APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION REGION IV

NRC Inspection Report: 50-482/87-29

Operating License: NPF-42

Docket: 50-482

Licensee: Wolf Creek Nuclear Operating Corporation (WCNOC) P.O. Box 411 Burlington, Kansas 66839

Facility Name: Wolf Creek Generating Station

Inspection At: Burlington, Kansas

Inspection Conducted: October 26-30, 1987

Inspectors:

Pick, Reactor Inspector, Operational Programs Section, Division of Reactor Safety

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D. M. Huhnicutt, Chief, Test Programs Section Operations Branch, Division of Reactor Safety

Approved:

11/30/87 Date

C. Seidle, Chief, Operational Programs Section, Operations Branch, Division of Reactor Safety

Inspection Summary

Inspection Conducted October 26-30, 1987 (Report 50-482/87-29)

Areas Inspected: Routine, unannounced inspection of design changes and modifications.

Results: Within the areas inspected, no violations or deviations were identified.

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DETAILS

1. Persons Contacted

WCNOC

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*B. D. Withers, President
*F. T. Rhodes, Vice President, Nuclear Operations
*R. M. Grant, Vice President, Quality
*J. M. Pippin, Manager, Nuclear Plant Engineering (NPE)
*G. D. Boyer, Plant Manager
*W. J. Rudolph II, Manager, Quality Assurance (QA)
*O. Maynard, Manager, Licensing
*A. A. Freitag, Manager, NPE-WC
*B. E. Bergstrom, Acting Manager, NPE-Systems
*C. M. Estes, Operations Superintendent
*M. G. Williams, Superintendent, Regulatory, Quality, and Administration
*G. J. Pendergrass, Licensing Engineer
*S. R. Sparks, Licensing Engineer

Others - Construction contractor supervisor, quality control (QC), instrument and control (1&C) technicians, electricians, mechanics, health physics technicians, operators, senior reactor operators, shift supervisor, engineers, and other contractor personnel.

NRC

*W. F. Smith, Senior Resident Inspector, Waterford 3
*M. E. Skow, Reactor Inspector
*B. L. Bartlett, Resident Inspector
*J. E. Cummins, Senior Resident Inspector

*Denotes those present at the exit interview.

Design Changes and Modifications

The NRC inspector conducted this inspection to ascertain whether design changes and modifications that were determined not to require NRC approval were in conformance with licensee programs and 10 CFR 50.59.

The NRC inspector reviewed the design change program as described in overall plant procedures -KGPs and selected procedures from plant operations -ADMs, nuclear plant engineering -KPNs, including Bechtel Power Corporation (Bechtel) -EDPIs, and configuration management -KPs. The procedures selected and reviewed, which describe and implement the design change program, are summarized below:

- KGP-1131, "Plant Modification Process," Revision 5, dated June 5, 1987. This procedure provided the mechanism for initiating a Plant Modification Request (PMR) and for obtaining the required approvals and closeout of the PMR.
- ^o KGP-1135, "Configuration Verification," Revision 2, dated March 7, 1986. This procedure established the methods for acceptance of modified structures, components and/or systems and to verify that the modified, "as-built," configuration conformed to the approved documentation.
- ^o ADM 01-042, "Plant Modification Request Implementation," Revision 10, dated May 19, 1987. This procedure specified the means and mechanism for implementing a PMR from distribution for planning until the modification is complete.
- ^o KPN-C-300, "Plant Modification Process," Revision 4, dated July 13, 1987. This procedure provided an overview of NPE activities and established responsibilities.
- KPN-C-301, "Initiation of Plant Modifications," Revision 6, dated July 10, 1987. This procedure prescribed the initiation of the PMR by NPE.
- KPN-C-302, "Engineering Study for Plant Modification Request," Revision 7, dated July 13, 1987. This procedure prescribed the guidelines for the performance of an engineering study for a PMR.
- KPN-C-305, "Initiating Procurement Activities Associated with Plant Modifications," Revision 2, dated April 17, 1987. This procedure prescribed the initiation of the procurement for engineering material associated with a PMR.
- KPN-C-306, "Preparing the Plant Modification Request for Release," Revision 2, dated July 10, 1987. This procedure prescribed the method for verifying that a required detailed design is complete and for preparing the PMR for release to the field.
- KPN-C-308, "Closeout of Completed Plant Modification Request," Revision 2, dated July 10, 1987. This procedure prescribed the steps for closeout of PMRs by NPE.
- KPN-C-309, "Plant Modification Design Development," Revision 1, dated July 10, 1987. This procedure prescribed the engineering activities associated with development of the design for PMRs.
- KPN-D-302, "Engineering Study," Revision 4, dated April 17, 1987. This procedure outlined the requirements for the initiation, development and approval of engineering studies and reports.

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- KPN-D-304, "Licensing Review and Safety Evaluation," Revision 1, dated July 10, 1987. This procedure prescribed the methods to be used to ensure that all design changes are reviewed and evaluated per the requirements of 10 CFR 50.59.
- ^o KPN-D-306, "Requesting Changes to the FSAR and Technical Specifications," Revision 2, dated February 7, 1986. This procedure described the methods for requesting changes to the USAR and the Technical Specifications (TS).
- KPN-E-301, "Design Interfaces," Revision 4, dated May 23, 1986. This procedure established measures to identify, control, and coordinate the responsibilities and functions of organizations that are participating in design activities.
- KPN-E-302, "Design Input," Revision 2, dated November 27, 1985. This procedure defined the requirements which ensure that design input is identified, documented, approved, and controlled; provided guidelines for establishing design input; and established the mechanism to collect design input documents.
- KPN-E-303, "Calculations," Revision 4, dated April 10, 1987. This procedure defined the requirements to ensure that design calculations are identified, documented, approved, and controlled; provided guidelines for establishing design calculations; and was used for calculations related to engineering activities.
- KPN-E-308, "Interdisciplinary Reviews," Revision 5, dated April 17, 1987. This procedure provided for the interdisciplinary review of design documents to determine the impact, compatability, and control interfaces on structures, systems, and components.
- KPN-E-309, "Design Verification Safety-Related," Revision 3, dated Arpil 17, 1987. This procedure defined the measures applied to verify the adequacy of the design for enfety-related systems, structures, and components.
- KPN-E-310, "Design Verification Special Scope," Revision 4, dated April 10. 1987. This procedure defined the measures to verify the adequacy of the design for special scope structures systems, and components.
- KPN-E-313, "Pesign Document Change Notice," Revision 2, dated March 18, 1986. This procedure defined the methods of preparation, review and approval of the Design Document Change Notice (DDCN).
- KPN-E-314, "Disposition of Nonconformance Reports, Engineering Evaluation Requests, Field Change Requests and Corrective Work Requests," Revision 5, dated April 22, 1987. This procedure prescribed the methods and responsibilities for processing

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Nonconformance Reports (NCRs), Engineering Evaluation Requests (EERs), Field Change Requests (FCRs) and Corrective Work Requests (CWRs) and the method to be used in providing technical evaluations.

Bechtel Procedure 3.16(A)-30, "Criteria and Instructions for Performing 10 CFR 50.59 Safety Evaluations FSAR Changes/Technical Specifications (NUREG - 1136 - Wolf Creek Generating Station, Unit No. 1) Changes," Revision 3, dated March 14, 1986. This procedure applies to the performance of licensing and safety reviews by Bechtel engineering personnel for all changes, tests, or experiments associated with WCNOC requests for a new design or design changes.

- Bechtel Procedure 3.16(B)-30, "Criteria and Instructions for Performing and Documenting ALARA Reviews," Revision 2, dated March 14, 1986. This procedure applies to design changes requested of Bechtel engineering by WCNOC. Bechtel is responsible to ensure that radiation exposures to plant operating personnel will be ALARA for that portion of design changes assigned to Bechtel.
- Bechtel Procedure 3.16(E)-30, "Fire Protection Reviews," Revision 2, dated March 14, 1986. This procedure described the methods to be used in reviewing documents that apply to fire protection reviews by engineering personnel for design changes to systems, components, or structures which are safety-related, and design changes which could affect the results of the fire hazards analysis previously performed.
- KP-1011, "PMR Tracking and Status Accounting," Revision 2, dated November 11, 1986. This procedure establishes configuration management responsibilities and methods for PMR tracking and closeout verification.

Also, reviews were conducted of WCNOC quality assurance audits/surveillances and of Bechtel QA audits.

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Audit/Surveillance Numbers

TE:	50140-K112
TE:	50140-K149
TE:	50140-K153
TE:	53359 S-1553
TE:	53359 S-1555

Bechtel

Audit Number

WE-31/85 WE-31/86

Title

Modifications Bechtel Site Activities Modifications Configuration Management Design Control (Bechtel)

Title

Design Control/Document Control Design Control/Document Control Based on a review of the design change program, as described in the sampled procedures and the QA audits, the NRC inspector was satified that the licensee conducts changes and modifications per these procedures, and that the procedures adequately describe the design change and modification process. The procedures reviewed encompass the activity as purposed. For example, Procedure KPN-E-303, "Calculations," provides sufficient detail to allow the engineer to properly document his activities.

The NRC inspectors selected four safety-related modification packages in which the activity was finished to verify their implementation. The NRC inspector verified that: the changes had been reviewed and approved in accordance with 10 CFR 50.59, Technical Specifications, and QA/QC controls; tests were conducted and test results were reviewed/evaluated, if required; operator procedures and as-built drawings were changed; discipline training was modified, as needed; work requests required appropriate controls in welding, ALARA (radiation work permits), plant mode restraints and system operability, security system and ASME Section XI; the design changes selected were listed on the 10 CFR 50.59(b) annual report to the NRC; and for partially completed modifications system boundaries were controlled to prevent inoperability of plant systems.

The design change packages reviewed are summarized below:

- PMR 00657, Revision 3, "Boric Acid Storage Tank Diaphragms," was originated to alter the attachment configuration of the diaphragm, dust cover, to the boric acid tanks.
- PMR 00358, Revision 3, "Transformer No. 7 Control, Indication and Metering," was originated to install a transformer in the switchyard and to provide control room control and indication. This is an alternate power supply to engineered safety feature Transformer No. One.
- PMR 01518, Revision 1, "Diesel Generator Lube Oil Keep Warm Pumps," was implemented to meet licensing commitments and upgrade the commercial grade pumps to ASME Section III pumps.
- PMR 01911, Revision 0, "CRDM and Reactor Cavity Ductwork Rework," provided necessary steps to implement a "backout" field change request providing the necessary control of system boundaries until the modification could be reimplemented.

The NRC inspector confirmed that work requests provided information for implementing the plant modification package, testing requirements, supporting organization activities, RWPs, welding permits, and any TS requirements.

No violations or deviations were identified.

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The inspection scope and findings were summarized on October 30, 1987, with those persons indicated in paragraph 1.