

APPENDIX C

U. S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 50-482/84-23

Construction Permit: CPPR-147

Docket: 50-482

Licensee: Kansas Gas and Electric Company (KG&E)  
P. O. Box 208  
Wichita, Kansas 67201

Facility Name: Wolf Creek Generating Station (WCGS)

Inspection At: WCGS Site, Coffey County, Burlington, Kansas

Inspection Conducted: September 10 - December 14, 1984

Inspectors: *R. G. Taylor* 2/7/85  
R. G. Taylor, (Team Leader)  
Wolf Creek Task Force  
Date

*L. E. Ellershaw* 2/7/85  
L. E. Ellershaw, Reactor Inspector  
Wolf Creek Task Force  
Date

*R. P. Mullikin* 2/11/85  
R. P. Mullikin, Reactor Inspector  
Wolf Creek Task Force  
Date

*J. E. Bess* 2/8/85  
J. E. Bess, Reactor Inspector  
Wolf Creek Task Force  
Date

*L. D. Gilbert* 2/8/85  
L. D. Gilbert, Reactor Inspector  
Wolf Creek Task Force  
Date

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PDR ADOCK 05000482  
G PDR

*I. Barnes*

I. Barnes, Reactor Inspector  
Wolf Creek Task Force

*2/11/85*  
Date

*for J.E. Martin*  
J. R. Boardman, Reactor Inspector  
Wolf Creek Task Force

*2/12/85*  
Date

*for W.R. Bennett*  
W. R. Bennett, Reactor Inspector  
Wolf Creek Task Force

*2/7/85*  
Date

Approved: *J.E. Martin*  
L. E. Martin, Chief, Wolf Creek Task Force

*2/12/85*  
Date

Inspection Summary

Inspection Conducted September 10 - December 14, 1984 (Report 50-482/84-23)

Areas Inspected: Routine, announced inspection including licensee action on previous inspection findings, review of procedures for installation of reactor coolant and other safety-related piping, review of records for installation of reactor coolant and other safety-related piping, review of quality records for installation of reactor vessel internals, comparison of as-built plant to FSAR description, followup of allegations, safety-related pipe supports/restraints, as-built piping systems and structures, onsite design activities, followup on 10 CFR Part 50.55(e) construction deficiency reports, and licensee actions concerning NRC Vendor Program Branch inspection findings at Colt Industries. The inspection involved 677 inspector-hours by nine NRC inspectors.

Results: Within the 11 areas inspected, two violations and one deviation were identified in the review of safety-related pipe supports/restraints and one violation was identified in followup on 10 CFR part 50.55(e) construction deficiency reports.

DETAILS

1. Persons Contacted

Principal Licensee Employees

- \*R. M. Grant, Director-Quality
- \*P. Dyson, Field Engineering Supervisor
- \*M. Johnson, Manager-Nuclear Plant Engineering
- \*H. K. Chernoff, Licensing
- \*K. Peterson, Licensing
- \*W. M. Lindsay, Supervisor-Quality Systems

Bechtel Power Corporation

- \*C. M. Herbst, Assistant Project Engineer
- \*Z. Botros, Senior Supervisor

The NRC inspectors also interviewed other licensee, Daniel International (DIC) and Bechtel personnel.

\*Denotes those attending the exit interviews.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (STN 50-482/8412-02): The acceptance criteria for welded connections in the II/I cable tray supports has been revised by the engineer's approval of nonconformance report (NCR) ISN20073EW. In essence, the engineer accepted revision allow welds to be 1/3 undersize or underlength. The combined percentage for welds exhibiting both deficiencies shall not exceed 33 1/3%. The NRC inspector has compared the revised criteria to a known worst case in a statistical sample and had no further questions.

This item is considered closed.

(Closed) Unresolved Item (STN 50-482/8219-02): This item addressed the same condition reported by the licensee as a 10 CFR 50.55(e) item identified as TE 53564-K88 which was reviewed and closed in Inspection Report No. 50-482/84-12, paragraph 4.

This item is considered closed.

(Closed) Open Item (STN 50-482/83-31): This item involved the need for a follow-up inspection to assure that the flexible conduit running to

instrument AELT-538 was properly secured in the attaching clamp. The NRC inspector has verified that the conduit has been properly clamped.

This item is considered closed.

(Closed) Open Item (STN 50-482/83-03): This item involved a need to perform a follow-up inspection of installed electrical cable trays to assure that the trays were adequately free of construction debris. The NRC inspector, through interviews with the NRC inspector of record, has established that the tray installations have been inspected several times since the original observation. The cleanliness of the system has been an observation element in each inspection. The most recent inspection in this area was documented in NRC Inspection Report No. 50-482/84-22.

This item is considered closed.

(Closed) Unresolved Item (STN 50-482/8014-03): This item involved a question of whether non safety-related piping running over safety related electrical cable trays were supported in a manner such that the electrical cables would not be damaged by pipe failure that might occur in a seismic event. Bechtel Specification No. 10466-M-205, paragraph 5.11.19, provides sufficient assurance that the question has been addressed within the design of non safety-piping in critical areas.

This item is considered closed.

(Closed) Open Item (STN 50-482/80-14): This open item involved a planned review of a then incomplete NCR (ISN 2371C) which related to placement of 62 cubic yards of concrete in the reactor building on August 26, 1980, which was deficient in the amount of pozzolan by approximately 12%. Review of NCR ISN2371C revealed that the engineer had accepted the concrete as-is based upon the 28-day test cylinder results which indicated the concrete developed full design strength. The NRC inspector finds the engineer's decision acceptable since pozzolan is normally added to fresh concrete to enhance workability and would not be expected to influence the strength of the hardened concrete.

This item is considered closed.

(Closed) Unresolved Item (STN 50-482/8408-04): This item dealt with preprinted data on Certified Material Test Reports which indicated that the maximum phosphorus level for SA-312 and SA-376 were both the same whereas the ASME SA-376 specification indicated a lower maximum level. The NRC inspector was apparently unaware that the Summer 1974 Addenda revised the SA-376 requirement such that they became the same as SA-312.

This item is considered closed.

(Closed) Unresolved Item (STN 50-482/82-12): Projections in fuel storage envelopes in the spent fuel racks. Documentation indicates that a joint inspection by Westinghouse, SNUPPS and KG&E personnel determined that the projections satisfy the intent of specifications; i.e., not damage fuel during movement of the fuel. NRC Inspection Report No. 50-482/83-21 also documents a final postinstallation inspection of the racks which found them to be acceptable.

This item is considered closed.

(Closed) Unresolved Item (STN 50-482/8408-05): This item dealt with the change of category assignments on the turnover exception list without the startup engineer initialing that he made and approved the change. The turnover coordinator performed a general review of all turnover exception lists to determine proper item categorization. In addition, all startup engineers and supervisors were instructed to ensure that their final review checked for specific correct categorization of each item.

This item is considered closed.

(Closed) Unresolved Item (STN 50-482/8412-01): NCR 19197H has been fully dispositioned by DIC, Bechtel and KG&E. In summary, it appears that the involved three-part memo did provide instructions at variance with the engineering criteria. The memo had, however, very limited distribution and other inspectors involved in inspection of components to which the memo was applicable have certified that they do not have a copy of the memo. Based on many NRC inspections of the comparable components, there is no evidence that would appear to contradict the rationale provided in the NCR.

This item is considered closed.

(Closed) Open Item (STN 50-482/79-07): NRC Inspection Report No. STN 50-482/79-07 identified an open item concerning the establishment of procedures for the maintenance of General Electric 4160 volt circuit breakers (type 1200 and 2000 ampere with MC-13 mechanism magne-blast). Procedure No. MPE-E009-02, Revision 2, dated March 14, 1984, "Inspection and Testing of 13.8KV and 4.16KV Circuit Breakers," was written and approved. This procedure appears to resolve the concern. This item is considered closed.

(Closed) Open Item (STN 50-482/84-22, paragraph 5): Additional inspections of as-built Electrical Raceway: This item is considered closed based on inspection activities documented in NRC Inspection Report No. 50-482/84-51.

The NRC inspector reviewed licensee actions in accordance with licensee letter dated March 30, 1984, in response to NRC inspection report No. 50-482/83-36 and Notice of Violation dated February 14, 1984. The following paragraph numbers correspond to paragraph numbers in the KG&E letter:

- 1 Licensee response accepted. The revised FSAR was reviewed by the NRC inspector.
- 2 Licensee response was acceptable. The NRC inspector reviewed revised Procedure WP-IV-111, "Structural Steel and Pipe Whip Restraints," Revision 11, dated April 5, 1984, and QCP-IV-111, Revision 16, dated May 7, 1984, "Erection of Structural Steel and Pipe Whip Restraints."
- 4 Licensee response accepted. The NRC inspector reviewed procedure AP-VII-02, Revision 12, dated April 5, 1984, and found it to be acceptable.
- 5 The NRC inspector reviewed documentation on the use of unplated Load Indicating Washers (LIW's) with galvanized fasteners and found it to be acceptable.
- 6 The NRC inspector reviewed licensee controls on reuse of LIW's and found them acceptable.
- 7 Licensee response accepted relative to use of Load Indicating Washers under black (uncoated) bolt heads in bolted joints where the bolt is the turned element.
- 8 Licensee response accepted relative to prohibitions on reuse of A325 bolts.
- 9 Licensee response accepted relative to installation procedures to assume reuse of correct Load Indicating Washers.
- 10 Licensee response accepted. As stated in 2. above, Procedures WP-IV-111, Revision 11, and QCP-IV-111, Revision 16 were reviewed.

(Open) Unresolved Item (8336-06): Apparent lack of procedures for revision control of manufacturers instructions. The licensee presented the NRC inspector with existing procedures for revision control. These procedures appear adequate. The concern is with those procedures that were in effect during the entire construction phase. This item will remain open pending further review by the NRC inspector.

3. Review of Procedures for Installation of Reactor Coolant and Other Safety Related Piping

The NRC inspector reviewed the quality control and work procedures listed below pertaining to the range of installation activities for reactor coolant and other safety-related piping within the scope of the ASME Section III Code and FSAR commitments. This review, which is one of a series of such reviews, was undertaken at or near the end of all such construction activities to assure that the procedures, as revised during construction, continue to describe an acceptable program.

1. QCP-I-01, Revision 19, "Receiving, Storage and Preservation of Quality Related Materials and Items."
2. WP-VII-201, Revision 5, "Fabrication and Installation of Piping."
3. QCP-VII-200, Revision 20, "Inspection of Weld Process."
4. QCP-VII-201, Revision 14, "Inspection & Documentation of ASME Piping, Valves and Components."
5. WP-VII-203, "Revision 9, "Cleaning and Sealing Pipe."

No violations or deviations were identified.

4. Review of Records for Installation of Reactor Coolant and Other Safety-Related Piping

The NRC inspector reviewed four licensee audit reports pertaining to the subject activity area. Each report package contained a well defined statement of the objective of the audit which was further supported by a series of checklist type questions developed by the audit team leaders prior to the performance of the audits. Each audit folder contained well defined audit findings, corrective action statements and final resolutions.

- (a) TE 57061-K69: Covered pipe cutting and traceability transfer, bending, inspection of welding, verification of post-weld heat treatment, and welder identification.

- (b) TE 57061-K75: Drawing control in piping activities; control of Field Change Requests, NCRs and Design Change Notices; and accuracy of installation traveler record data.
- (c) TE 57061-K77: General practices for installation of piping 2" and over.
- (d) TE 57061-K112: Special process control (weld procedure and welder qualification).

The NRC inspector also reviewed the below listed NCRs pertaining to the subject activity area for legibility, adequacy of the definition of the nonconformance, appropriateness of the disposition of the nonconforming item(s) by engineering and reportability under 10 CFR 50.55(e).

- a) 1SN 5962 PW
- b) 1SN 5965 PW
- c) 1SN 5975 PW
- d) 1SN 4057 P
- e) 1SN 4074 P
- f) 1SN 4516 P
- g) 1SN 4574 P
- h) 1SN 4649 P
- i) 1SN 4623 P
- j) 1SN 5027 PW

No violations or deviations were identified.

5. Review of Quality Records for Installation of Reactor Vessel Internals

The NRC inspector reviewed the following traveler type records covering the installation, modification and repair of the reactor vessel internal core support structures. The travelers are detailed line-by-line instructions for both accomplishing the activity and for inspection thereof based upon vendor drawings and generalized instructions. The travelers were prepared by the vendor (Westinghouse) engineering personnel and the inspections were performed by Westinghouse QC personnel. Supplementing the travelers were detailed records of welds performed and the inspections thereof.

- (1) Traveler package G-SAP-WE-006, Revision 0 through 4, pertaining to the assembly and installation of the lower core support in accordance with Drawing 61214E55.
- (2) Traveler package G-SAP-WC-008 and Supplements B&E pertaining to assembly and installation of the upper support in accordance with Drawing 6121E72. Included within the review were



subpackages designated with a suffix "Q" which related to certain modification and repair activities.

No violations or deviations were identified.

6. Comparison of As-Built Plant to FSAR Description

The NRC inspectors reviewed four safety injection system drawings in order to:

- Verify that the latest revisions of the system field drawings are in agreement with FSAR piping and instrumentation diagrams (P&IDs).
- Verify by field observation that the component installations, including control and logic instrumentation, are as described in the FSAR.

a. Comparison of Field Drawings to FSAR P&IDs

The following Bechtel P&IDs were compared against corresponding FSAR drawings:

- Drawing M-02EP01 (Q), Revision 13, dated February 15, 1985, "Accumulator Safety Injection."
- Drawing M-12BB01 (Q), Revision 0, dated September 19, 1984, "Reactor Coolant System."
- Drawing M-12BN01 (Q), Revision 0, dated October 31, 1983, "Borated Refueling Water Storage System."
- Drawing M-02EM01 (Q), Revision 8, dated June 2, 1983, "High Pressure Coolant Injection System."

The NRC inspectors discovered no major discrepancies between field and FSAR drawings. However, several hand operated valves were shown as "locked closed" in the FSAR but not in the field drawings. The valves noted with this discrepancy are:

V030	V109
V058	V114
V061	V157
V062	V158
V065	V173
V066	V208
V100	V209
V101	V212
V102	V213
V103	V214
V104	V216

In addition, valve V029 on Accumulator Tank C was not identified by number in the FSAR.

The above discrepancies, although numerous, do not appear to raise any cause for concern. However, it is recommended that the licensee determine whether the valves in question are designed to be "locked closed" and that the as-built installation reflects the design.

There were no violations or deviations identified in this area.

b. Comparison of Field Drawings to the As-Built Plant

The NRC inspectors performed a walkdown of at least one safety train for each drawing listed in paragraph 6.a. The drawings were compared against the physical installation to assure that: 1) piping was installed as designed; 2) valves were identified and installed in the correct position; and 3) instrumentation transmitters and indicators were identified and installed per design.

During the inspection of piping and associated hardware for all four accumulator tanks the NRC inspectors noted that the nitrogen supply isolation valve (8875A) for tank A was installed in the opposite direction. The valve was identified to the licensee and it was removed and reinstalled in the correct position. An evaluation of the significance of this finding was performed by the NRC staff and it was determined that there would have been no impact on any safety function with the subject valve installed incorrectly. Thus, with this determination and the fact that no other hardware discrepancies were identified, this finding is considered an isolated case with no safety significance.

There were no violations or deviations identified in this area.

7. Followup on Allegations

A-84-A-58 (Closed): A person who identified himself as a former employee of the licensee contacted the NRC Region IV office relative to a concern that Code (ASME Section III) pressure boundary was being opened by CWPs (Construction Work Permits) without QC involvement and that he, the allegor, had been discharged because of his findings in the area. The NRC inspector found that the licensee had conducted a QA audit of "Startup" activities that identified the same problem. The audit was performed during the period of April and May 1984. The licensee QA organization issued a Quality Program Violation on June 1, 1984, on the matter. As a result of the violation, an administrative procedure was revised to

require the review, concurrence and observation by the appropriate QC unit in the activity. QA has verified that the change has been implemented as of July 16, 1984. The allegation has thus been substantiated. The NRC inspector would note that three licensee personnel were directly involved in the audit. The audit was concluded, documented and the Quality Program Violation issued by an employee still employed within the licensee's QA organization. It would appear that the alleged was not terminated by reason of involvement in the audit. The licensee informed the NRC inspector that one of the persons involved in the audit had been terminated because he had made an offer to provide illegal drugs to a licensee employee. The NRC inspector interviewed the latter employee who confirmed that the offer had been made and subsequently reported to the employee's supervision. The licensee management apparently believed the employee and discharged the alleged.

(Open) 4-84-A-102: Allegations were made to the NRC by two individuals in October 1984 concerning performance of the structural steel weld reinspection program at WCGS. NRC personnel were informed that welding inspectors had been instructed to visually inspect welds through paint in violation of the AWS D1.1.-1975 Structural Welding Code. Written procedures were stated to have not been provided but welding inspectors were being required to mark inspection sheets as accept or reject. It was additionally identified that unacceptable and missing welds had been found by the reinspection program and one individual claimed to have been intimidated to produce results that would show welds were acceptable.

NRC Region IV staff were cognizant of structural steel weld discrepancies and reinspection of painted weld surfaces prior to receipt of the allegations, as a result of the NRC inspection activities in this area which are documented in NRC Inspection Report No. 50-482/84-22. Followup of these allegations was performed by NRC inspectors during October 16-19, 1984. One welding engineer and each welding inspector involved in the structural steel weld reinspection program were interviewed and a review was made of the reinspection records that had been generated prior to the NRC followup. It was ascertained from the interviews that the welding inspectors, who were all AWS Certified Welding Inspectors, were concerned about being able to fully evaluate painted weld surfaces to the visual inspection quality requirements of the AWS D1.1-1975 Structural Welding Code. Initial activities, which commenced in late September 1984, were established to have been performed under oral DIC Welding Engineering direction and without a written procedure. Document review showed that DIC had prepared written guidance on October 1, 1984, and KG&E had subsequently issued an inspection procedure dated October 6, 1984. Both of these documents identified that engineering evaluation of the inspection results would be made with the knowledge of paint and other foreign matter being present on most of the inspected welds. None of the welding inspectors indicated during interviews that they had ever been directed to improperly accept discrepant welds and review of the

reinspection records confirmed that discrepant conditions were being appropriately documented. The alleged intimidation was ascertained by interviews to relate to a disagreement concerning the need for and type of documentation to be made when conditions were judged to exist which affected performance of visual inspection of welds.

The Chief of the Wolf Creek Task Force and an NRC inspector interviewed the two individuals on October 3, 1984, and subsequently interviewed the associated supervisor and manager on October 4, 1984. Based on these discussions and review of the inspection records performed by the individuals, the allegations concerning intimidation or harassment were not substantiated.

The NRC inspectors determined that the only technical issue requiring additional review is the adequacy of data generated from inspection of painted weld surfaces. This subject will be addressed in a future inspection report after completion of review of the KG&E response to NRC Inspection Report No. 50-482/84-22.

8. Safety Related Pipe Supports/Restraints

a. Inspection of Pipe Supports/Restraints

The NRC inspectors selected the 21 pipe supports/restraints listed below for inspection of the installed support/restraint system. The supports or restraints were randomly selected from three piping systems; i.e., the residual heat removal (RHR) system, the high pressure coolant injection (HPCI) system, and the accumulator safety injection (ASI) system.

<u>Drawing</u>	<u>Support/Restraint</u>	<u>System</u>
M-15EJ01(Q)	R006	RHR
M-15EJ01(Q)	H006	RHR
M-15EJ01(Q)	R019	RHR
M-15EJ01(Q)	R016	RHR
M-15EJ01(Q)	H001	RHR
M-15EJ04(Q)	C021	RHR
M-05EJ03(Q)	R015	RHR
M-15EM03(Q)	R020	HPCI
M-15EM03(Q)	C033	HPCI
M-15EM03(Q)	C034	HPCI
M-15EM03(Q)	R022	HPCI
M-15EM03(Q)	R023	HPCI
M-15EM01(Q)	C039	HPCI
M-15EM01(Q)	R032	HPCI
M-15EM01(Q)	R011	HPCI
M-15EM01(Q)	C012	HPCI
M-15EM01(Q)	C019	HPCI
M-15EM05(Q)	R010	HPCI
M-15EP01(Q)	H007	ASI
M-15EP01(Q)	H008	ASI
M-15EP01(Q)	C007	ASI

In the areas inspected, a limited number of anomalies were noted with respect to compliance of pipe supports restraints with the design drawing/specification requirements. Examples of observed conditions were a discrepant dimension on the EJ01/H006 restraint, excessive pin to pin dimension on the EJ01/R019 restraint, and incomplete welds on the base of the EJ01/H001 support. Each of the conditions noted by the NRC inspectors were ascertained to have been detected during Bechtel IE Bulletin 79-14 walkdown activities and had been subject to evaluation by Bechtel engineering. As a result of the foregoing, a review was performed of the SNUPPS IE Bulletin 79-14 Walkdown Procedure, Revision 7, and the SNUPPS Wolf Creek Generating Station IE Bulletin 79-14 Evaluation Procedure, Revision 1. A sample of walkdown findings was reviewed for various Bechtel categorizations of required actions and verifications made that required actions appeared to be appropriate and had been accomplished in accordance with procedure requirements.

Within this area of inspection, no violations or deviations were identified.

b. Review of Pipe Support/Restraint Installation Records

The NRC inspectors selected the six pipe support/restraint systems listed below for review of the installation records.

<u>Drawing</u>	<u>Support/Restraint</u>	<u>System</u>
M-15EP02(Q)	C003	ASI
M-15EM03(Q)	C034	HPCI
M-15EM03(Q)	R022	HPCI
M-15EM03(Q)	R020	HPCI
M-15EM03(Q)	R023	HPCI
M-15EJ04(Q)	C021	RHR

In the areas reviewed, the welding documentation was available for each weld identified on the support/restraint drawing. The welders were established to have been qualified for the procedures used and the welding material certification records were found to conform with welding procedure specification requirements for each of the welds reviewed.

During documentation review, it was noted that the SNUPPS design specification for Bergen Paterson ASME Section III Code pipe supports, 10466-M-218A(Q) Revision 6, permitted use of ASME Code Case 1644-7 for selection of alternate materials to those contained in the Appendices to the ASME Section III Code. Review of vendor Code Data Reports for Type 2540 mechanical snubber assemblies confirmed that the vendor had utilized Code Case 1644-7 for

manufacture of the assemblies. Code Case 1644-7 is conditionally accepted by Regulatory Guide 1.85, to which the SNUPPS FSAR commits to meet. The conditions established by the NRC staff for acceptance relate to the measured ultimate tensile strength (UTS) of an alternate component support material. Regulatory Guide 1.85 requires that either (1) the maximum measured UTS of the material be restricted to a maximum of 170 Ksi, or (2) impact tests should be required by the design specification for applications where it is desired to utilize material with up to 190 Ksi UTS. The SNUPPS design specification did not include the conditions of acceptance stipulated by Regulatory Guide 1.85.

This is a violation (482/8423-01).

Certificates of Compliance had been furnished by Bergen Paterson for the snubber assemblies reviewed by the NRC inspectors, which precluded identification of the Code Case 1644-7 materials that had been utilized in snubber manufacture. Material test data obtained by KG&E from Bergen Paterson, in response to a NRC request, showed that ASME SA 564 material from Code Case 1644-7 had been utilized for pins in the EJ04/C021 Type 2540 assembly reviewed. The material UTS for the specific pins reviewed was reported to be below 170 Ksi. Review of lower load capacity Bergen-Paterson snubber assemblies showed that ASTM A 574 capscrews had been utilized from Code Case 1644-7. This specification has a minimum material UTS of 170 Ksi. The sizes of capscrews used were, however, below the minimum for which the ASME Section III Code specifies impact test requirements. The adequacy of use of capscrews with greater than 170 Ksi measured UTS is considered an open item pending additional NRC review (482/8423-06).

Examination of documentation for the EJ04-C021 snubber assembly additionally showed that the snubber field weld (i.e., Weld 1) had only been inspected by visual examination. The Bergen Paterson Load Capacity Data Sheet for the Type 2540 snubber stipulates that this weld be a full fillet weld. The DIC fabrication drawing for this assembly required that welds be examined in accordance with the provisions of paragraph NF-5212 in Section III, Subsection NF of the ASME Code. Paragraph NF-5212 requires that full fillet welds be examined by either the magnetic particle or liquid penetrant examination methods.

This is a violation (482/8423-02)

Review of GEO Procedure No. 21.A.1, Revision 6, dated October 14, 1983, "Magnetic Particle Examination Dry Method," showed a yoke method pole spacing requirement of between 3 and 8 inches. The procedure indicated that it was in compliance with Section V of the ASME Code, 1974 Edition through the Summer 1975 Addenda.

Paragraph T-734.2 in Section V of the ASME Code (1974 Edition through the Summer 1975 Addenda) specifies, however, that a pole spacing of 3 to 6 inches be used for the yoke method of magnetic particle examination.

This is a deviation (482/8423-04).

9. As-Built Piping Systems and Structures

a. Piping Systems

The NRC inspectors selected portions of the seven Class 1 and Class 2 piping systems listed below to verify that the as-built design and construction drawings or specifications correctly reflected the as-built condition of the plant.

(1) Accumulator Safety Injection System, Class 2 Piping

Piping Drawing C-M-13EP02(Q)

- Line 04-ECB-10" from Accumulator Tank B to Weld F002
- Line 05-BCB-10" from Weld F002 to Weld FW 305

Support/Restraint Drawing M-15EP02(Q)

- Supports/Restraints C003, R006, R005, H003, R004, H002

(2) Chemical and Volume Control System, Class 2 Piping

Piping Drawing C-M-03BG02(Q), Class 2 Piping

- Line 149-BCB-4" from Centrifugal Charging Pump A to Weld F063
- Line 158-BCB-3" from Weld F063 to Weld F060A

Support/Restraint Drawing M-15BG02(Q)

- Supports/Restraints, R020, R019, R018, H010, H009, R001

(3) Containment Spray System, Class 2 Piping

Piping Drawing C-M-03EN01(Q)

- Line 01-HCB-14" from Weld F008 to Containment Spray Pump A
- Line 03-GCB-10" from Containment Spray Pump A to Weld FW 319
- Line 04-GCB-3" from Line 03-GCB-10" to Weld FW 343
- Line 58-GCB-3" from Line 04-GCB-3" to Weld F026

Support/Restraint Drawing M-15EN01(Q)

- Supports/Restraints R010, H005, R012, H004, C001, H003

(4) High Pressure Coolant Injection, Class 2 Piping

Piping Drawing I-M-03EM01(Q)

- Line 6-CCB-4" from Safety Injection Pump A to Weld F001
- Line 47-CCB-4" from Line 6-CCB-4" to Weld F010

Support/Restraint Drawing M-15EM01(Q)

- Supports/Restraints R013, C031, C030, R018, C013, C029, R017, R028, C041

(5) High Pressure Coolant Injection, Class 1 Piping

Piping Drawing C-M-03EM03(Q)

- Line BB-26-BCA-6" from Reactor Coolant Loop 2 Hot Leg to Weld F009
- Line 10-BCA-6" from Weld F009 to Weld EJ04-F014
- Line 09-BCA-2" from Line 10-BCA-6" to Weld FW 531

Support/Restraint Drawing M-15EM03(Q)

- Supports/Restraints H003, R004, R005, C057, C017, R009, C016

(6) Accumulator Safety Injection, Class 1 Piping

Piping Drawing C-M-03EP02(Q)

- Line BB-22-BCA-10" from Reactor Coolant Loop 2 Cold Leg to Weld F006
- Line 06-BCA-10" from Weld F006 to Weld F004

Support/Restraint Drawing M-15EP02(Q)

- Supports/Restraints R010, R009, H005, H004, R007

(7) Reactor Coolant System, Class 1 Piping

Piping Drawing PSI-M-03BB01(Q)

- Line BB-69-BCA-14" from Reactor Coolant Loop 4 Hot Leg to Pressurizer

Support/Restraint Drawing M-15BB01(Q)

- Supports/Restraints R001, H002, R002, H001, R003, R004

In the areas inspected, the as-built conditions of the piping and supports/restraints were consistent with the as-built drawings and specifications.

b. Structures



The NRC inspector selected 20 structural steel assemblies from bolted seismic Category I structures located in the auxiliary building and the control building for verification of actual installation against the latest approved design drawings. These particular assemblies were selected because they were at the opposite ends of welded connections which had been identified in NRC Inspection Report No. 50-482/84-22, and subsequent followup, as having significant defects; i.e., missing welds, cracked welds, undersized welds, and missing beam seats.

The inspected connections are identified as follows:

Control Building

<u>Drawing No.</u>	<u>Beam Identity</u>	<u>Joint No.</u>
C-121-1484-05	95B5	C36
C-121-1484-05	99B2	C52
C-121-1484-05	99B2	C53
C-121-1484-05	99B3	C54
C-121-1484-05	99B4	C55
C-121-1484-05	99B5	C40
C-121-1484-05	99B6	C42
C-121-1484-05	99P10	C37
C-121-1411-02	41B4	C13
C-121-1411-02	41B4	C14

Auxiliary Building

<u>Drawing No.</u>	<u>Beam Identity</u>	<u>Joint No.</u>
C-121-0617-03	708B1	A98
C-121-1549-05	307B4	A55
C-121-0971-03	156B9	A10
C-121-0627-05	436B5	A40
C-121-0627-05	436B6	A41
C-121-0627-05	436B6	A58
C-121-0627-05	436B7	A39
C-121-0976-03	242B3	A60
C-121-0976-03	243B3	A61
C-121-1561-01	849B3	A114

The above connections were inspected to assure conformance with the identified drawings and the following applicable construction and inspection procedures:

- DIC Procedure No. WP-IV-III, Revision 11, "Structural Steel and Pipe Whip Restraint Erection"

- DIC Procedure No. QCP-IV-III, Revision 11, "Structural Steel and Pipe Whip Restraint Inspection"
- Bechtel Specification No. 10466-C122(Q), "Specification for Erection of Structural Steel (SNUPPS)"
- Bechtel Specification No. 10466-C132(Q), "Specification for Erecting Miscellaneous Metal (SNUPPS)"
- AISC Specification for the "Design, Fabrication and Erection of Structural Steel for Buildings"
- AISC Specification for "Structural Joints Using ASTM A325 or A490 Bolts," approved May 8, 1974
- Drawing Nos. C-121-6003-04 and C-121-6004-03, which delineate joint assemblies showing the use of A325 and A490 bolts and placement of hardened load indicator washers

While the specified gap between the load indicator washers and bolt heads could not be readily ascertained due to the remnants of concrete and flame retarding materials that had to be removed for this inspection, the number, spacing, and placement of all bolts were as required by the applicable drawings and specifications. It was further observed that bolt identity was stamped on all bolt heads.

No violations or deviations were identified.

A concurrent NRC inspection has been performed at Bechtel's Gaithersburg, Maryland, engineering office to assure, with respect to the previously identified discrepant weld conditions, that the evaluations are being properly performed, reviewed, and approved, and that as-built changes on the design/construction drawings correctly reflect the as-built conditions. The results of this inspection effort will be addressed in a NRC followup inspection report.

#### 10. Onsite Design Activities

The NRC inspector reviewed 17 documentation packages (travelers) pertaining to pipe supports to assure that onsite design activity, including controls for engineering and construction initiated field changes, was conducted in compliance with the technical and quality assurance requirements stipulated in the applicable procedures.

The reviewed procedures included:

- a. DIC Procedure No. WP-VII-209, "Preparation and Processing of Travelers"

- b. DIC Procedure No. AP-III-04, "Field Change Request (FCR), Construction Variance Request (CVR), Middle Third Deviation Notice (MTDN), and Middle Deviation Notice (MDN)"
- c. KG&E Procedure No. KI-1030.2, "Controlling and Releasing Design Document Change Notice"
- d. DIC Procedure No. AP-IX-03, "Document Control"
- e. DIC Procedure No. AP-III-05, "Field Prepared Drawings"
- f. DIC Procedure No. AP-III-06, "Field Prepared Specifications"
- g. Bechtel Procedure No. EDPI 4.46-01, "Project Engineering Drawings"

The procedures were reviewed to assure that control of the following elements was addressed:

- a. Design input
- b. Drawings
- c. Interface between cognizant design organizations
- d. Design review, approval, and verification
- e. Specifications
- f. Nonconformances and corrective actions
- g. Field change (FCRs)
- h. As-built drawings
- i. Quality assurance
- j. Engineering change notice (ECN)
- k. Design change notice (DCN)

The travelers pertained to the following pipe supports:

EM05-P004/231; AB05-H002/442;  
AE01-H015/422; EJ01-H006; EP01-C007;  
EP01-R009; EP01-R017; EP01-H007;  
EJ01-H006; EJ01-R006; EJ01-R016;  
EM02-H007; EM03-R020; EM03-C034;  
EM03-R023; EM03-R022; EP02-C003;

and included the traveler index, bill of material, installation drawing, weld control record (if applicable), quality inspection checklist, and a NCR (if applicable).

The traveler indexes were compared against the referenced drawings and specifications, and then compared against the Document Record and Status Cards, to verify that the latest applicable revisions had actually been used. The drawings were reviewed to assure that the applicable ECNs/FCRs had been incorporated; and if not, that they were included in the

travelers. Verification was made by reviewing the Master File DCN/ECN-FCR Status Cards.

Identified NCRs were reviewed to assure that they had been reviewed, dispositioned, approved, and that the dispositions had been implemented and verified.

An attempt was made to assure that NCRs with a disposition of "use-as-is" had been correctly incorporated into as-built drawings. However, it was established that Bechtel has until 90 days after fuel load to review the drawings and NCRs to assure reconciliation with actual as-built conditions. The specific as-built drawing criteria are included in Attachment 2 to Bechtel's letter No. BLSE 13166 dated January 19, 1984.

There were no violations or deviations identified.

However, due to the 90 days after fuel load commitment with respect to reconciliation of design drawings and actual as-built conditions, this item shall remain open. (482/8423-05).

11. Followup on 10 CFR Part 50.55(e) Construction Deficiency Reports (CDRs)

- a. On December 12, 1984, KG&E notified NRC Region IV of a potential CDR pertaining to pipe supports which, after final inspection had been tampered with by insulation contractors during insulation installation. The NRC inspector reviewed the available, pertinent documentation. It was determined that DIC generated approximately 31 NCRs, the first one being dated June 1, 1984, dealing with pipe supports which had been partially disassembled to facilitate the installation of insulation. However, the first 6 NCRs, dated through July 27, 1984, caused KG&E to issue Corrective Action Request (CAR) No. 14 on July 31, 1984.

Four of the NCRs were silent and two were checked off "No" with respect to identifying that a potential 10 CFR Part 50.55(e) condition existed.

CAR 14, with respect to reportability to NRC, stated, "Under Evaluation 7/30/84." The evaluation was to be based on a DIC reinspection of the pipe supports which were within the insulation contractors' scope of work. DIC was directed to identify all rejectable conditions on NCRs. As a result of the reinspection effort, another 25 NCRs were generated, of which 16 dated between September 4 and September 20, 1984, identified that a potential 10 CFR Part 50.55(e) condition existed.

KG&E closed out CAR No. 14 on December 11, 1984, based on verification that DIC had performed and documented the required

reinspections, closed out all applicable NCRs, and that the insulation contractors had revised their installation procedures and retrained their personnel.

10 CFR Part 50.55(e) requires the holder of a construction permit to notify the NRC of each reportable deficiency within 24 hours. DIC Procedure AP-VI-02 requires, upon determination that a potentially reportable condition exists, immediate notification to KG&E by hand carrying a copy of the NCR to the KG&E deficiency coordinator.

Formal notification to KG&E by DIC of a significant deficiency occurred on December 11, 1984, when DIC completed the Wolf Creek Generating Station Request for Reportability Evaluation form.

Therefore, KG&E could not have made the required notification within 24 hours of the significant deficiency first being identified.

This is a failure to execute the required reporting of a significant deficiency and is a violation of Criterion V of Appendix B to 10 CFR Part 50. (482/8423-03)

- b. (Closed) TE 53564-K68 - Potentially compromised Level II welding inspector examinations: It was discovered in July 1982 that a Level II welding inspector examination could potentially have been in inspectors' possession since March 30, 1981. A new examination was immediately developed and given to the welding inspectors at WCGS. Three of the inspectors failed the new examination. Two of these three were given retraining and subsequently met the recertification requirements. The remaining individual terminated employment prior to being recertified. Fourteen other welding inspectors, who had been certified in the time period in question, were no longer employed at WCGS at the time of discovery of the potentially compromised examination. A sampling program was initiated to reinspect work previously accepted by the 14 former employees and the 3 who had failed the new examination. The results of the reinspections indicated that all but one of the individuals had performed acceptable inspections. Administrative actions were taken to identify during document review those inspections performed by this individual, in order that the work could be reinspected for acceptability.

This item is considered closed.

12. Licensee Actions Concerning NRC Vendor Program Branch Inspection Findings at Colt Industries

The NRC inspector reviewed KG&E actions taken as a result of QA deficiencies identified by the NRC Vendor Program Branch during an

inspection on March 26-30, 1984, at the Fairbanks Morse Engine Division of Colt Industries. Certain of the deficiencies were written in regard to QA records and documentation pertaining to diesel generators furnished by this vendor to WCGS. An audit was performed by Bechtel personnel on October 30-31, 1984, at the Fairbanks Morse Engine Division of Colt Industries, which addressed the vendor actions and response to the NRC inspection findings. The NRC inspector concluded from review of the audit report that KG&E had verified that appropriate actions had been taken by the vendor to resolve the NRC inspection findings.

No violations or deviations were identified.

13. Management Interview

The NRC personnel met with the licensee and Bechtel personnel noted in paragraph 1 on November 30 and again on December 14, 1984 to provide summary information on the overall scope of the inspection and the findings resulting therefrom. The licensee and engineering personnel acknowledged their understanding of the findings.