

WOLF CREEK

NUCLEAR OPERATING CORPORATION

Bart D. Withers
President and
Chief Executive Officer

January 29, 1988

WM 88-0028

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Reference: Letter dated 11/30/87 from L. J. Callan, NRC, to
B. D. Withers, WCNOG
Subject: Docket No. 50-482: Response to Items in Inspection
Report 50-482/8711

Gentlemen:

The referenced letter transmitted the results of an inspection focused on Corrective Action programs during the periods May 18-22 and June 2-5, 1987. Wolf Creek Nuclear Operating Corporation (WCNOG) has reviewed the Open and Unresolved Items identified in Inspection Report STN 50-482/8711 and has addressed each item in the attached response. In addition to specific responses for each item, some general comments are provided in the introduction section of the attached response which summarize some of the changes that have occurred since the inspection.

At the time of the NRC Corrective Action inspection, WCNOG was in the process of making changes to the WCNOG Corrective Action program. Since the inspection was limited to the approved program, these changes were not included in the inspector's review of the Corrective Action program. As discussed in the attached response, these changes have now been implemented. In addition, training is being provided to various members of the WCNOG staff that should result in a better and more consistent implementation of the Corrective Action program.

In order to address the concerns raised by the inspector, several of the responses to the inspection report findings go into considerable detail. WCNOG believes that the detail provided in these responses demonstrate the extent to which WCNOG has gone to provide assurance that the installed hardware is of a high quality and reliability. The majority of the detailed information provided in the attached response discuss actions taken by WCNOG prior to the inspection.

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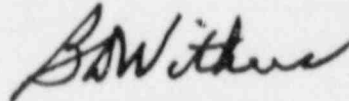
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It should be noted that the Reference requested a response to an Open Item in Report Section 2.a.(1)(b). WCNOG was unable to find an Open Item in this section, but did find an Open Item in Report Section 2.a.(2) to which a response had not been requested in the Reference. Therefore, WCNOG provided a response to the Open Item in Report Section 2.a.(2).

If you have any questions concerning this matter, please contact me or O. L. Maynard of my staff.

Very truly yours,



Bart D. Withers
President and
Chief Executive Officer

BDW/skw

Attachment:

cc: B. L. Bartlett (NRC), w/a
R. D. Martin (NRC), w/a
P. W. O'Connor (NRC), 2 w/a

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I. INTRODUCTION

As requested in the transmittal letter for Inspection Report STN 50-482/8711, Wolf Creek Nuclear Operating Corporation (WCNOC) has reviewed the Open and Unresolved Items and has addressed each item individually. For convenience, each Open or Unresolved Item is repeated with the WCNOC response immediately following. In addition to the specific responses, some general comments are discussed below to provide a better understanding of changes that have occurred since the inspection.

At the time of the Corrective Action inspection, WCNOC was in the process of approving a new General Procedure, KGP-1210, "Corrective Action for Programmatic and Implementation Deficiencies". This procedure provides a consistent and controlled program that requires a thorough investigation, root cause evaluation, and corrective action. Since this procedure was in draft form at the time of the inspection, the Inspector did not include it in his review of corrective action programs. This procedure has now been approved and should resolve many of the concerns raised in the report. Therefore, several of the specific responses reference this procedure.

During a recent internal audit of the implementation of this procedure, several inconsistencies were identified in the way various organizations were implementing the procedural requirements. Therefore, a training program is currently under development to provide training to the personnel responsible for its implementation. In addition, a seminar given by EG&G on "Accident Investigation" is scheduled to be conducted at the Wolf Creek Generating Station (WCGS) in May.

II. SPECIFIC RESPONSES

Unresolved Item (482/8711-02): ASME Bolting Material Certification

The NRC inspector reviewed three examples of corrective action apparently performed without meaningful or effective root cause determination. (The first and third examples are discussed in Open Item 8711-01 and unresolved Item 8711-06, respectively). The second example involved replacement ASME code bolting (studs and nuts) for safety-related Charging Pump Check Valve BGV174. The certification for the bolting was incorrect and they were subsequently replaced. No determination was made as to whether the fastener manufacturer (Cardinal Industries) or the ASME code certified supplier (Walworth-Aloyco) made the error. No verification was made that other material supplied by either Walworth-Aloyco, or Cardinal as appropriate, was not improperly certified, especially in sizes allowed by the ASME code to be certified by certificates of compliance or conformance. Bolting in the sizes so certified is used for pressure boundary joints of the size where failure could cause the most safety-significant small-break-LOCA (SBLOCA). Without determining the organization causing the problem, the root cause and adequate corrective action could not be accomplished.

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RESPONSE:

Background

Section XI Replacement Package No. 26 covers the replacement of nuts and studs on Valve BG-V174. This package, along with the documents referenced therein, was reviewed to ascertain the history of the replacement. The referenced documents reviewed were:

1. CWR 16734-84
2. CWR 00384-86
3. CWR 70195-86
4. CWR 00916-86
5. SFR 1-BG-172
6. PMR 1547
7. PMF 01907
8. PER 092
9. NCR M-668

Corrective Work Request (CWR) 16734-84 was initiated to replace the temporary studs and nuts on Charging Pump Check Valve BG-V174. The apparent cause for rejection of the original nuts and studs was documented as "unknown" on the CWR.

CWR 00384-86 was initiated because the eight 7/16" studs and eight 7/16" nuts did not meet the requirements of ASME Section II, Part A, 1974 Edition - Winter 1974 Addenda as established by subparagraph 2.2.6 of technical specification 10466-M-221(Q) Revision 12. Specifically two discrepancies were identified. First, the Certified Material Test Report (CMTR) referenced Subsection NCA 3800. NCA 3800 did not exist prior to the 1977 Summer Addenda of ASME Section III. Second, the material did not comply with the reported chemical and mechanical requirement of ASME Section II.

The noted discrepancies were turned over to Nuclear Plant Engineering (NPE) for disposition. The process and basis of disposition was documented on Request for Engineering/Design Assistance (REDA) O-W-1686-BG. NPE evaluated the CMTR to the above noted code of record and to the 1977 Edition of the ASME Code.

The material was evaluated to the requirements of SA 194 Grade 8F (nuts) and SA 453 Grade 660 Class B (studs). The material did not meet the sulfur or hardness requirements of SA 194 Grade 8F as established in the 1974 Edition - W 74 Addenda but did meet the 1977 Edition of ASME Section II, Part A. Furthermore, the studs did not meet the manganese or silicon content requirements of SA 453 Grade 660 Class B as established in the 74 Edition - W 74 Addenda but did meet the 1977 Edition of ASME Section II, Part A. The material was dispositioned as an interim "Use-As-Is" based upon evaluation of the service condition and the effect that the chemical discrepancies would have upon the physical properties of the bolting material.

The original material was ordered on Bechtel Purchase Order (PO) 10881-FM-221 #24 and received at Wolf Creek Generating Station (WCGS) on 1/1/85. The material purchased included the following:

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8 each 7/16" Cover Stud Bolts
SA-453 Gr 660 Condition A
P/N: BS-30209

8 each 7/16" Cover Stud Bolt Nuts
SA-194 Gr 8F
P/N N-123

Receipt inspection was documented on Receiving Inspection Report (RIR) #31332. The material was supplied by the Aloyco Plant of Walworth Company of Linden, N.J. Aloyco purchased the material from A&G Engineering Co. on PO 7353. Based on review of the A&G CMTR, the material was received and inspected at Aloyco on 12/27/84. The material passed A&G inspection, Aloyco QA verification and WCNOG QC inspection.

Since the above material was "temporary", WCNOG attempted to procure replacement material that conformed to the technical specification. Purchase Requisition (PR) 81691 was submitted to Cardinal for review. Cardinal informed WCNOG that they could not supply the material to the Code Edition and Addenda or condition specified. To resolve this condition, Procurement Evaluation Request (PER) 092 was issued to NPE for disposition which in turn generated REDA O-P-1856-BG. During the interim time, the material was ordered and shipped on PO 512112. At the time of material shipment, Cardinal issued a Request for Deviation or Waiver to obtain relief from the original PR requirements. To track the waiver request internally, WCNOG QC issued a Nonconformance Report (NCR) (No. M-668). Also noted on the NCR was the fact that the nuts did not meet the hardness requirements of the material specification. NPE dispositioned the NCR to "Use-As-Is". During the interim period, Cardinal provided a revised CMTR to correct the hardness values. To provide additional confidence in the Cardinal testing program, the material supplied was third party tested by WCNOG and failed the hardness requirements. This resulted in an onsite audit at Cardinal to investigate the cause.

Replacement nuts were ordered from Meredith Corporation (Pressure Vessel Nuclear Steels, Inc.) on PO 515098 as follows:

30 each lot 65805 Nut, Heavy-Hex 1/2"-13 UNC-2B
SA-194 Gr 8F (Heat No. K9159)

These nuts were rejected via CWR 70195-86 because they were certified to a later code/addenda. They were accepted via REDA O-W-2353-XX.

CWR 00916-86 is the CWR generated to install the replacement studs and nuts. Per this CWR, and Replacement Package 26, these studs and nuts were replaced:

Studs - P.O. 512112 Cardinal

1/2-13 X 3 1/4 SA 453 Heat 6L7947K2

(These were initially rejected via NCR M-668 because they were supplied in Condition B in lieu of Condition A)

Nuts - P.O. 515098 Meredith Corp.

1/2"-13 UNC 2B SA-194 Gr 8F Ht K9159

(These were initially rejected via CWR 70195-86 because they were certified to a later code than specified)

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Corrective Action

The first step of corrective action was to retrain the WCNOG Receiving Inspection personnel. This was performed and tracked after QC initiated a QC Report of Procedure Violation (QRPV #86-003) to address the program breakdown.

WCNOG Supplier Quality (SQ) performed audits of the Cardinal 100% reverification of material supplied to WCGS (TE 56653-K001 and K002). In addition, the material hardness discrepancy was followed up at Cardinal Industries on October 28-29, 1986. The investigation was documented and closed in audit report TE 56653-K003. The results of the investigation concluded that the methodology of taking hardness tests for the grade and condition of material procured requires greater attention due to the surface carburization effect. In addition, Cardinal possessed test documentation to support the CMTR revision.

A/G Engineering was audited in October of 1987. The report (TE 56004-K001) factored in past supplier product performance. The two noted CWR's were not included within the scope of the audit nor entered into the Supplier Performance Trending System. Based on Supplier Quality (SQ) review of the CWR's, the evaluator could not determine if the problem was vendor specific. Based on review of the audit results, the discrepancy appears to be isolated. This discrepancy was not followed-up with Walworth since the Aloyco plant was sold to Crane Valve Services in Romeoville, IL in 1985.

Additional material certifications supplied by Walworth-Aloyco are being re-evaluated to verify compliance with the governing purchase order and applicable code requirements.

SQ procedures are being evaluated to assure the "root cause" approach to both the vendor trend program and audits is sufficient.

Unresolved Item (482/8711-05) Failure of Standby Emergency Diesel Generator Rocker Arm Ball Joint

As reported on licensee DDR Form No. 86-101, on November 11, 1986, it was discovered during the performance of maintenance on Colt Standby Diesel Engine KKJ01B that the ball joint had sheared from the rocker arm on No. 4 cylinder and was seated in the push rod. The logic for continued operation was that with No. 4 cylinder inoperable, the diesel engine "would still be capable of fulfilling its intended function." There was no analysis to support this statement.

RESPONSE:

Upon discovery on November 17, 1986, during replacement of the gaskets for the rocker arm assembly housing on cylinders #4 and #7 of Emergency Diesel Generator KJ01B, it was discovered that the ball joint on the intake rocker arm of #4 cylinder was broken.

The rocker arm was rebuilt with a new ball joint and all other rocker arm assemblies on KJ01B were inspected to determine if this condition existed elsewhere. No evidence of similar problems were identified during this inspection.

A Defect/Deficiency Report was initiated for the broken ball joint and a reportability evaluation was performed by the Compliance Engineering Group. Based on a discussion with the Colt Industries, Fairbanks Morse Engine Division, it was determined that the Diesel Generator would have performed its intended function, and thus was operable, with the sheared ball joint.

The ball end portion of the ball joint was returned to Colt Industries for inspection and determination of the failure cause.

On 12/1/86, the ball joint, part no. P400267, was received by Colt Industries for analysis. Colt Industries Engineering Report, dated 10/1/87, reported that the piece fractured at the end of its fit into the rocker arm. Twenty tons of pressure was applied to the stem in the rocker arm but it would not come out.

The stem portion of the joint had to be drilled out of the rocker arm. The stem was drilled out to all but a 1/32" shell before it could be removed..

Visual inspection of the ball end showed that approximately 1/16" of the stem remained on the ball end where the break occurred. The cross section of the stem portion where the break occurred was polished and all sharp edges were peened over including the material around the oil hole in the center. It appears that the joint had been broken for some time and the broken surface had been rubbing together during operation.

Because of the design, the broken parts would remain trapped between the rocker arm and the push rod.

The seat area at the bottom of the ball end was in good condition and still showed the machining or grinding traces on the surface. This would indicate that this surface was not making contact on the rocker arm during the period of running after the stem had broken.

The fact that the stem was galled and excessively tight in the rocker arm would indicate that when the ball joint was installed, it galled the stem due to debris or misalignment and became tight in the bore not allowing the ball end to seat properly on the rocker arm. This would leave clearance between the rocker arm and the ball joint seat. This causes the bending loads to be resisted by the stem, instead of being carried through the ball shoulder as intended. The good condition of the ball end seating surface would also indicate this surface had not made contact with the rocker arm even after the break.

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The cause of the failure was fatigue of the stem due to the fact that the ball joint was not seated properly in the rocker arm.

Colt Industries was contacted on numerous occasions regarding the above inspection as to the length of time and root cause analysis. The lack of rapid response by the vendor was not an attribute that WCNOG could control.

During the 1987 refueling outage, the rocker arm ball joints for both A and B Diesel Generators were inspected and proper assembly was verified. No indications of additional broken ball joints were found.

Unresolved Item (482/8711-06) Repetitive Failure of MSIV Accumulator 4-way Valves

As previously discussed in Section 2.a.(1)(c), MSIV accumulator 4-way valves failed in 1985 and were reported by LER 85-075. Four redesigned replacement valves failed on December 4 and 5, 1986. The licensee apparently used the following logic to justify that these failures were not safety-significant at Wolf Creek:

- The valves which failed were those functioning during opening of the MSIVs, which see a higher pressure than the 4-way valves which function to close the MSIVs
- Valve failure occurs after relatively few cycles
- Test existing valves at Wolf Creek, including previously replaced valves of the original design, to opening pressure for numerous cycles. If they did not fail, they would not fail pending vendor resolution and may be used

When asked by the NRC inspector, the licensee stated that there were no empirical data to substantiate that valve failure could not occur at the lower pressures used for MSIV closure after some greater number of cycles.

RESPONSE:

The root cause of the failure of the 4-way valve slides has been attributed to the improper heating of the slides during the brazing and heat treatment process (initiating a crack) and subsequent pressurization of the slide in service to approximately 5000 psig (in the "N" position only on the MSIVs).

For the past year, the supplier (Teledyne-Republic) of the 4-way valves to Anchor Darling has been testing various mockups of the 4-way valve slides in a variety of furnaces to better control the brazing and heat treatment process and thus preclude the failure of slides that has been experienced at WCGS. The testing to date has identified that a combination of port plugging (for better heat distribution) and the use of a vacuum furnace appears to eliminate the problem. Teledyne-Republic is tentatively scheduled to provide a written

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report of their findings to Anchor Darling by the end of January 1988 for their review. WCGS will have the opportunity to review the report after Anchor Darling's review is complete.

Corrective action taken to date has been to bench test each 4-way valve prior to service and to monitor the 4-way valves in the "N" position during service. Further corrective action will be based on the Teledyne-Republic report.

It is anticipated that the unresolved item can be closed with the receipt of the report from Anchor Darling.

Open Item (482/8711-01) Improperly Installed Cable

The first example involved cables improperly installed in cable trays. Licensee Surveillance "TE 53359 S-1510, ESW Cable Replacement" identified an "as found" construction phase deficiency, in that twelve 600 volt power cables were found installed in an instrumentation cable tray. Licensee documentation states that the nonconforming cables were installed, inspected, and accepted during plant construction.

The corrective action was to inspect 10 cable trays in Essential Service Water (ESW) Train A, and 3 trays in Train B. No logic was provided for sample selection.

A significant element in root cause determination in this case related to the inspector, or inspectors, who accepted the nonconforming cables installation. The identified nonconforming cables may have been all that they inspected in the identified area, though they may have inspected other installations in the plant. To look at adjacent cables without knowing who inspected them provides incomplete assurance that the identified problem does not exist elsewhere in the plant.

In addition, the sampling plan used did not provide a level of acceptability based on a valid statistical sampling plan. Such a level would have required sampling plans based on the population of total cable runs in cable trays at Wolf Creek, consisting of lots that were homogeneous with respect to the attribute sampled. Without performing a statistically valid sample of all attributes (such as the inspector's work), a valid root cause determination could not be made.

RESPONSE:

As an introduction, the original cable installation sequence needs to be explained. The full length cable (3500 ft. per cable) was installed starting at the approximate midpoint (MH#3) of the cable duct bank. The cable was pulled systematically from MH#3 to MH#4, from MH#4 to MH#5, from MH#5 into the ESW pumphouse, then from MH#3 to MH#2, from MH#2 to MH#1, from MH#1 into the Control Building, then from just inside the Control Building to final end

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points (primarily the Control Room). After cable installation was complete, the cable tray sections were installed in each manhole "under" the previously installed cable, and finally, the cable was "bedded" in the tray.

The original cable installation occurred from 1-11-82 to 11-3-82, and the installation of cable tray inside the manholes installation was completed on 2-15-83.

The cause reported in the corrective action documentation response to QPV 12/86-201, was a cable installation error when the cable trays were installed after the cable installation. The power cables were inadvertently installed in the nearby instrument service class cable tray, the fact of which was not detected by subsequent inspection. Cable installations in other areas of the plant followed cable tray installations, which followed more "normal" installation sequences. Therefore, the root cause was associated with the sequence of installation of the cables first then the cable trays "under" the cables, rather than inappropriate inspection by the inspector, and the QPV 12/86-201 concern was limited to the electrical duct bank cables.

The additional inspection was appropriate for the deficiency reported since the cause was related to the unique sequence of cable/tray installation in the electrical manholes rather than the inspector's performance. Other cable/tray combinations (installed in this unique installation sequence) were inspected and no other deficiencies were found.

Based on the relatively small number of cable/trays installed using this unique installation sequence the additional inspections were determined to provide adequate confidence and a Formal Statistical Plan was not required.

Open Item (482/8711-03) Review of Work Requests and Corrective Work Requests for Conditions Adverse to Quality

Nuclear Department Directive III.31.0, "Nonconformance Control," states in Section 31.5.2.b.3 that "Work requests shall be used to document nonconforming conditions identified after issue from the warehouse." Failure to review WRs and CWRs can preclude identification of significant conditions adverse to quality, and of adverse trends, in such areas as inadequate procedures, planning and work control; inadequate craft qualification and training; and excessive lost or damaged material.

Based on Quality Program Deficiency (QPD) 12/86-202, reviewed by the NRC inspector, significant problems could exist with WRs/CWRs. This QPD is in QA Surveillance Report TE 53359 S-1510, dated January 5, 1987, for Plant Modification Request (PMR) 1828/WR 4245-86, "Essential Service Water (ESW) Cable replacement." QPD 12/86-202 documents that planning and work control were inadequate based on such identified factors as:

- Sixteen revisions were required for the WR.
- The new cables were incorrectly labeled.

- Maximum cable pull tension was not given in the work package.
- Minimum (cable) bend radius (MBR) was not specified in the work package.
- Acceptable cable pulling equipment was not on site (pulling equipment which would violate the MBR was set up for use).
- Cable pulling equipment was attached to safety-related structures without evaluation of the expected loading.
- No calibrated tension meter was available for cable pulling.

RESPONSE:

The finding in QPD 12/86-202 involves the lack of QC inspection points involved in the installation procedure. The Corrective Action for QPD 12/86-202 addressed the identified findings in the form of a minor revision to cable pulling procedure CNT-506, "Installation and Inspection of Scheduled Cable", providing the recommended signoff spaces for all procedure-required witness points. This QPD was closed 1/11/87.

KG'E QA Surveillance Report TE: 53359 S-1510 does comment that "planning and work control activities were inadequate". Those seven (7) comments are addressed below:

1. Eighteen revisions were required for Work Request 04245-86. There were 19 Work Requests with a total of 29 revisions required to implement the large scope of PMR 01828 (See Table 1 for a chronological listing of work document revisions). The work instructions were released in a systematic and efficient manner.

As identified in Table 1, revisions were made as work progressed and as PMR 01828 was revised to clearly define the work scope and to disposition encountered nonconformances.
2. Adequate instructions for cable identification were not initially included in the work package that provided for preparation of the cables to be installed. As a result, the new cables were labeled the same as those being replaced. When the work instructions were prepared to cover the actual cable installation, the new cable identification instructions were required and the cable scheme tags had to be corrected in accordance with existing procedure.
3. Maximum pull tension calculations had not been performed at the time it was necessary to issue the Work Package to the field so that cable pull preparations could be performed. However, maximum allowable tension calculations were performed and the Work Request 04245-86 was revised (Rev. 5) prior to the first section of cable being pulled.

4. Procedure CNT-506 requires the minimum bend radius (MBR) to be included on the cable pull card, and the pull card to be part of the package. This was available prior to pulling cable.
5. The initial setup of equipment for the cable pull was not appropriate, however, the field engineer responsible for this modification was aware that the appropriate equipment was not available on site and had ordered the appropriate equipment. Although this specific incident was identified by QA, the responsible field engineer would have identified a deficiency such as this prior to start of work.
6. The loading to the safety related unistrut supports in the manholes was evaluated by the responsible engineer prior to load application, however, the calculations performed were not documented. The applied loads, relative to the load bearing capabilities of the unistrut support, were sufficiently low and were not anticipated to detrimentally effect the support components. A complete inspection of the involved unistrut support was performed after completion of work, and no damage was found. Future concerns on rigging, including calculations, will be controlled by plant procedures presently being developed. Until that procedure is developed, work instructions are included in work request packages when rigging is involved from safety related structures.
7. A calibrated tension meter was available prior to the start of cable pulling, however, that calibrated tension meter was damaged during the setup of pulling operations between manholes 3 and 4, and could not be recalibrated. Prior to the initial tension meter being damaged the need for a spare was anticipated, so a spare tension meter had been ordered (on 10-17-86) and was delivered (on 11-7-86) two days after the initial tension meter was damaged. During these two days, the tension meter was revised out of the work request and the pull between manholes 3 and 4 was completed after the work request was revised to not require tension monitoring for only that portion of the cable pull. All concerns on tensioning and side wall pressures during this pull have been conducted on CWR 4830-86 by NPE with a "use-as-is" disposition being the end result.

In summary, the work involved in implementing PMR 01828 was performed systematically in controlled steps (work requests and work request revisions) and was performed in accordance with applicable procedures.

Open Item (482/8711-04) Integration of Corrective Action Subsystems

The Wolf Creek corrective action program consists of several separate subsystems and separate documents used to identify conditions adverse to quality and to document licensee corrective actions related to such conditions.

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The NRC inspector was concerned that all subsystems were not routinely reviewed by the licensee's Quality Branch. Conditions adverse to quality in all systems were not integrated for overall trending of deficiencies. For example, during one trend period, an overall problem of inadequate (incomplete, not incorrect) Nuclear Plant Engineering (NPE) technical direction could exist as different examples in such varied documents as:

- a Defect/Deficiency Report (DIR)
- a Nonconformance Report (NCR)
- an internal audit report
- a surveillance report
- a licensee inspection report
- a Quality Program Violation (QPV)
- a Quality Program Deviation (QPD)
- an NRC inspection report
- a Field Change Request (FCR)
- documentation of conditions adverse to quality identified by NPE in accordance with Procedure KPN-B-303, "Corrective Action"
- revised WRs and CWRs

Licensee procedures did not require the routine review of these (and other) corrective action documents to determine negative trends or significant programmatic conditions adverse to quality. In addition, as identified in licensee Audit Report TE: 50140-K147, forwarded by QA 87-0181, dated February 5, 1987, all organizational units did not have corrective action programs to provide for the identification of conditions adverse to quality.

The apparent fragmentation of the licensee corrective action program, and resulting lack of procedural requirements for overall analysis of all deficient program elements for the determination of significant conditions adverse to quality is considered to have a potentially adverse effect on the licensee's corrective action system.

RESPONSE:

Fragmentation of the Corrective Action Program

Subsequent to, and as a result of QA Audit Report TE: 50140-K147, an integrated corrective action program has been developed. General Procedure KGP-1210, "Corrective Action for Programmatic and Implementation

Deficiencies* establishes a standardized method for all WCNOC organizations to document and respond to quality problem of a programmatic or implementation nature. In addition, several procedures which formerly provided separate methods for documenting and responding to quality problem are either being revised or have been revised to reflect the standardized program of KGP-1210, or the procedures are being superseded.

Routine Review of Corrective Action Documents

Two programs have been established which, as required by procedure, provide for a routine review of corrective action documents. The Quality Trend Analysis Program, analyzes corrective action and nonconformance documentation on virtually a daily basis. Trend reports are normally issued on a quarterly basis and identify both positive and negative trends. The second method employed to identify, report and resolve negative quality performance trends and significant conditions adverse to quality involves the audit process. As required by Technical Specifications, audits of the corrective action program are performed at least once every six months. The audits, which are broad in scope, evaluate all organizations involved in safety related activities. Between the two programs, all facets of the corrective action process are monitored.

Quality Trend Analysis

The Quality Trend Analysis Program is designed to provide company management with a statistically based assessment of the quality program. Included in the assessment is an analysis of prevalent hardware documentation and programmatic problems. The Trend Analysis Program evaluates the following documents:

- | | |
|------|---|
| NCRs | Nonconformance Reports are used to document nonconforming conditions under the jurisdiction of the warehouse (i.e., outside the plant/power block areas). |
| DDNs | Document Deficiency Notices are used to identify and resolve documentation problems associated with hardware received from vendors. |
| QRPV | Quality Control Report of Procedure Violation identify instances of procedural noncompliance during QC inspection activities. |
| QPV | Quality Program Violations are QA audit and surveillance findings of a moderately significant nature. |
| QPD | Quality Program Deviations are QA audit and surveillance findings of a minor nature which, if left uncorrected, could potentially develop into a serious quality problem. |
| CWR | Corrective Work Requests documents nonconforming hardware conditions within the plant/power block areas. |

Additionally, information is also provided on NRC finding and any open Stop Work or Work Hold Agreements and Corrective Action Requests. These documents, however, are not mathematically analyzed because of their statistical insignificance (small number of occurrences).

In developing the Quality Trend Analysis Program, it was determined that raw data would be of little use to management. Therefore, it was decided that the data utilized in the trending program must be of a significant nature, must be of a type that can be analyzed for root cause, and must be of a type that can be depicted in terms of rate (i.e., findings per manhours worked) or in relative terms (i.e., problems in one area versus problems in another area). With these restrictions on the data, the type of information that can be utilized is limited, however, the benefits are that the information presented in the trend report is significant, condensed and conclusions as to the areas of strengths and weaknesses can be made.

It is important to note that it is virtually impossible to evaluate dissimilar corrective action documents. For example there is no direct correlation between the number and significance of QPV/QPDs to the number of NCRs or CWRs (i.e., does one QPV equal one NCR or three CWRs etc. ?). Thus it is impossible for all corrective action documents to be grouped together and analyzed with the objective of identifying a single/multiple trend. The existing program does, however, equate similar corrective action documents and does result in a focused trend analysis report.

After considering various options and ideas for expanding the types of data analyzed in the trending program, it was determined that such an expansion with one exception was not feasible if the present level of statistical analysis were to be maintained. Listed below are some of the document categories identified in Inspection Report 87-11 (pages 6 and 7) and the reason for not including them in the trending program:

Defect/Deficiency Reports (DDR): These documents identify conditions that are initially considered to be potentially reportable. Since a sizable number of reports are later determined not to be reportable, the trending of DDRs would yield invalid results if they are viewed as a measure of compliance to regulatory requirements.

Licensee Events Reports (LER): The number of LERs as well as the cause of LERs varies significantly with plant mode and plant conditions. LER conditions are, however, trended, analyzed and reported to management by the Plant Manager's Compliance Engineering organization. Additionally, the Violations and Reportable Events Subcommittee of the Nuclear Safety Review Committee (NSRC) reviews these reports for adverse conditions and makes appropriate recommendations to the full NSRC.

Licensee Inspection Reports: WCNOC is assuming that this category pertains to Quality Control Inspection Reports. Hardware deficiencies identified during the inspection process are identified on corrective work requests. These work requests are trended. Likewise, programmatic deficiencies are reported on a Quality Control Report of Procedure Violation (QRPV) and are trended.

Field Change Requests (FCRs): FCRs and other documents utilized to change design documents are initiated for a variety of reasons. Sometimes the changes result from a design enhancement. Other times, but rarely the case, design documents changes result from a design error or engineering oversight. As FCRs and similar documents do not identify the root cause, it is impractical to research the root cause for the change simply to trend it. Since the number of design document changes as a result of engineering oversight or error is relatively small, it is questionable whether a meaningful trend could be established.

Revised Work Requests: There are two types of work requests: those for scheduled activities such as preventive maintenance and those which document nonconforming conditions. The ones which document nonconforming conditions are referred to as "corrective work requests." The corrective work requests and revisions to them are trended. Scheduled work requests are not trended since they do not document nonconforming conditions.

Corrective Action Documents in Accordance with KPN-B-303: This procedure has been superseded by KGP-1210.

As noted previously, General Procedure KGP-1210, "Corrective Action for Programmatic and Implementation Deficiencies" has established a standardized corrective action reporting process for all WCNOC organizations. Form KGP-69, "Programmatic Deficiency Report" (PDR) is used to respond to identified quality problems and implement the appropriate corrective actions. If the quality problem has been identified through external sources (e.g., audit process, NRC inspections etc.), the condition is trended as part of the finding issued. If, however, a quality problem is self-identified, reported and corrected, the condition is not trended. Executive Management has decided to begin trending self-identified and reported programmatic conditions. This will occur as soon as the appropriate software changes are made to the computer program.

In summary, after reviewing the current trending program and examining the possibility of expanding the data base to include other categories of documentation, it has been determined that the program will be modified as noted above.

January 29, 1988

Open Item (402/8711-07) Licensing Corrective Action Program

The NRC inspector had the following concerns relating to the licensing procedures and corrective action program:

- (1) There was no requirement for documented verification of accomplishment of all commitments.
- (2) There was no subsequent audit of commitments to assure that they were effective.
- (3) There was no requirement to provide assurance against recurrence in all cases, such as NRC Bulletins where identified components were not used at the time of the Bulletin, but no controls were instituted to prevent their subsequent use.
- (4) There was no requirement for root-cause determination.
- (5) There was no requirement for items determined as not reportable to be included in another corrective action subsystem for resolution.

RESPONSE:

The purpose of the Licensing Division Commitment Tracking Program is to independently identify and track statements made in docketed correspondence to the NRC which commit WCNOG to accomplish or perform an action in the future. Although the responsible organization within WCNOG track the commitments that pertain to them, the Licensing Division Commitment Tracking Program provides a consolidated, independent system to track the commitments for the project in order to provide assurance that commitments do not get forgotten or missed. The Commitment Tracking Program is not a "Corrective Action" program and was never intended to be one of the programs for which credit was taken as a 10 CFR 50, Appendix B Criterion XVI "Corrective Action" program. It is simply a tracking mechanism for the project to assure commitments are not forgotten or overlooked. Although the forms do not currently have a specific sign-off for "verification" of completion, the program does utilize a controlled process whereby the forms are maintained for each commitment to document how the commitment was completed, and identifies other applicable documentation. The program is reviewed by Licensing to assure that the close-out information provided by the responsible organization(s) closes the entire commitment and is consistent with the requirements of it.

Since the Commitment Tracking Program is not a corrective action program and covers many commitments, there are no audits related to any type of corrective action, it would not be appropriate to require audits of the effectiveness of the commitments. For instance, commitments made relative to the implementation date for a new regulation would be included in the Commitment Tracking Program. The effectiveness of a date provided to the NRC for

implementation of a new regulation is not something that lends itself to an audit. However, the Commitment Tracking historical data is often used by organizations such as Quality to identify commitments made relative to a certain subject they may be auditing or reviewing. Commitments made relative to corrective actions normally involve programs that are the subject of a periodic QA audit. For instance, corrective action taken relative to a Technical Specification violation would be subject to QA audit of Technical Specification compliance.

WCNOC is in the process of developing administrative controls to provide an added level of assurance that components identified as potentially defective on a generic basis are not subsequently purchased for use at WCGS without specific consideration of the potential defects. WCNOC Supplier Quality has previously developed a listing of components and suppliers with identified weaknesses, but the maintenance of the listing has not been administratively controlled to the point that requires other organizations to use it. As stated previously, administrative controls are being developed to enhance the current system and provide assurance against the procurement of potentially defective items without proper consideration of the potential problems.

The Licensing Division now utilizes General Procedure KCP-1210, "Corrective Action for Programmatic and Implementation Deficiencies", as the controlling procedure for the identification, evaluation, and correction of conditions adverse to quality within the Licensing Division's scope of responsibility. This procedure, which was not in place at the time of the inspection, requires a thorough investigation with the resulting root cause being adequately identified, documented, and corrected.

Potential defects and noncompliances are evaluated for applicability to WCGS and to determine whether or not corrective actions are required. If, during this process, it is suspected that the defect or noncompliance is potentially reportable, then an evaluation for reportability is conducted. The need for corrective action is not based upon whether or not the concern is reportable. The need for corrective action is based upon safety and regulatory compliance requirements. In order to provide a more complete documentation trail, Licensing will revise its Part 21 evaluation procedure by April 29, 1988 to require a reference to the appropriate system for controlling the resolution of the potential concern.

Open Item (482/8711-08) Nuclear Plant Engineering Corrective Action Program

The following were the findings of the NRC inspector concerning the NPE corrective action program:

- (1) Licensee Procedure KPN-B-303, "Corrective Action," covers the corrective action program for NPE. This procedure details the requirements and responsibilities for affected personnel relative to reporting, tracking, and closure of conditions adverse to quality. The NRC inspector's concerns were:

- (a) The procedure specifies only verbal reporting of conditions adverse to quality by NPE personnel below the level of section manager. Only if a section manager considers the concern valid is it documented and corrective action implemented.
- (b) Section 6.2.2 (and subsections thereto) state that conditions adverse, or significantly adverse, to quality that may be identified in an organization outside of NPE shall be reported to a section manager. The section manager shall determine if the condition is valid. If so, it shall be reported in writing to the manager of NPE. The manager NPE or his designee shall contact the management of the organization involved. If the organization does not occur with the observation, the manager NPE or his designee may notify the Quality Branch. (If the identified condition is a potentially reportable defect, it will be sent to licensing for review and determination.) This section indicated that conditions adverse, or significantly adverse, to quality were not reported to the licensee's quality organization unless the organization outside NPE did not concur with NPE.

Even when there was a lack of agreement, NPE may notify the Quality Branch, but was not required to do so. As a result, significant conditions adverse to quality were not required to be identified to the Quality Branch, or to senior management, for determination of safety-significance, for root-cause determination, or for prevention of recurrence.

- (2) Licensee Procedure KPN-E-314, "Disposition of Nonconformance Reports, Engineering Evaluation Reports, Field Change Requests and Corrective Work Requests," prescribed the methods and NPE responsibilities for processing Nonconformance Reports (NCRs), Engineering Evaluation Requests (EER), Field Change requests (FCRs) and Corrective Work Request (CWRs), and for providing technical evaluation using Procurement Evaluation Requests (PERs). The NRC inspector's concerns were:
 - (a) There was no requirement for root-cause determination.
 - (b) Based on Section 6.4.5.3.2.1 and discussions with licensee personnel, failure of NPE to provide sufficient technical information (as opposed to providing incorrect information) was not considered to be a deficiency, or a condition adverse to quality.
 - (c) FCRs (requests for change to Plant Modification Requests, or PMRs) were not considered documents to be evaluated for conditions adverse to quality and corrective action.

- (d) As a result of (a) through (c) above, there was no apparent corrective action subsystem for evaluation of NPE activities and decisions for conditions adverse to quality.
- (3) Other NRC inspection concerns were with NPE procedures, such as KPN-D-300, "Engineering Activities," and KPN-D-302, "Engineering Study," which did not address the performance of root-cause determination of conditions adverse to quality when such conditions were identified by, or to, NPE.

RESPONSE:

General Procedure KGP-1210, "Corrective Action for Programmatic and Implementation Deficiencies", was implemented in August 1987 and provides a standardized corrective action reporting process for all WCNOC organizations. Division personnel document the identification of suspected programmatic or implementation deficiencies on Form KGF-69 and then an evaluation is performed by the Division Manager for validity. If the deficiency is valid the program requires identification of root cause and full corrective action implementation. Nuclear Plant Engineering (NPE) procedure KPN-B-303, "Corrective Action", was superseded in November 1987, and NPE now utilized KGP-1210 as its corrective action program.

The action required to resolve items 1, 2, and 3 within this Open Item have been accomplished by superseding KPN-B-303 in favor of KGP-1210 and the specific training of all NPE personnel on the general procedure, reference PDR #NP-87-01 which was originally in reply to QPD #9/87-150.

In addition, Procedure Change Notices to KPN-E-314 and KPN-D-302 are being prepared to specifically tie the requirements of KGP-1210 into the processing of Engineering Dispositions (KPN-E-314) and Engineering Studies (KPN-D-302) Dispositions to FCRs are included in KPN-E-314.

A Procedure Change Notice to KPN-E-300, "Design Process", will be generated to assure that technical requirements are adequately described in design output documents. The above procedure changes will be implemented by March 31, 1988.

Open Item (482/8711-09) Quality Branch Corrective Action Program

The following were the concerns of the NRC inspector which relate to the Quality Branch corrective action program:

(1) Procedural Weaknesses

Quality Branch procedures such as QAP 16.1, "Corrective Action for QA Program Breakdowns" (Section 7.2), and QCP 16.1, "Identification of Program Noncompliances" (Sections 6.5 and 7.1.2), prevent the issuance of the documentation of conditions adverse to quality without supervisory

approval. QCP 16.1, Section 6.5 prohibits the issuance of a QC Report of Procedure Violation (QRPV) against the QC Division without the approval signature of the Superintendent, Quality Control.

As a result, a quality program noncompliance or violation would not be documented if supervision did not agree. This situation prevents the unrestrained identification of noncompliance and violations and is considered a weakness in the licensee's corrective action system. Similar weaknesses are identified in Sections 2.d and 2.f of this report.

(2) Use of MIL-STD-105D for Sampling in Corrective Action

Licensee Document QA 87-0466, dated April 29, 1987, contained Corrective Action Request (CAR) No. 24. In CAR No. 24 under finding No. 1, "Recommended Corrective Action 1.b," specified the utilization of MIL-STD-105 with a sampling plan having an acceptable quality level (AQL) of 96 percent. MIL-STD-105 gives AQLs in percent defective. Apparently the intent was to provide an AQL of 4 percent defective. No discussion was given as to the homogeneity of the sample to permit the statistically meaningful use of MIL-STD-105. This standard is structured for use in sampling automated processes under a quality program meeting MIL-Q-9858. Where AQLs as high as 4 percent defective (as opposed to 0.1 percent defective) are used, the licensee should document that higher AQLs can not violate their FSAR, or otherwise adversely affect reactor safety.

RESPONSE:

Management Philosophy

Quality requirements are sometimes interpretable. Moreover, researching requirements and exceptions taken in the USAR can be a formidable task for persons unfamiliar with the intricacies of the quality program requirements. With these motivations in mind, management has adopted the policy of providing a level of supervisory review prior to the issuance of a finding. This policy ensures that:

- Requirements and interpretations are consistently applied and evaluated
- The person who identifies a potential quality problem is afforded the necessary time and resources to thoroughly examine the situation and requirements.
- Channels of communication for reporting quality concerns remain established.
- Supervisory personnel are cognizant of quality problems and/or perceived quality problems within their organization.

In regard to persons within the Quality Department who are familiar with the quality program requirements, supervisory approval of a finding prior to issuance is also required, but for reasons different from those stated above. These reasons are to ensure that:

- The finding accurately represents the facts and is supported by ample objective evidence.
- At least one practical solution has been offered for every problem identified and the solution offered will completely resolve the problem to the satisfaction of management and the regulators.
- The finding addresses all problem areas and/or organizations.
- Any interpretations of requirements made within the finding or through the evaluation process are consistent with WCNOC management policies, goals and safe operation practices.

Especially when findings involving organizations external to the Quality Department are involved, the credibility of the organization reporting a quality problem is at stake. An invalid or poorly researched finding can seriously challenge the credibility of the reporting organization. In light of these facts, management, in the best interest of the Quality Program has an obligation to ensure the correctness of a finding prior to issuance. Included in this obligation is the confirmation that the solution offered is conservative, workable, and promotes the safe, reliable operation of the plant. The policy of requiring supervisory approval therefore, helps maintain the integrity and credibility of the Quality Program, provides an equitable application of requirements, and positively influences safe operating practices.

It is important to note however, that Quality Department Management fully recognizes that by implementing such a policy, there exists a small but perceptible potential for a valid quality concern to be overlooked due to human (supervisory) error. Therefore, a change will be made to General Procedure KGP-1210, "Corrective Action for Programmatic and Implementation Deficiencies." The change will require supervisory personnel to document the reason for invalidating the concern and to retain, as a QA record, the invalidated finding.

Response to Specific Concern (1):

Procedure QAP 16.1, "Corrective Action for QA Program Breakdowns" addresses the issuance of a Corrective Action Request (CAR). CARs are management level findings which document quality problems of a severe nature. As such, it is appropriate for Quality Department Management to issue such documents. If in the opinion of Quality Department Management a CAR is not warranted to resolve an identified problem, and after discussions between Quality Department Management and the person identifying the concern there is still disagreement, the management decision and associated rationale is documented, typically in a letter, addressed to the person identifying the concern. Although this policy

of providing documentation has been well established (since 1984) and documented in Quality Evaluations Group Directives, a change to QAP 16.1 will be implemented by May 31, 1988 to more visibly reiterate the policy.

In regard to procedure QCP 16.1, "Identification of Program Noncompliances" the requirements for supervisory approval ensures that the Superintendent Quality Control is made aware of any QRPV issued against the Quality Control organization and to prevent the premature closure of self-identified problems. However, in reviewing the procedure, the intention is not clearly stated. Therefore, QCP 16.1 will be revised by May 31, 1988 to reflect the actual intention, reflect the present practices and to ensure that the reasons for invalidating any findings are documented and retained as QA records.

Included in the Open Item was a statement indicating that other procedures similar to QAP 16.1 and QCP 16.1 may exhibit similar deficiencies. In response to this concern, corrective action procedures were reviewed to ensure that the reason for invalidating findings is documented and retained. As a result of this review, changes will be made to procedures QAP 18.2 and QAP 18.3 by May 31, 1988.

Response to Specific Concern (2):

It is recognized that MIL-STD-105D was designed primarily as a statistical method for verifying product acceptance. However, the use of MIL-STD-105D is not limited to manufactured items. Paragraph 1.2, "Application", indicates that the standard can be applied to data, titled records, or administrative procedures.

In specific regard to CAR No. 24, the proper execution of the following repetitive administrative processes was being verified:

- Whenever M&TE was utilized to obtain acceptance criteria, the M&TE numbers were properly recorded on the work request.
- The work requests were properly routed to facilitate data entry.
- The M&TE information documented on the work request was properly inputted into the computerized history of use log data base.

This repetitive administrative process is unaffected by the type of M&TE utilized or the component involved. In other words, an administrative process of this type parallels a series (or batches) of identical manufactured items. Therefore, the use of MIL-STD-105D in this application is statistically valid with respect to homogeneity.

Although no specific value or acceptance criteria is specified in the USAR, management prudence governed the selection of criteria. The following rationale was applied to ensure the appropriateness of an Acceptable Quality Level (AQL) of 4% defective:

For a CAR No. 24 related M&TE problem to affect plant safety, all of the following conditions must occur:

- 1) The M&TE must have been utilized to measure, verify, or establish a critical function or characteristic of a component.
- 2) The component involved must be critical to plant safety.
- 3) The M&TE must have been out of tolerance during the work evolution.
- 4) The out of tolerance condition of the M&TE must be severe enough to cause a component failure or malfunction.
- 5) The component malfunction or failure would not be detected during component operability tests.
- 6) No additional work, testing, or inspections would be performed on the affected portion of the component between the time of M&TE usage and component failure.
- 7) The M&TE information would not have been entered into the history of use data base.

The preceding seven conditions make the probability of component failure very low. Even though no specific risk probability value can be calculated, the use of an AQL of 4% defective, provides reasonable assurance that plant safety would not be jeopardized, nor would the use of an AQL of 4% defective violate the management commitment to operate the facility in a safe prudent manner.

On a generic basis, sampling plans that are utilized or recommended by Quality Department Management are carefully considered for appropriate applicability. Although the use of sampling plans to resolve management level concerns is very limited and every use is unique, the following guidelines are consistently applied:

- The risk probability associated with using a sampling plan must be very low.
- Sampling plans should not be the sole means of determining and assuring the acceptability of hardware. As such, the use of sampling plans should be limited to the verification of root cause evaluations and corrective actions. Outside of the verification process, sampling plans should be applied when only one of several programmatic conditions necessary to cause a hardware failure has an identified weakness.
- Multiple levels of management should independently review the sampling plan prior to implementation.

- An AQL of 4% defective is considered to be the minimum acceptance criteria applicable to a quality program or process of average safety significance. As a measure of comparison, documentation demonstrating the proper installation of ASME components is considered to be an activity of average safety significance.

As an enhancement to our existing process, whenever Quality Department Management prepares a sampling plan to address a management level quality concern a written justification for using a sampling plan will be provided and retained with the documentation for the concern being addressed.

As a final note, regarding CAR No. 24, it should be recognized that a 100% review of history of use log entries was conducted in lieu of using the MIL-STD-105D sampling plan.

Open Item (482/8711-10) Management Systems Corrective Action System

The NRC inspector had several concerns regarding the licensee Management Systems organization. Procedure KP-1010, "Corrective Action Program," Sections 6.1, 6.2, and subsections thereto, required:

- (1) Section manager, or manager, approval for an employee to report an identified nonconformance to quality control (6.1.1).
- (2) Section manager approval before an employee could document (report in writing) a condition adverse to quality (6.2.1.1.1 and 6.2.1.1.2).
- (3) No reporting to the Quality Department of conditions adverse to quality which were found by Management Systems employees, but existed in other organizational units, unless it was a "potentially reportable defect" (6.2.1.2.3 and 6.2.1.2.4).

RESPONSE:

General Procedure KGP-1210, "Corrective Action for Programmatic and Implementation Deficiencies", was implemented in August 1987 and provides a standardized corrective action reporting process for all WCNOG organizations. Division personnel document the identification of suspected programmatic or implementation deficiencies on Form KGP-69 and then an evaluation is performed by the Division Manager for validity. If the deficiency is valid the program requires identification of root cause and full corrective action implementation. Management Systems procedure KP-1010, "Corrective Action Program", was superseded in August 1987 and Management Systems now utilizes KGP-1210 as its corrective action program.

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Section 2.g. Licensee Audit Findings Relating to the Corrective Action Program

During the last two licensee audits of the corrective action system in June 1986 and January 1987 the following were the findings which are considered significant concerns by the NRC inspector:

Type/Serial Number of Finding	Description of Finding
QPD 6/86-081 (Closed - Prompt Corrective Action Taken)	Contrary to ADM 01-025, paragraph 3.4.3, the responsible superintendents did not take the appropriate actions within the allowed time frame to resolve NRC findings.
QPD 6/86-082	Contrary to QAP C16.5, paragraph 7.7 and 7.9, Report Information Folders for NRC findings did not contain evidence of completion of corrective actions. (Note 1)
QPD 6/86-084 (Closed - Prompt Corrective Action Taken)	Contrary to NDPM, paragraph 26.5.2, no tracking mechanism was in place to assure corrective action for findings identified during the corrective action process for I.O.P.D 85-11, which was closed.
QPD 6/86-085 (Closed - Prompt Corrective Action Taken)	Contrary to FSAR Addendum, Section 17.2.16 and NDPM, paragraph 2.5.2, no objective evidence was found to identify I.O.P.D. 85-06 task force findings and their corrective action resolutions.
QPV 1/87-011	Contrary to Nuclear Department Directive III.26, procedures implementing a corrective action program have not been established for each site organization. (Note 1)
QPD 1/87-012	Contrary to QPM 16 (Rev. 2), "Corrective Action," quality procedures do not address the actions to be taken when conditions adverse to quality are reported to the Quality Branch by an outside organization. (Note 1)
QPD 1/87-013	Contrary to Nuclear Department Directive III.17, procedures governing the processing of NCRs do not address reportability reviews for NCRs dispositioned "Rework" or "Reject." (Note 1)
QPV 1/87-014	Contrary to Nuclear Department Directive III.17, methods to ensure that potentially reportable

conditions are identified and evaluated have not been proceduralized for each site organization. (Note 1)

In addition to the above, it was identified that reviews for potential 10 CFR 21 reportability for conditions identified on NCRs are proceduralized only for those NCRs dispositioned "Repair" or "Use-As-Is." (Note 1)

QPD 1/87-015

Contrary to Nuclear Department Directive III.31 (Rev. 2), "Nonconformance Control," Management Systems Procedure KP-1010 (Revision 0), "Corrective Action Program," requires that nonconformances be reported to the Quality Branch rather than to quality control.

When conditions are determined to be reportable, they are reported to the NRC within the required time limits. It was noted, however, that not all site organizations have proceduralized methods to ensure that organizations responsible for evaluating potentially reportable conditions are promptly notified when such a condition is discovered. This condition is partially addressed in finding (QPV 1/87-011) and in violation (QPV 1/87-014).

Note 1: Findings referencing this note are considered by the NRC as significant programmatic weaknesses.

RESPONSE:

Finding Number

Description of Finding

QPD 6/86-081
(Closed)

Contrary to the requirements, the responsible Superintendents did not take appropriate actions within the allowed time frame to resolve NRC findings.

As corrective action, management reiterated the importance of completing corrective action within the established time frame. Additional actions included completing the necessary actions to resolve the NRC finding.

QPD 6/86-082
(Closed)

Contrary to requirements, Report Information Folders for NRC findings did not contain evidence of completion of corrective actions.

Corrective measures included adding closure documentation to the Report Information Folders and revising the controlling procedure which was in effect at the time (QAP C16.5) to explicitly state the documentation requirements.

QPD 6/86-084
(Closed)

Contrary to requirements, no tracking mechanism was in place to assure corrective action for findings identified during the corrective action process for I.O.P.F. 85-11, which was closed.

To close the finding, outstanding corrective actions were tracked on the Open Item Status List and I.O.P.D. 85-11 was amended to indicate that the Open Item Status List is being utilized to track open items.

QPD 6/86-085
(Closed)

Contrary to requirements, no objective evidence was found to identify I.O.P.D. 85-06 task force findings and their corrective action resolutions.

A supplemental correction report for I.O.P.D. 85-06 was prepared. The supplemental correction report identifies where the deficiencies and resulting resolutions can be found.

QPV 1/87-011
(Closed)

Contrary to requirements, procedures implementing a corrective action program have not been established for each site organization.

A company wide corrective action program was developed. This program, which is documented in General Procedure KGP-1210, establishes a uniform method for addressing and resolving quality problems of a programmatic nature.

QPD 1/87-012
(Closed)

Contrary to requirements, quality procedures do not address the action to be taken when conditions adverse to quality are reported to the Quality Department by an outside organization.

Revisions were made to Quality Department procedures. All organizations within the Quality Department now utilize KGP-1210 to respond to findings identified and reported by an outside organization.

QPD 1/87-013
(Closed)

Contrary to requirements, procedures governing the processing of NCRs do not address reportability reviews for NCRs dispositioned "Rework" or "Reject".

A revision to procedure KP-2145 was issued. The revised procedure established a method for processing "Reject" and "Rework" NCRs which identify a potentially reportable condition.

QPV 1/87-014
(Closed)

Contrary to requirements, methods to ensure that potentially reportable conditions are identified and evaluated have not been proceduralized for the Quality Control.

Procedure QP 16.2, "Quality Department Evaluation for Reportability" was issued. This procedure provides the necessary direction for Quality Control personnel.

QPD 1/87-015
(Closed)

Contrary to requirements, Management Systems Procedure KP-1010, "Corrective Action Program," requires that nonconformances be reported to the Quality Department rather than to Quality Control.

Procedure KP-1010 has been revised to correct the noted condition.

NRC COMMENT
(Resolved)

It was identified that reviews for potential 10CFR21 reportability are proceduralized only for those NCRs dispositioned "Repair" or "Use-As-Is."

Corrective action for this condition was completed as part of the resolution to QPD 1/87-013 (Closed). The corrective actions involved a change to procedure KP-2145, "Control of Nonconforming Material, Parts and Components."

In regard to the prompt notification of responsible personnel when potentially reportable conditions have been identified, three (3) provisions exist. If an item under warehouse control is nonconforming, an NCR is written. The procedure governing the use of NCRs, KP-2145, contains specific provisions for processing potentially reportable NCRs. If a programmatic deficiency is identified, procedure KGP-1210 is used. KGP-1210 provides suitable direction for handling potentially reportable concerns. Lastly, if a nonconforming condition exists within the power block area, a corrective work request is initiated. The work request procedure, ADM 01-057, provides ample guidance on the handling of potentially reportable concerns and any condition that may affect the operability of a component covered under WCGS Technical Specifications. These procedures, KGP-1210, KGP-2145, and ADM 01-057, are applicable to all WCNOG personnel.

TABLE 1

Chronological Listing of Document Revisions Associated with the
Essential Service Water Cable Replacement

<u>Date</u>	<u>W.R./PMR #</u>	<u>Rev.</u>	<u>Description</u>
10-02-86	04245-86	0	Initiated WR for repull of control cables in A and B train per PMR 01828.
10-07-86	01828	0	Received controlled copy of PMR 01828.
10-09-86	04336-86	0	For removing fire barriers, tray covers, dyeing cables, manhole covers, and preparing to pull cables.
10-13-86	FCR 1828-C01	0	To reduce time, add terminal boxes (TB) in Control and ESW building and revise design.
10-17-86	01828	1	Incorporate C01 to add TB's, conduit, and cable routings to PMR 01828.
10-20-86	FCR 1828-C02	0	For changing design error.
10-21-86	01828	2	Revised per FCR-1828-C02.
10-24-86	04245-86	1	Revised to add WRP 04245-86-02 for installation of added conduits and terminal boxes in Control and ESW buildings.
10-27-86	04336-86	1	Revised to add instructions for dyeing cables.
10-28-86	04245-86	2	Revise to add WRP 04245-86-03 and 04245-86-04, package 03 for removal of cable trays, remove cables, pull new cables and terminate. Package 04 is for dry packs, repair brached seals, inspect supports.
10-29-86	70179-86	0	CWR for collapsed cable reels.
10-31-86	04245-86	3	Revise WRP 04245-86-03 work instructions for cables incorrectly labled.
11-01-86	FCR 1828-C03	0	Relocation of TB 32118.
	FCR 1828-C04	0	Revise design to allow conduit 4U1F1L to be installed without attachment to cable tray.

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<u>Date</u>	<u>W.R./PMR #</u>	<u>Rev.</u>	<u>Description</u>
11-02-86	04705-86	0	CWR for cables entering wrong service level cable tray.
11-02-86	04245-86	4	Revise WRP 04245-86-03 to add and delete work instructions. Revise WRP 04245-86-01 to add information contained in FCR's 1828-C03 and 1828-C04.
11-03-86	04245-86	5	Revise WRP 04245-86-03 to add maximum pull tension.
11-04-86	FCR 1828-C05		To delete requirement to hand pull cables.
11-05-86	04336-86	2	Revise for additional options for rigging.
11-06-86	04245-86	6	Revise to delete requirement for using tensionometer for pulling cables out of manholes.
11-07-86	04245-86	7	Revise WRP 04245-86-03 to delete requirement to stop pull if force is exceeded. Add pull force and monitoring by sections.
11-08-86	04245-86	8	Revise WRP 04245-86-03 to add instructions for pulling G12 cable from MHE3 to MHE2.
11-08-86	04245-86	9	Revise WRP 04245-86-03 to add instructions for pulling CO2 cable 1GDKC2CC from MHE2 to MHE1 due to shorter length.
11-09-86	04245-86	10	Revise to add WRP 04245-86-04 instructions for pulling additional slack from MHE3 to MHE5. WRP 03 to cut cable 1GDK02CC and initiate CWR 4822-86.
11-09-86	04820-86	0	CWR for damaged cable 1GDK02CC.
11-09-86	04821-86	0	CWR for damaged cable 1GDR01AB.
11-09-86	04820-86	0	CWR for attaching to existing supports without evaluation.
11-10-86	04245-86	11	Revise WRP 04245-86-03 to delete tension monitor from MHE5 to ESW and MHE1 to Control building. Revise pull force from MHE2 to MHE1.

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<u>Date</u>	<u>W.R./PMR #</u>	<u>Rev.</u>	<u>Description</u>
11-10-86	04830-86	0	CWR for maximum pull tension exceeded
11-10-86	04828-86	0	CWR for damage to cable jacket.
11-11-86	04245-86	12	Add WRP 04245-86-05 for class 4 cables.
11-11-86	04821-86	1	Revise to designate 1GDR01AB as an installed but deleted cable.
11-11-86	04853-86	0	CWR for separation group 1 cables not sealed after pulling.
11-11-86	04865-86	0	CWR for damage repair of cable 1RPK09DC.
11-12-86	FCR 1828-C06	0	For changing cable routing of 1GDR01AA.
11-12-86	01828	3	Revised per FCR 1828-C06.
11-12-86	04245-86	13	Add WRP 04245-86-06 to implement disposition for WR 04821-86 and 04822-86 CWR's. Revise WRP 04245-86-03 to delete terminations that will be terminated in package 06. Revise WRP 04245-86-04 to repair penetrations and supersede revision 10 package 04, should be WRP 04245-86-04A.
11-12-86	04872-86	0	For support of post modification testing by Operations.
11-12-86	04885-86	0	CWR for cable 1GDK02CA failing continuity test.
11-13-86	04245-86	14	Revise WRP04245-86-03 to add new E-15000 and E-17000. Revise WRP 04245-86-06 to reroute 1GDR01AA and add term. checklists.
11-13-86	04822-86	1	Revise to designate 1GDK02CC as an installed, but deleted cable.
11-13-86	04885-86	1	For implementation of WRP to repull cable 1GDK02CA to Control Room.
11-13-86	04901-86	0	CWR for determination and megger test of 4GDG01BCC in RP068.
11-13-86	04902-86	0	CWR for repair of damaged cable 1RPK09DC.

<u>Date</u>	<u>W.R./PMR #</u>	<u>Rev.</u>	<u>Description</u>
11-14-86	70213-86		For sample inspection of cable trays in manholes to assure cables are installed in correct service level trays.
11-14-86	04245-86	15	Revise WRP 04245-86-04 to add vapor and dust seal in MHE1 and inspection of supports in manholes.
11-15-86	04245-86	16	Revise WRP 04245-86-05 to reinstall tray covers in "B" train.
11-18-86	70213-86	1	Revise to add work instructions and procedure sign-off sheets.
11-19-86	FCR 1828-C07	0	Back out FCR for class 4, 5, 6 cable installation.
12-06-86	FCR 1828-C08	0	Revise E-15000 and E-17000.
12-06-86	04245-86	17	Revise WRP's to clean up paper work.
12-08-86	01828	4	Revised per FCR 1828-C08.
12-18-86	5514-86	0	CWR for minor damage to cable jacket while installing cable tray covers.
01-15-87	04336-86	3	Revise to add special lifting requirements.
01-26-87	04336-86	4	Revise to show chain attachment for rigging.
01-30-87	00480-87	0	CWR to address QPV 12/86-203 pulling cable in some sections without monitoring pull tension.
02-24-87	04336-86	5	Revise to replace anchors.
03-05-87	04336-86	6	Revise for broken lifting eye.
09-01-87	04245-86	18	Revise discrepancies for closure.
09-24-87	03621-87	0	CWR for verification of termination on cables 1GDR01AA, 1GDY01AA, 1GDK02CA, 1GDK02CA, 1GDK02EA, 1NGG10AA, and 1NGR01AD.
10-28-87	03621-87	1	Revise work instructions for verification and term. checklists.