

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-329/82-15(DPRP); 50-330/82-15(DPRP)

Docket Nos. 50-329; 50-330

Licenses No. CPPR-81; CPPK-82

Licensee: Consumers Power Company
1945 West Parnall Road
Jackson, MI 49201

Facility Name: Midland Nuclear Power Plant, Units 1 and 2

Inspection At: Midland Site, Midland, MI

Inspection Conducted: July 6-9, 1982

Inspectors: *K.R. Ridgway*
for C. E. Jones

8/6/82

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Approved By: *K.R. Ridgway*
D. C. Boyd, Chief
Reactor Project Section 1A

8/6/82

Inspection Summary

Inspection on July 6-9, 1982 (Reports No. 50-329/82-15(DPRP); 50-330/82-15(DPRP))

Areas Inspected: Routine, announced inspection of resolution of noncompliances, open inspection items, 10 CFR 50.55(e) reports, and followup relative to IE Bulletins, Circulars and Information Notices. This inspection involved a total of 77 inspector-hours (44 onsite) by two NRC inspectors including 10 inspector-hours onsite during off-shifts.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

Consumers Power Company (CPCo)

- *B. Marguglio, Director, Environmental and Quality Assurance
- *D. Turnbull, MPQAD
- *D. Horn, Section Head, Civil Quality Assurance
- *M. Schaeffer, Section Head, Electrical Quality Assurance
- *R. Whitaker, Supervisor, Mechanical Quality Assurance
 - T. Buczwinski, Technical Engineer - Operations
- *R. Frisch, Senior Technical Analyst - Operations
- *K. Marbaugh, Quality Assurance Nuclear Operations
- *D. Martin, MPQAD, HVAC
- *H. Leonard, MPQAD, HVAC, Quality Assurance
- *G. Parker, MPQAD, HVAC, Quality Assurance
- *E. Goold, MPQAD, HVAC, Quality Assurance
 - C. Banner, Assistant Shift Supervisor

Zack Company

- *J. O'Connell, Technical Services

U.S. Nuclear Regulatory Commission

- *R. J. Cook, Senior Resident Inspector

Other personnel of the licensee and contractor were contacted during the inspection.

*Denotes those present during the exit interview.

2. Licensee Action on Previous Inspection Findings

The inspector reviewed the documentation of the corrective actions taken to resolve the items of noncompliance identified in IE Investigation Reports No. 329/80-10 and No. 330/80-11, March 6 through July 31, 1980, concerning the Heating, Ventilation and Air Conditioning (HVAC) work and reported in the Licensee's response letter of January 30, 1981, Serial No. 11174. This investigation was made in response to 21 allegations dealing with material traceability, violation of procedures, falsification of records, and training of quality control inspectors. Twelve of the allegations were substantiated; the remaining nine were not substantiated. Nineteen items of noncompliance, 16 infractions and 3 deficiencies were identified showing noncompliance with 10 of the 18 criteria for a quality assurance program, as set forth in 10 CFR 50, Appendix B. The noncompliances were issued as a Civil Penalty against the licensee, letter EA-80-56, dated January 7, 1981, Victor Stello, Jr. to Consumers Power Company, Attention, Stephen H. Howell. Two of the items, No. 1 and No. 10, noted in the letter were later retracted as not being items of noncompliance, letter dated October 13, 1981, James G. Keppler to James W. Cook.

During this investigation it was determined that although the licensee had earlier initiated a Management Corrective Action Request pertaining to many of the nonconformances, corrective actions were not being taken by the subcontractor, Zack Company and a stop work order was issued by Bechtel Power Corporation (BPC) on March 20, 1980. A Confirmatory Action Letter was issued by Region III on March 21, 1980. All work on safety-related portions of the HVAC system was stopped for about five months. During this time the Zack Company's QA Program and implementing procedures were completely revised and approved by BPC and the licensee. Training and requalification of quality control personnel, production workers and welders was completed. The licensee developed and instituted a 100 percent overview inspection program for the HVAC work. An independent inspection firm, Conam, was contracted to perform QC inspections of Zack Company work. Reinspection of some safety related hangers, drop-in anchor bolts, and hanger welds was completed before the stop work order was lifted on August 14, 1980. The above corrective actions were inspected before the stop work order was lifted and these inspections were documented in Inspection Report No. 50-329/80-19, 21 and 22 and No. 50-330/80-19, 22 and 23.

This inspection was conducted to determine that corrective actions had been taken to resolve the many affected HVAC components. The inspection consisted of reviews of Nonconformance Reports (NCR), HVAC duct hanger identification, restock requests for replacement materials, training records, overinspection reports, etc. to determine that the items of noncompliance had been corrected. In most cases the affected component was scrapped and the travelers for that component voided and new travelers for the replacement component issued. The original voided traveler was retained as part of the records.

a. (Closed) Item of Noncompliance, Infraction (329/80-10-02; 330/80-11-02)¹: Activities affecting quality were not accomplished in accordance with documented instructions and procedures for fabrication. This noncompliance concerned the following five parts.

(1) The replacement duct for Duct No. V03-SH2-2-F9437 was partially completed without a traveler. The corrective action voided Traveler F9437 and the duct was scrapped as documented on Nonconformance Report (NCR) A-96. New material was ordered on Restock Request No. 1534. Training was held for supervisors, foreman and quality control inspectors on the following procedures:

Field Quality Control Procedures (FQCP) - 3 and 5
Field Procedures (FP) Revision 0 - 3 and 5

The installation was accepted by CPCo on CPCo Overinspection 01-M-36A-45.

(2) The installed hanger No. V19-SH1-7 did not resemble the sketch on the traveler (V19 Hanger 7-F938). The corrective action voided Traveler F938 and scrapped the hanger on NCR's C-8,

¹ Identification numbers are from the Region III Tracking System.

A174 and A250. New material was ordered on Restock Request No. 1541. Cognizant personnel were trained on Zack Fabrication and Installation Procedures FPQC-3, FPQC-5 and FPQC-7.

The installation was inspected and accepted by CPCo, Overinspection 01-M-36A-47.

- (3) The sketch on Traveler No. V26-SH1B 11F10807 showed that the angle iron was welded to a 4"x5.4"x45° channel. The angle iron, as installed, was welded to a channel approximately 7" deep and 2 1/4" wide.

The corrective action voided Traveler F10807 and scrapped the hanger as documented on NCR A252. New material was ordered on Restock Request No. 1535. Training was conducted and attendance recorded for cognizant personnel.

The hanger installation was accepted following the CPCo Overinspection 01-M-36A-37.

- (4) The height of hanger No. V1-3(7/C886) F916 was shown on the traveler as 43 3/4"; however, the installed dimension was approximately 37". In addition the angle brace was a 2"x2" angle instead of a 3 1/2"x3 1/2"x1/4" angle specified by the traveler.

The corrective action was as follows:

- (a) Traveler F916 was voided.
- (b) NCR C69 was issued to replace the 2"x2"x1/4" angle iron with 3 1/2"x3 1/2"x1/4" angle.
- (c) NCR A265 was issued to replace the 2"x2"x1/4" angle with 3 1/2"x3 1/2"x1/4" angle.
- (d) NCR A553 added the welder identification and the weld procedure to the traveler.
- (e) NCR C344 added material certification and accountability.
- (f) NCR C346 installed brace per Field Change Notice (FCN) 794; C850.
- (g) NCR A1016 Certification Nos. added, welds reworked and documented.
- (h) Training was conducted and documented for cognizant personnel.
- (i) Installation was accepted after CPCo Overinspection 01-M-36A-40.

- (5) A review of Zack drawing No. V26-SH1 indicated that the welder's identification number and the type of welding performed for each weld were not recorded. This drawing specified six hangers that received corrective action. They were located in the Upper Spreading Room and were identified as hangers No. 33, 34, 36, 37, 38 and 21A.

CPCo verified that records for hanger No. 33 listed the weld procedures and welders performing the welds and that this information was documented on NCR A1138. Welding procedures were added to Traveler F3487. Welder's identification (ID), were added and the welds reworked.

Corrective action for weld No. 34 included adding the weld procedure and welder's ID through NCR A1080.

Traveler F3490 for hanger No. 36 was voided by F19101 and the hanger scrapped by NCR A1096. New material was ordered on Restock Request No. 4430.

Traveler F3491 was voided by F19100 and hanger No. 37 was scrapped per NCR A1097. New material was ordered on Restock Request No. 4432.

Hanger No. 38 was scrapped per NCR A1098 after the Traveler F3492 had been voided. New material was ordered on Restock Request No. 4432.

Corrective action for hanger 21A was to add the weld procedure per NCR A1105 and hanger to duct welds and certifications per NCR A1552. Training was conducted for all cognizant personnel.

CPCo Overinspections were conducted as acceptance for the correction of the above items of noncompliance.

- b. (Closed) Item of Noncompliance, Deficiency (329/80-10-03; 330/80-11-03): Welder's ID was not recorded on 10 travelers. Corrective action by the licensee included scrapping six of the first 10 items listed, ordering replacement material and replacing the duct or hanger as described on the one existing and five revised travelers.

The remaining four items had been fabricated in Zack's Chicago plant, reworked on site to conform to the traveler, and the modifications documented to agree with procedural requirements. These items were accepted after the CPCo Overinspection, 01-M-36A-46 and 38.

- c. (Closed) Item of Noncompliance, Deficiency (329/80-10-04; 330/80-11-04): Use of an unapproved marking material, Eberhard Faber Marquette, to mark sheet metal stock and fabricated items installed in Seismic Class 1 ductwork without a contractor approved change. Zack Company used Eberhard Faber Marquette to

identify duct assemblies rather than the approved Carboline Company X-1000-90, Ameron Company 2032 or Nissen metal marker by Nissen Company.

A Supplier Deviation Disposition Request (S.D.D.R.) No. 1966, dated December 30, 1980, was prepared by Zack Company and approved by Bechtel to use the former but not in lieu of the latter (NCR D39 references S.D.D.R. 1966).

Bechtel approved the former material after adequate proof testing results indicated no detrimental qualities.

CPCo Overinspection 01-M-34A-30 indicated all black magic markers had been removed from the fab shop.

- d. (Closed) Item of Noncompliance, Infraction (329/80-10-05; 330-11-05) Documentary evidence did not exist that material and equipment conformed to procurement requirements prior to installation or use at the plant site. A review of the noncompliance by CPCo indicated Zack Company had purchased several different types of E-7018 and E-6011 weld rod. The rod purchased under Lot No. 37G was Lincoln LH-72 (E-7018) 3/32" electrode, material certification No. C580. Deliveries of 100 lbs. and 200 lbs. had been made at different times.

Material certification No. C12305, dated December 28, 1978, was for 500 lbs. of Hobart, Class 1/8" E-7018 welding rod, Serial No. 90384Z076 ordered on Traveler F3769.

When the NRC investigation was in progress the weld rod certifications were in Zack's Chicago office and the oven labels were incorrect. Since that time Material Certifications have been sent to the Midland site, oven labels have been corrected to identify the material stored in the warming oven, and Procedure FQCP1, Revision 0, "Receipt Inspection of Materials, Components and Accessories," was issued May 19, 1980.

The revised Procedure MB-FQCP-6, Revision 0, "Weld Rod Control," Paragraph 7.6 requires, "Each shelf, within the weld rod issue room, which contains weld filler metal, including the shelves inside the rod holding ovens, are marked as to the type, heat/lot and or control number of weld filler metal contained thereon. Holding oven shelf marking are applied to the exterior side of the door, in line with interior shelves."

Training was conducted on FQCP-1 on June 25 and 26, 1980 and on FQCP-6 on July 8 and 31, 1980. The CPCo Overinspection 01-M-34A-01 was completed.

- e. (Closed) Item of Noncompliance, Infraction (329/80-10-06; 330/80-11-06): Measures did not assure the identification of safety-related HVAC components throughout fabrication, erection and installation. This noncompliance concerned 10 separate items, two on ducts, six on hangers, and one each on turning vanes and

material storage. They are identified as item 4 in Civil Penalty Letter EA 8C-56 referenced above.

The inspector reviewed the documentation concerning each item and considered all items closed. The corrective action is summarized as follows:

- (1) For Ducts 46.1, 47.1 and Hangers 11 and 12, their travelers were voided, the parts were scrapped, and new parts were ordered on Restock Requests. CPCo Overinspections had verified these actions. Training was conducted on Procedures FQCP-1, FQPC-3, and FQCP-5.
- (2) For Hanger V26 SH1 Hgr 9 Traveler 940, the welding procedure and welder's ID were added by NCR C-31. Instructions for painting the welds were added by NCR A 140. Training was the same as indicated in (1) above. CPCo Overinspection was documented in Report 01-M-36A-41.
- (3) For Hanger No. V19 SH1 Hgr. 11, Traveler F942 was corrected by NCR's A-90, C-6 and C-28 to replace the long braces, remove the diagonal braces, and rework the weld. NCR 62 added the control number of the new material, weld procedures, and welder identifications. CPCo Overinspections 01-M-36A-41, 01-M-36A-38 and 01-M-36A-42 documented inspection results.
- (4) For Hanger V 19 SH1 Hgr 13 Traveler F944, NCR's A89, C7, C29 and A762 added the traveler number to components, removed diagonal braces and added one brace. A special inspection report indicated that pieces from Hanger 13 V19 SH1 had been scrapped. CPCo Overinspections documented in Reports 01-M-36A-41, 01-M-36A-38 and 01-M-36A-42.
- (5) For Hanger V19 SH1 7 Hgr 7 Traveler F938, Traveler F938 was voided by F13134 and scrapped per NCR C8. NCR A174 scrapped the replacement hanger 7A. NCR A250 authorized scrapping hanger 7A which was replaced by material from Restock Request No. 1541 to Traveler F12815. The hanger was accepted by CPCo Overinspection Report 01-M-36A-41.
- (6) For sections of angle iron without ID number stored in the laydown area, CPCo performed overinspection of the storage area. Subject materials were traced to Traveler F10470, properly marked, and banded together. Surveys of the laydown area are conducted weekly and problems are reported to the Project Manager for correction.

Training was conducted with cognizant personnel to advise them of the specific problem and methods to prevent recurrence. CPCo Overinspection Report 01-M-34-29 indicated the item had been corrected.

- (7) For Hanger No. V1 Hgr 3 Traveler F916, The traveler number or control number were not identified on all sub-components of the hanger. NCR C9 was written to replace the 2"x2"x1/4" angle with 3 1/2"x3 1/2"x1/4" angle; NCR A265 authorized similar replacement. NCR A553 added the welder identification and weld procedure to the traveler. NCR C344 added the material control number; NCR C346 added the longitudinal brace; NCR A1015 added the material control numbers and welds.

Later another problem, Hilti Drop-In Anchor Bolts, developed (NCR HD19). This problem was closed on the basis of CFCo's NCR M-01-9-1-090. As a result of this problem on July 28, 1981, the hanger was removed and scrapped on September 3, 1981. It was replaced by hanger 3A on V1 Traveler F17152 (unique identification for replacement hangers).

- (8) For turning vanes without proper ID, the ducts using these turning vanes were scrapped. These were as follows:
- (a) Duct No. V03-SH2-2-F9473
 - (b) Duct No. V10-42B-F10171
 - (c) Duct No. V10-42B-1-F10172
 - (d) Duct No. V3-SH2-2B-F12865²

The Traveler Nos. were F9437, F10171, F10172 and F12685 respectively and they were voided by NCR Nos. A-96, A-97, C-4 and a special inspection that witnessed and documented scrapping. Restocking Request Nos. 1534, 1535, 1535 and 1534 respectively were issued for replacement material.

- f. (Closed) Item of Noncompliance, Infraction (329/80-10-07; 330/80-11-07): Measures did not assure that welding was accomplished using qualified procedures. Travelers for the five ducts listed indicated the use of a shielded metal arc welding process; however, a gas-metal-arc welding process was used to fabricate the ducts.

As a corrective measure the travelers for the five ducts were voided and the ducts scrapped as verified by NCR's. A special inspection was made that documented witnessing of the scrapping. Restocking Requests No. 1535 and No. 1534 were issued for replacement material.

The second part of this item of noncompliance states that welding Procedure No. QCP-1-P5CS used on four ducts listed required the use of carbon dioxide, CO₂, as the shield gas. Carbon dioxide gas was not available at the site; therefore, this procedure could not be followed.

² Number in NRC Civil Penalty Letter was in error for replacement material.

A Supplier Deviation Disposition Request No. 1779 was initiated by Zack Company to Bechtel Power Corporation (BPC) to evaluate the adequacy of the welds prior to the use of CO₂.

BPC's evaluation, based on Test AWS D.1.3, indicated weld specimens simulated to the production welds as noted in CPCo NCR No. M-01-0-030 and Quality Surveillance Report No. 102, dated June 6, 1980, were adequate and acceptable. These welds were not scrapped, travelers are active and installation is in progress.

- g. (Closed) Item of Noncompliance, Infraction (329/80-10-08; 330/80-11-08): Procedures to control weld filler metal were not followed.
- (1) E-7018 and E-6011 weld electrodes were found together in an unplugged, uncalibrated, and unserialized weld electrode warming caddy located in the fabrication shop.

The subject weld electrodes were scrapped. The portable weld electrode warming caddy was serialized (2026) and calibrated on March 13, 1980. The subject electrodes had only been used for the fabrication of expanded metal lockers in which weld filler metal is stored. This work was in progress during the inspection (week of March 10, 1980).

The licensee stated that cognizant personnel have received training relative to acceptable means of handling and controlling weld filler metal. CPCo completed Overinspection 01-W-24-16.

- (2) A review of the temperature records for the portable rod warmer caddies disclosed temperature records did not exist for two caddies. Temperature records for two other caddies indicated temperature checks were last made prior to November 1979.

The licensee reviewed the temperature records of rod warmer caddies owned by Zack at the Midland site. After the review a system was established to calibrate all caddies and to maintain calibration records. Training was conducted covering Procedures MB-FQCP-6 Weld Rod Control and MB-FQCP-10 Calibration. CPCo performed two Overinspections, 01-W-2A-17 and 01-W-2A-18.

- h. (Closed) Item of Noncompliance, Infraction (329/80-10-09; 330/80-11-09): Welding was not performed in accordance with qualified procedures or no qualified procedures covered ASTM A575 material.

- (1) For Duct V2-SH1-1-2A-F8403, the traveler was voided and the duct scrapped per NCR A253. Training was held on WPS-1, Weld Procedure GMAW; WPS-2, Weld Procedure SMAW; and WPS-7, Certification and Qualification of Welders. CPCo performed Overinspection 01-M-36A-60.
- (2) Sheet metal used in the duct fabrication was ASTM A 527 and the angle iron was ASTM A 36. Welding Procedure No. MB-QCP-1 (P-5CS) did not cover these materials. Bechtel revised Specification 7220-M-151A (Q) Revision II and Zack Company revised their welding procedure to include welding of the above metals. The inspector reviewed this change and checked it for conformance with the American Welding Society, Structural Welding Code, AWS D1.1-75, Revision 2 (1977) or AWS D1.1 (1979); Specification for Welding Sheet Steel in Structures, AWS D1.3-1978; Welding Procedures and Performance Qualifications, AWS B3.0-1977, Table 2.1, Paragraph 2.1 (P1A only); and Specifications for Welding of Sheet Metal, AWS D9.1-80.
- (3) The fabrication record for duct No. V26 SH2B-46.1 (P1515) indicated angle iron with control number 727-2 was ASTM A575 material. Since Zack Company did not have a procedure for welding this material, Traveler P1515 was voided and the duct scrapped as documented by NCR C5. CPCo Overinspections 01-M-36A-60 and 01-W-2B-36 documented acceptance.
- (4) Air Monitor Corporation, under a certificate of conformance dated November 5, 1979, welded air monitors without prior buyer review and acceptance of welding procedures.

The "Procedure Qualification Record" for Air Monitor Corporation was approved December 29, 1979. Welding Procedure Specifications AM-11B, AM-11E, AM-11H, and AM-11J were approved by Bechtel on the following dates:

Revision 1 on April 22, 1980
 Revision 2 on July 8, 1980
 Revision 3 on October 4, 1980

Approval and acceptance of the air monitors was documented on Overinspection Report 01-M-36A-36.

- i. (Closed) Item of Noncompliance, Infraction (329/80-10-10; 330/80-11-10): Welding activity was not identified by a welder identification number. This item concerned some welds on duct hangers designated V26 SH1, Nos. 33, 34, 36, 37, 38 and 21A. The corrective action for each hanger was as follows:
 - (1) Hanger 21A, Traveler 12365
 Weld Procedure added per NCR A1105
 Hanger to duct weld added per NCR 1552

- (2) Hanger 33, Traveler F3487
NCR A1138, Weld Procedure and Welds added
NCR A1607, added certifications
- (3) Hanger 34, Traveler F3488
NCR A1080, added Weld Procedure
- (4) Hanger 36, Traveler F3490 (later voided by F19101)
NCR 72A, welds reworked
NCR A1096, scrapped
- (5) Hanger 37, Traveler F3491 (voided by F19100)
NCR A1097 (Scrapped)
- (6) Hanger 38, Traveler F3492 (voided by F19099)
NCR A1098 (scrapped)

CPCo performed Overinspection 01-W-2B-37 to document acceptance.

- j. (Closed) Item of Noncompliance, Infraction (329/80-10-11;
330/80-11-11): Two welders were assigned the same weld stamp,
No. CU7. An investigation by Zack Company indicated this was
an isolated instance identified by Zack Company during an NRC
inspection.

One of the two welder's ID was changed to CU7B. Each of his
welds has been restamped with the new identification and
associated travelers were changed accordingly. This was
completed December 3, 1980.

Training was conducted on Procedure WPS-7, Qualification and
Certification of Welders.

CPCo performed Overinspection 01-W-2A-22.

- k. (Closed) Item of Noncompliance, Infraction (329/80-10-12;
330/80-11-12): Instructions and procedures for final inspection
of field fabricated items at the Midland site were not documented.

Procedures were revised to provide receipt inspection for
incoming material to be performed by CPCo. CPCo also performs
the fabrication inspection for items fabricated at the site
fabrication shop. Installed equipment receives a two part
inspection by CPCo. The first part concerns the installation
to applicable specifications, codes or procedures. The second
inspection is to determine that the installation meets quality
acceptance.

- l. (Closed) Item of Noncompliance, Deficiency (329/80-10-13;
330/80-11-13): Flange to duct welds have undercuts exceeding
1/32 inch. The undercut was reported to be on flange to duct
welds on duct No. V26SH2B-47.1-P(1516).

Traveler P1516 was voided and NCR A97 documents scrapping the duct. Replacement material was ordered on Restocking Request No. 1535. The replacement duct V22SH2A, Duct 47.1A-P3635, was considered complete by CPCo Overinspection 01-M-36A-39. A training session for QC inspectors was held to clarify what would be identified as undercut. CPCo Overinspection 01-M-36A-39 documented the resolution of the problem.

- m. (Closed) Item of Noncompliance, Infraction (329/80-10-14; 330/80-11-14): Measures which would prevent the inadvertent use or installation of nonconforming material had not been established. Duct No. VO3-SH2-2-F9437 was fabricated to Seismic Class 2 requirements instead of the prescribed Seismic Class 1 requirements.

The traveler for the duct was voided and the duct scrapped as documented on NCR A96. Replacement material was ordered on Restock Request No. 1534.

Training was held on Procedure FQCP-8, Control of Nonconformances. CPCo Overinspection 01-M-34A-39 documented the completion of this item.

A second example of this noncompliance concerned nonconforming weld filler material (no material certification) used in welding a piece of duct identified on Traveler F-9396. The material was not identified as being nonconforming.

The corrective action consisted of Zack Company issuing a revised procedure to require Material Certifications for filler metal to be on site. The certifications for the weld filler material used on this duct (Traveler F9396) had been in Chicago and were sent to the site. The duct was not considered to be nonconforming; therefore, nothing was done with it. CPCo Overinspection 01-W-2B-38 documents closure of this item.

- n. (Closed) Item of Noncompliance, Infraction (329/80-10-15; 330/80-11-15): Nonconformance tags had been applied to Ruskin NIBD23 fire dampers without explicitly identifying the item by name, piece mark, and item number. On April 18 and 23, 1980, white nonconformance tags were observed being used on Ruskin NIB23 fire dampers stored at the Zack fabrication shop and on hangers installed in the Service Water Building.

An overinspection by CPCo documented the fact that all white NCR tags have been replaced with yellow ones. Also Zack Company NCR's D34-1 through D34-142 list the 142 Ruskin Fire Dampers that were received and this information is documented on the NCR. Dampers were identified as required prior to installation. Training was conducted on Procedure FQCP-8, Control of Nonconformances. A list of the Ruskin Fire Dampers is attached to the NCR D34 and documented in CPCo Overinspection Report 01-M-36A-61.

- o. (Closed) Item of Noncompliance, Infraction (329/80-10-16; 330/80-11-16): None of the seven nonconformance reports issued by CPCo during the period May 23 through October 2, 1979, had been corrected by March 19, 1980. The seven NCRs referenced above have been closed. The complete revision of the Zack QA Program and other corrective actions taken are described in the introductory paragraph to this section.
- p. (Closed) Item of Noncompliance, Infraction (329/80-10-17; 330/80-11-17): Measures were not adequate to assure that conditions adverse to quality were promptly identified. Review of the Zack Co. noncompliance listings disclosed that 250 pounds (five boxes) of 3/32" diameter, Hobart E6011 weld rod, serial number 90155A, received at the Midland site on May 17 and June 6, 1979, lacked a Material Certification. The boxes were not placed on hold until March 11, 1980. The remainder of this weld rod, 450 pounds in nine boxes, was not placed on hold and its use is unknown.

The licensee reported that certification had been received from Chicago and placed on file at the site.

Certs for nine(9) boxes of E6011 electrode received on, March 17, 1980, were satisfactory. This completes certification for 14 boxes of E-6011 3/8" electrode. CPCo's Overinspection documented the results on report 01-M-34A-01.

The second example of this noncompliance concerns the receipt, at the Midland Job Site on December 15, 1979, of 250 pounds (five boxes) of 3/32" low hydrogen E7018 welding rod which were not marked as nonconforming for being improperly boxed.

The licensee stated that NCR B127 and NCR B128 were issued with instructions to ship the improperly boxed E7018 electrode to the supplier.

The purchase order returned 34 cardboard boxes, 14 boxes of 3/32" E7018 welding electrode-AIRCO and 20 boxes 1/8" E7018 welding electrodes-AIRCO. Other documents were presented to the inspector indicating receipt of the shipment by the supplier.

- q. (Closed) Item of Noncompliance, Infraction (329/80-10-18; 330/80-11-18): Sufficient records to furnish evidence of activities affecting quality were not maintained as evidenced by the fact that equipment inspection records did not exist for the safety-related fire dampers installed during the period November 1979 - January 1980. A review of this item by the licensee indicated that quality inspection records for the fire dampers are filed with the associated duct documentation rather than with equipment records as originally believed. The dampers are not listed as equipment in Bechtel Specification M151A.

The licensee also stated that Zack Company inspected all Q listed fire dampers for location and serial number. Deficiencies are documented on the applicable inspection record. The inspection record on all installed fire dampers were checked by Zack Company. The inventory of all fire dampers was completed.

The method of verification consisted of a visual verification of inspection records for serial number, location, and discrepancy of installed fire dampers.

- r. (Open) Unresolved Item (329/80-34-01; 329/80-35-01): HVAC system fire dampers. The inspector reviewed documentation concerning the seismic calculations for the fire dampers. Specifications required a 14 gage mullion on the dampers; however, Ruskin furnished the dampers with a 16 gage mullion.

Bechtel, the licensee's engineer, calculated the seismic requirements and documented the fact that fire dampers with the 16 gage mullions met seismic requirements. The engineers stated that their calculations indicated the item was not reportable under 10 CFR 50.55(e) or 10 CFR Part 21.

The item was left open to permit the NRC Resident Inspector an opportunity to determine the reason this item had been reported under 10 CFR Part 21.

- s. (Closed) Open Item (50-329/80-15-03; 50-330/80-16-03): A plan for checking the acceptability of bolts, nuts, and washers upon receipt was not in place. Technical Specification, 7220-C-121(Q) dated April 9, 1982, Receipt Inspection Hardness Testing of Bolting and Component Support Material, had been developed, approved for use, and implemented.

3. 10 CFR 21 and 50.55e Reportable Items

- a. (Open) 10 CFR Part 21, Ruskin Fire Damper (329/80-01-PP; 330/80-01-PP): Applies to negator type closure springs slipping from a spring holding bracket which is used in vertical NIB023 fire dampers manufactured after June 1979.

The inspector reviewed documentation indicating all fire dampers had been located and identified. Time did not permit the inspector to determine if the damper modification had been completed. This item and the one documented above will be reviewed by the NRC Resident Inspector.

- b. (Open) 10 CFR 50.55(e) Item (329/79-08-EE; 330/79-08-EE): Hilti Drop-In Anchors did not meet the tension testing requirements. The inspector reviewed the documentation for Hilti Drop-In Anchors concerning the HVAC system installation. Initially on November 30, 1979, there were approximately 900 anchors in the system to be replaced. The inspector was informed that 100% replacement was required due to the improper method of testing the anchors initially. At present, 30 anchor bolts remain to be replaced. Twenty eight

of these are in the control room and two are in a hold area. These 30 anchors are scheduled to be replaced when the design changes for those areas are complete. The remaining Hilti Drop-In anchors are controlled by CPCo NCR M-01-9-1-090, Revision June 30, 1982. This item remains open pending a review of anchor replacement in the remainder of the plant.

- c. (Closed) 10 CFR 50.55(e) Reportable Item (329/81-06-EE; 330/81-06-EE): The licensee reported a potentially reportable situation concerning the temperature of structural concrete during operation. The licensee determined that the plant could withstand one or more cycles of loss of the cavity cooling system without causing any detrimental effects on the safety of the plant providing one containment cooling fan was operating. A procedure change requiring one cooling fan to be running during operations had been added to the Site Commitment List (SCL).
- d. (Closed) 10 CFR 50.55(e) Reportable Item (329/81-07-EE; 330/81-07-EE): Westinghouse Electro Mechanical Division gate valves failed to close against certain differential pressures. This problem was reported in IE Bulletin No. 81-02 and Supplement 1. Evaluations later indicated that this was not a reportable item and it was withdrawn by the licensee. Evaluations carried out in response to IE Bulletin No. 81-02 is discussed in Paragraph 4.c.
- e. (Open) 10 CFR 50.55(e) Reportable Item (329/81-08-EE; 330/81-08-EE): Excessive AC motor starter control voltage drop caused by excessive length circuits may have prevented motor starters for Class 1E equipment to pick up under anticipated plant conditions. An evaluation reported in Bechtel Management Corrective Action Report 53 established a list of 40 circuits which could potentially experience excessive voltage drop. A Safety Analysis Change Notice, DCAR-477 was issued February 2, 1982. The licensee has not reviewed the corrective actions taken on the 40 circuits involved.

4. IE Bulletin Followup

For the IE Bulletins listed below the inspector verified that the written response was within the time period stated in the bulletin, that the written response included the information required to be reported, that the written response included adequate corrective action commitments based on information presentation in the bulletin and the licensee's response, that licensee management forwarded copies of the written response to the appropriate onsite management representatives, that information discussed in the licensee's written response was accurate, and that corrective action taken by the licensee was as described in the written response or if not completed, had been added to the Site Commitment List.

- a. (Closed) Bulletin No. 77-04, transmitted to CPCo on November 4, 1977 Re: Controlling pH of Containment Sump Water Following a LOCA. This problem was addressed by revising Paragraphs 6.2.2.1.3 and 6.5.2 of the FSAR.
- b. (Closed) Bulletin No. 80-09, transmitted to CPCo April 17, 1980 Re: Hydramoter Activator Deficiencies. Twenty-eight units from three vendors were identified at Midland. Two were returned to the supplier for testing and spring replacement; the rest were accepted by reducing design requirements. Revisions to the pre-operational testing program to include functional testing of these units are carried on the Site Commitment List.
- c. (Closed) Bulletin No. 81-02 and Supplement 1, transmitted to CPCo on April 9 and August 18, 1981 Re: Failure of Gate Type Valves to Close Against Differential Pressure. The licensee reported that 30 Westinghouse-Electro-Mechanical Division motor-operated gate valves had been purchased. Twenty were used in safety-related systems and 10 were spares. A survey of the 20 valves indicated 12 were required to close against a differential pressure. An evaluation of the 12 installed valves confirmed that no problems existed with the closure. Valve data sheets on all 30 valves were revised to reflect reevaluated differential pressure and/or the maximum permissible differential pressures to be placed on the valves.
- d. (Closed) Bulletin No. 79-07, Transmitted to CPCo on April 14, 1979 Re: Seismic Stress Analysis of Safety-Related Piping. Reviews of submitted seismic computer codes were assigned to IE HQ and NRR for review and, if required, inclusion in FSAR questions.

5. IE Circular Followup

For the IE Circulars listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and that if the circular were applicable to the facility, appropriate corrective actions were taken or were scheduled to be taken.

- | | | |
|----------|-------|---|
| (Closed) | 81-03 | Inoperable Seismic Monitoring Instrumentation |
| (Closed) | 81-01 | Design Problems Involving Indicating Pushbutton Switches Manufactured by Honeywell, Inc. |
| (Closed) | 80-23 | Potential Defects in Beloit Power Systems Emergency Generators |
| (Closed) | 80-15 | Loss of Reactor Coolant Pump Cooling and Natural Circulation Cooldown |
| (Closed) | 80-14 | Radioactive Contamination of Plant Demineralized Water System and Resultant Internal Contamination of Personnel |

(Closed) 80-13 Grid Strap Damage in Westinghouse Fuel Assemblies

(Closed) 80-12 Valve-Shaft-To-Actuator Key May Fall Out of Place When Mounted Below Horizontal Axis

(Closed) 80-11 Emergency Diesel Generator Lube Oil Cooler Failures

(Closed) 80-09 Problems With Plant Internal Communications Systems

(Closed) 80-07 Problems with HPCI Turbine Oil System

(Closed) 80-04 Securing of Threaded Locking Devices on Safety-Related Equipment

(Closed) 80-02 Nuclear Power Plant Staff Work Hours

(Closed) 80-01 Service Advice for GE Induction Disc Relays

(Closed) 79-25 Shock Arrestor Strut Assembly Interference

(Closed) 79-22 Stroke Times for Power Operated Relief Valves

(Closed) 79-21 Prevention of Unplanned Releases of Radioactivity

(Closed) 79-20 Failure of GTE Sylvania Relay Type PM Bulletin No. 7305, Catalog 5U12-11-AC with a 12V AC Coil

(Closed) 79-19 Loose Locking Devices on Ingersoll-Rand Pumps

(Closed) 79-18 Proper Installation of Target Rock Safety-Relief

(Closed) 79-17 Contact Problem in SB-12 Switches on General Electric Company Metalclad Circuit Breakers

(Closed) 79-13 Replacement of Diesel Fire Pump Starting Contractors

(Closed) 79-04 Loose Locking Nut on Limitorque Valve Operators

(Closed) 79-10 Pipefittings Manufactured from Unacceptable Material

(Closed) 78-19 Manual Override (By Pass) of Safety Actuation Signals

(Closed) 78-08 Environmental Qualification of Safety Related Equipment at Nuclear Power Plants

(Closed) 78-07 Design of Components of a Bergen-Paterson Series 1000 Hydraulic Test Stand

(Closed) 78-04 Insulation Error That Could Prevent Closing of Fire Doors

(Closed) 78-03 Packaging Greater Than Type A Quantities of Low Specific Activity Radioactive Material for Transport

- (Closed) 77-16 Emergency Diesel Generator Electrical Trip Lock-out Features.
- (Closed) 77-15 Degradation of Fuel Oil Flow to the Emergency Diesel Generator.
- (Closed) 77-14 Separation of Contaminated Water Systems from Uncontaminated Plant Systems
- (Closed) 77-13 Reactor Safety Signals Negated During Testing
- (Closed) 76-03 Radiation Exposures in Reactor Cavities

6. IE Information Notices

For the IE Information Notices listed below the inspector verified that the Notice had been received and appropriate reviews made.

- 81-03 Check list for Licensee's Making Notifications of Significant Events
- 80-44 Actuation of ECCS in the Recirculation Mode While in Hot Shutdown
- 80-43 Failures of the Continuous Water Level Monitor for The Scram Discharge Volume at Dresden Unit No. 2
- 80-42 Effect of Radiation on Hydraulic Snubber Fluid
- 80-41 Failure of Swing Check Valve in the Decay Heat Removal System at Davis-Besse Unit No. 1
- 80-40 Excessive Nitrogen Supply Pressure Actuates Safety-Relief Valve Operation to Cause Reactor Depressurization
- 80-39 Malfunctions of Solenoid Valves Manufactured By Valcor Engineering Corporation
- 80-38 Cracking in Charging Pump Casing Cladding
- 80-36 Failure of Steam Generator Support Bolting
- 80-34 Boron Dilution of Reactor Coolant During Steam Generator Decontamination
- 80-32 Clarification of Certain Requirements for Exclusive - Use Shipments of Radioactive Materials
- 80-31 Maloperation of Gould-Brown Boveri Type 480 Volt Type K-600S and K-DON 600S Circuit Breakers
- 80-21 Anchorage and Support of Safety-Related Electrical Equipment

- 80-19 NIOSH Recall of Recirculating-Mode (Closed-Circuit) Self-Contained Breathing Apparatus (Rebreathers)
- 80-16 Shaft Seal Packing Causes Binding in Main Steam Swing Check and Isolation Valves
- 80-15 Axial (Longitudinal) Oriented Cracking in Piping
- 80-14 Safety Suggestions from Employees
- 80-12 Instrument Failure Causes Opening of PORV and Block Valve
- 80-11 General Problems with ASCO Valves in Nuclear application Including Fire Protection Systems
- 80-10 Partial Loss of Non-Nuclear Instrument System Power Supply During Operation
- 80-08 The States Company Sliding Link Electrical Terminal Block
- 80-07 Pump Shaft Fatigue Cracking
- 80-05 Chloride Contamination of Safety Related Piping
- 80-03 Main Turbine Electro-Hydraulic Control System
- 80-02 8X8R Water Rod Lower End Plug Wear
- 80-01 Fuel Handling Events
- 79-36 Computer Code Defect in Stress Analysis of Piping Elbow
- 79-34 Inadequate Design of Safety-Related Heat Exchangers
- 79-31 Use of Incorrect Amplified Response Spectra (ARS)
- 79-27 Steam Generator Tube Ruptures At Two PWR Facilities
- 79-26 Breach of Containment Integrity
- 79-25 Reactor Trips At Turkey Point Units 3 and 4
- 79-24 Overpressurization of Containment of a PWR Plant After a Main Steam Line Break
- 79-23 Emergency Diesel Generator Lube Oil Coolers
- 79-10 Nonconforming Pipe Support Struts
- 79-04 Degradation of Engineered Safety Features
- 79-03 Limitorque Valve Geared Limit Switch Lubricant

79-02 Attempted Extortion - Low Enriched Uranium

79-01 Bergen-Paterson Hydraulic Shock and Sway Arrestor

7. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on July 9, 1982, and summarized the scope and findings of the inspection activities.