and was told by the craftsmen that it would not be necessary. The NRC inspector and the fire protection specialist then made a joint tour of the room and found the electrical cables had been removed and coiled on the welding machine outside the room and the room door was locked. During the room inspection, a sliding door to a vertical electrical cable chase was opened. A bucket containing rags was observed in the cable chase and removed to a safe area by the fire protection specialist.
- On February 27, 1985, the NRC inspector observed Fire Door 31041 from the auxiliary building to the health physics access area open. No impairment control permit had been obtained and posted. Craftsmen were making repairs to the door per a valid work request. The fire

protection specialist was informed of this violation of ADM 13-303 and he indicated he would initiate immediate corrective action.

Licensee management indicated that they had taken action to label all fire doors and that this should be accomplished momentarily. The plant superintendent stated he had personally contacted construction management and stressed the necessity of obtaining permits for fire control impairments. The failures to obtain and post impairment control permits is a violation. (482/8511-01, Example c) Based on the NRC inspector's discussion with licensee personnel and the licensee actions described above no written response to this violation is required.

13. Safety Evaluation Report Review

The inspector reviewed Supplement No. 5 to the Wolf Creek Safety Reevaluation Report (SER) and identified the following open items which must be resolved as indicated.

a. Items which must be resolved prior to fuel loading:

- 84-00-148 - Section 3.10.1.2: Verify that fuses installed in 4.16 KV switchgear are seismically qualified.
- 84-00-149 - Section 3.10.1.3: Seal the Crosby position indicating device connection with seismically and environmentally qualified Conax connectors.
- 84-00-146 - Section 7.6.7.3: Verify installation of the boron dilution control system.
- 84-00-152 - Section 8.3.1.6: Installation of a metal barrier to compensate for a less than 6-inch cable separation on the top of the load shed and emergency load sequencer cabinets.
- 84-00-153 - Section 9.5.1.1: Install additional sprinkler heads on the 2000 and 2026 foot elevations of the auxiliary building.
- 84-00-154 - Section 9.5.1.1: Lower sprinkler heads on the 1974 foot elevation of the auxiliary building that are partially obstructed by structural beams.
- 84-00-155 - Section 9.5.1.4: Install smoke detectors in control room cabinets containing redundant safe shutdown equipment and the control room's heating, ventilating, and air conditioning exhaust duct.

- 84-00-156 - Section 9.5.1.4: Install fire stops in intervening cable trays between component cooling water pumps adjacent to one of the sprinkler zones.
 - 84-00-157 - Section 9.5.1.4: Change diesel generator room sprinkler layout to avoid vent duct interference.
- b. Items which must be closed prior to exceeding 5 percent power:
- 84-00-150 - Section 3.10.1.3: Implement Westinghouse Field Change Notice SCPM-10622 on the thermocouple/core cooling monitors.
 - 84-00-151 - Section 3.10.1.3: Adjust the setpoint of Barton differential pressure indicating switches and verify the adjustment does not invalidate performance relative to IEEE 344-1975.
 - 84-00-158 - Section 9.5.1.5: Install 5 new isolation switches and modify 4 existing switches as described in SNUPPS letter dated August 23, 1984.
- c. Items which must be completed on a long term basis:
- 84-00-147 - Section 2.5.6.7: Monitor main dam seepage for one year and reinspect the dam at the end of the year.

Subsequent inspection of the items identified above established that satisfactory action had been taken to close the following:

- | | | |
|-------------|-------------|-------------|
| - 84-00-153 | - 84-00-149 | - 84-00-154 |
| - 84-00-146 | - 84-00-155 | - 84-00-152 |
| - 84-00-156 | - 84-00-157 | - 84-00-148 |

No violations or deviations were identified.

14. Event Followup

The NRC inspector observed recovery from an event involving isolation of fuel building and control building ventilation. The event was caused by a trip of a fuel building radiation monitor while a technician was performing a retest of Technical Specification STS IC-453A. The technician had not informed the supervising operator of the retest as required by procedure. This resulted in the isolation function not being properly bypassed. The licensee treated this as a reportable event for training purposes and performed required actions with the exception of formal reporting to the NRC. A simulated licensee event report will be issued.

The NRC inspector reviewed selected Wolf Creek event reports to determine:

- Adequacy of response
- Adequacy of analysis to determine cause
- Adequacy of corrective action to prevent recurrence

The following Wolf Creek event reports were reviewed:

- 85-02 - Inadvertent Opening of MSIV by I&C During Vacuum Test
- 85-05 - Flooding in Containment From S/G Manways
- 85-06 - Loss of XMR01
- 85-07 - Radiation Monitor Alarm-Fuel Building
- 85-09 - Inadequate 50.59 Review on Procedure Revisions
- 85-10 - Lack of PSRC Review of Major Temporary Changes
- 85-12 - Improper Lifting of Transfer Gates, Spent Fuel Pool
- 85-18 - Inadvertent SIS

No violations or deviations were identified.

15. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or licensee or both. Open items disclosed during the inspection are discussed in paragraphs 2, 3, 5, 6, and 11.

16. Exit Meeting

The NRC inspectors met with licensee personnel to discuss the scope and findings of this inspection on March 1, 1985.