

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-267/85-07

License: DPR-34

Docket: 50-267

Licensee: Public Service Company of Colorado (PSC)
P. O. Box 840
Denver, Colorado 80201

Facility Name: Fort St. Vrain Nuclear Generating Station

Inspection At: Fort St. Vrain (FSV) Site, Platteville, Colorado

Inspection Conducted: March 1-31 and April 1-30, 1985

Inspectors: R. E. Ireland 8/20/85
for G. L. Plumlee III Date
Senior Resident Inspector (SRI)

Other Accompanying Personnel: Harold Miller, EG&G Consultant

Approved: R. E. Ireland 8/20/85
R. E. Ireland, Chief Date
Special Projects and Engineering Section

Inspection Summary

Inspection Conducted March 1-31 and April 1-30, 1985 (Report 50-267/85-07)

Areas Inspected: Routine/reactive, unannounced inspection of the control rod drive event, licensee action on previous inspection findings, licensee event report, maintenance, operational safety verification, and periodic and special reports. The inspection involved 154 inspector-hours onsite by one NRC inspector and 263 inspector-hours by one NRC consultant.

Results: Within the six areas inspected, seven violations (inadequate maintenance QC, paragraph 2, inadequate maintenance procedures, paragraph 2, and failure to follow procedures, paragraphs 5 and 6), and three open items (design document update, paragraph 2, epoxy qualification, paragraph 2, and procedure corrections, paragraph 6) were identified. Four of the above violations (inadequate maintenance QC) were issued prior to this report in an NRC letter E. H. Johnson to O. R. Lee, dated April 26, 1985.

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DETAILS

1. Persons Contacted

Principal Licensee Employees

- D. Alps, Security Supervisor
- L. Bishard, Maintenance Supervisor
- *T. Borst, Support Services Manager
- *B. Burchfield, Superintendent Nuclear Betterment Engineering
- *W. Craine, Superintendent of Maintenance
- *R. Craun, Supervisor Nuclear Site Engineering
- M. Deniston, Shift Supervisor
- J. Eggebrotten, Technical Services Engineering Supervisor
- *M. Ferris, QA Operations Manager
- *W. Franek, Superintendent Operations
- *C. Fuller, Station Manager
- *J. Gahm, Manager Nuclear Production
- *J. Gramling, Supervisor of Nuclear Licensing - Operations
- *M. Holmes, Nuclear Licensing Manager
- J. Jackson, QA/QC Supervisor
- J. McCauley, Results Engineering Supervisor
- *P. Moore, QA Technical Support Supervisor
- *M. Niehoff, Site Engineering Manager
- *F. Novachek, Technical/Administrative Services Manager
- H. O'Hagen, Shift Supervisor
- *T. Orlin, Superintendent QA Services
- *J. Owen, Maintenance Supervisor
- J. Petera, Electrical Supervisor
- *T. Prenger, QA Engineering Coordinator
- *G. Redmond, MQC Supervisor
- G. Reigel, Shift Supervisor
- T. Schleiger, Health Physics Supervisor
- *L. Singleton, Manager QA
- J. Van Dyke, Shift Supervisor Administration
- *D. Warembourg, Manager Nuclear Engineering
- *S. Willford, Training Supervisor

The SRI also contacted other plant personnel including administrative, electrical, maintenance, reactor operators, and technicians.

*Denotes those attending the exit interview.

2. Control Rod Drive (CRD) Event

During this report period, the licensee has continued their CRD refurbishment program as outlined in the licensee's February 3, 1985,

letter (P-85046). This program has been monitored on a periodic basis by both the SRI and an NRC consultant. Several problems with the methods of inspection used by the PSC quality control (QC) department were identified. Examples are as follows:

On March 18, 1985, the NRC inspectors determined that a QC hold point in Step 14.15 of the fuel handling procedure work packet (FHPWP-100-4) for the refurbishment of Control-Rod-Drive-and-Orifice Assembly (CRDOA) 4 was not signed off by QC and work was allowed to continue. Subsequent discussions with the licensee indicated that bypassing QC hold points was orally authorized during CRDOA refurbishment. The NRC inspectors noted previous examples where hold points for numbering electrical leads had been bypassed resulting in disconnecting leads without numbering and subsequent incorrect reconnection. The licensee assured the NRC inspectors that the electrical lead problem was an isolated example, and that their method of using hold points was satisfactory. However, the NRC inspectors determined that this method of inspection was not documented in the licensee's QA program and was contrary to the definition of hold points as defined in Administrative Procedure G-1, "Glossary of Abbreviations and Definitions," Issue 13, dated November 5, 1984, and Maintenance Quality Control Inspection Manual (MQCIM), Issue 1, dated January 21, 1985. The licensee was informed that this failure to comply with their QA program requirements is considered a violation (8507-01).

On April 10, 1985, a problem was encountered during testing of CRDOA 18. The CRDOA was disassembled and the simplex second stage bearing was found installed backwards. The inner and outer races had separated allowing the ball bearings to fall out, which resulted in the second stage gear moving towards and rubbing against the drum support. On April 15, 1985, the NRC inspectors determined that Step 35.13 of Task 35, "Assemble Gear Box Housing and Gear Train," had been signed off by both the workman and QC on March 28, 1985, verifying that the second-stage simplex bearing (-200-32) with the relieved side of outer race facing the second stage gear, had been properly installed. Contrary to this procedural requirement, the second-stage simplex bearing was installed backwards. The licensee was informed that this is considered a procedural violation (8507-02).

During a review of nonconformance reports (NCR) addressing various CRDOA repairs, the NRC inspectors were unable to determine what QC had verified as being acceptable since no acceptance criteria, inspection requirements, or as-found/as-left data had been identified. One example was NCR 85-130 (identified in NRC Inspection Report 85-03) that addressed drilling bolt heads for lockwire holes. A review of the sketch that had been subsequently added to the NCR,

for which QC verified conformance, indicated that the hole was in the wrong location and called for only one hole when four were required. Therefore, a determination could not be made as to what QC's signature on this NCR indicated. On March 5, 1985, the NRC inspectors determined that Administrative Procedure Q-15, "Control of Nonconforming Items," Issue 3, dated June 23, 1982, requires that as part of the NCR disposition, the superintendent of QA services (SQAS) was to determine and denote the appropriate inspections and organization responsible for performing the inspections. The licensee was informed that the failure to comply with this QA program requirement is considered a violation (8507-03). The licensee's immediate corrective action was to attach a QC general inspection form to each subsequently dispositioned NCR. However, the NRC inspectors determined this to be inadequate since: (1) QC was not performing independent measurements; (2) no as-found/as-left data was required to be entered on the form; and (3) the form did not require documentation of inspection requirements/specifications.

On April 8, 1985, the NRC inspectors determined that CRDOA-shaft-potentiometer drives drawn from the warehouse and taken to the refueling deck for subsequent use, were found to have dimensional discrepancies. The shafts were sent back to the machine shop under Station Service Request SSR 85504838 to be reinspected and repaired or scrapped. Of the eight inspected, two were scrapped and six repaired. The NRC inspectors determined that six of the discrepant shafts (Serial Nos. 13, 14, 15, 16, 17, and 19) were fabricated by SSR 84500853, dated November 20, 1984, and inspected/approved by QC on January 18, 1985, as conforming to Drawing SLR D1201-240, Revision B. These shafts were subsequently placed in the warehouse as conforming quality parts. The NRC inspectors also determined that the licensee had identified the discrepant shafts to be nonconforming material, but failed to initiate an NCR as required by Administrative Procedure Q-15. Followup inspections led the NRC inspector to conclude the following:

QC does not make independent physical measurements. When verifying tolerances within a thousandth of an inch, such as during this refurbishment program, an independent measurement program becomes a necessity to verify conformance.

QC stated that NCRs are not commonly initiated on material issued from the warehouse and subsequently found discrepant prior to use in a quality-related component. This is contrary to Procedure Q-15 requirements.

The licensee was informed that the failure to follow QA program requirements is considered a violation (8507-04).

The NRC inspectors subsequently determined that SSR 84500853 also fabricated 144 slinger washers (-234-1, -2, and -4) of which 66 were identified in NCR 85-554, dated April 26, 1985, to be out-of-tolerance and dished. The slingers were returned to the PSC machine shop for remachining and straightening.

The NRC inspectors discussed the above examples with PSC QA management/supervisors and indicated the most probable cause for the above examples of nonconforming material problems were:

- . Form MQC-1-1, "MQC General Inspection Procedure," is inadequate by itself to inspect a part or assembly, as it does not give the requirements for inspection or acceptance criteria.
- . QC does not make independent physical measurements when verifying tolerances.

At a meeting on April 10, 1985, with PSC QA management/supervision, the NRC inspectors discussed the requirements set forth by ANSI N45.2, 1971, and 10 CFR 50, Appendix B, concerning quality inspection. The licensee agreed to revamp the inspection department to do independent-hands-on inspection, to purchase the necessary measuring tools and equipment, and to start a training program as necessary to better qualify the inspectors involved.

To date, new measuring tools were sent out to be calibrated, and many more have been ordered. Several training programs are being evaluated and justification for two new buildings is being written (one building for QC and one for receiving inspection). A new form is being drafted to be attached to or replace MQC-1-1 general inspection procedure. This form will list the inspection requirements and acceptance criteria for the parts or assemblies being inspected.

As an immediate corrective action, a memo QAC-85-0353, dated April 29, 1985, was issued by the PSC QA department to all QC inspectors which states,

"SUBJ: DOCUMENTATION OF DIMENSIONAL VERIFICATION BY QC INSPECTORS

"When an inspection is performed where a dimensional verification is required or a dimensional verification occurs, this verification shall be performed by the QC inspector on the job. The QC Inspector shall record, on the appropriate inspection form, the acceptance criteria and the as found dimensions. The QC Inspector shall include the appropriate drawing number, the revision issue of the drawing or the applicable document which identifies the acceptance criteria.

"It is mandatory that the above data be entered on the appropriate inspection form for each inspection performed."

An enforcement conference was conducted in the Region IV office on April 24, 1985, to discuss the above QC problems related to CRD refurbishment. The licensee's response to the concerns identified during this enforcement conference is documented in P-85144, dated April 26, 1985. The NRC issued a Notice of Violation, dated April 26, 1985, in advance of this report requiring immediate corrective action to assure that QC requirements are met during all remaining refurbishment work.

During a review of previously dispositioned NCRs concerning CRD refurbishment, the SRI determined that numerous NCR dispositions addressed the need for forthcoming change notice (CN) reissues to document the field changes authorized by the NCR. No apparent tracking system had been established to ensure the incorporation of the needed document updates. In a meeting with the PSC QA and site engineering (NED) representatives on March 5, 1985, the licensee agreed to incorporate the CN number on all future NCRs and review all previously issued NCRs requiring document updates to ensure that the field changes were being addressed in future CN reissues.

While reviewing CRD refurbishment procedures, the NRC inspectors found it very difficult to follow the documentation of rework. The writing of findings, directions for rework, etc., in the margin, sometimes filled the entire page making the sequence difficult to follow. All steps requiring signatures or check off, were signed or checked three or four times and often with no date. The NRC inspectors' concern regarding adequate documentation was discussed with the licensee. The licensee's same concerns resulted in development of a new rework procedure which has been included as an attachment to the CRD refurbishment procedure. The rework procedure calls out all the steps necessary to do the rework and provides the necessary blanks for signatures/checks as required in the original task. The rework exits the original procedure/task at the point the problem is identified, corrects the problem, returns to the same point, and then continues in the original procedure/task.

During this same procedure review effort, the NRC inspectors identified and reported to the licensee numerous procedure problems. Some examples are as follows:

- . CRD 15 - No proper sign-off on tasks 33, 34, 36, 38, and 39.
- . CRD 4 - No proper sign-off on tasks 9, 10, 12, 13, 14, 31, 32, 37, 40, and 43.
- . Stainless steel clevis bolts for CRD 6, 26, and 21 were not entered in the parts replaced log (Attachment F).

- . CRD 11 - Rework Task 1 authorization sheet not filled out or signed.
- . CRD 13 - QC hold point not signed, Attachment E not signed as complete, and Attachment N not signed in or complete.
- . CRD 28 - Several tasks and steps were listed as N/A without justification or signature, and in Step 11.28 the tool used had no calibration date.

The licensee is continuing to improve their efforts in preventing/minimizing these types of procedural problems.

On March 19, 1985, the NRC inspectors determined that a cable clamp utilized during testing of the slack cable assembly was left installed during subsequent testing of the CRD assembly resulting in the destruction of a new CRD cable. Followup inspection indicated this to have been caused by a procedural problem for which subsequent corrective action was initiated to correct the procedure.

On March 20, 1985, the NRC inspectors determined that the procedure step for disconnecting the orifice mechanism electrical connector (D1201-400-43) in Fuel Handling Procedure Work Packet FHPWP-100-15 had not been followed during rework of CRD 15. Subsequent raising of the 200 assembly resulted in damage to the male and female connections. The development of the new rework procedure identified above should prevent a recurrence of this type of error during rework. The SRI considered this to be an isolated error for which adequate corrective action was initiated by the licensee.

The NRC inspectors reviewed some of the controlled drawings used by PSC to refurbish the CRDs. Some of the notes on these drawings appeared to be inaccurate and some that might be needed were not included in the procedure. Some examples are as follows:

- . Note 6 on Drawing D1201-217E stated that the shim motor rotor and brake assembly must be balanced as a unit. The licensee was in the process of using the rotor from one shim motor interchangeably with the brake assembly from another shim motor without complying with this note. The NRC inspector brought this note to the licensee's attention on March 20, 1985, and NED took immediate action to ensure compliance with this note.
- . Note 3 on Drawing D1201-286B requires the stamping of a part number on the component. As identified below, this note was overlooked during the design of the slack cable bushing caps (-286-2).
- . PSC QC identified a Note 2.f on Drawing D1201-401 as being applicable and not complied with, resulting in issuance of NCR 85-553. The note

had to do with the longevity of the orifice drive motor between overhauls and implied an overhaul was needed every 6 years.

Note 2.d on Drawing D1201-401 stated that the design duty of the motor was 36,000 steps per year. The NRC inspectors determined one full travel of the orifice valve (approximately 42,000 steps) is required just to set the valve position limit switches. Therefore, the yearly design duty, as indicated by note 2.d, would have been exceeded during limit switch setting. Note 2.d appeared to be inaccurate.

The licensee has stated that the CRD design drawings are used for reference only (i.e. "visual aids"), and that the notes are not to be taken seriously, since the procedure is the controlling document. The licensee also stated that the drawing notes were not reviewed for possible inclusion during development of the CRD refurbishment procedures. However, as noted above, note 6 of Drawing D1201-217E did affect the refurbishment program and should have been reviewed and incorporated within the refurbishment procedure. This is an apparent violation of the Technical Specification requirement to have adequate procedures for safety-related activities, including CRD maintenance (8507-05).

At the end of this reporting period, the licensee's QA department had committed to perform an audit of the notes on design drawings utilized during the refurbishment of the 200 assembly. Subsequent discussions with the licensee resulted in NED committing to a review of all notes on design drawings utilized during the refurbishment. This review will consist of comparing the drawing notes against the current refurbishment procedures and CRD operations and maintenance manual to determine possible deficiencies/inaccuracies in the refurbishment program, CRD operations and maintenance manual, and/or design drawing notes.

PSC NED's current policy concerning CNs affecting drawings is to not change the drawing until the CN work is complete. Sometimes it has taken over a year since work was complete and the revised drawing was issued. In the interim a "caution" sticker is attached to a drawing affected by a CN stating that this document has been changed by the CN. This "caution" sticker may not show up on the drawing for 30 days or more after the CN is approved. Therefore, the modified system/component may have even been placed in service without having adequate drawings. This concern was brought to the licensee's attention. PSC NED agreed to evaluate and determine a way to shorten the time between the CN being issued and the "caution" sticker showing up on the affected drawings. This is considered an open item (8507-06) pending completion of the evaluation.

On March 29, 1985, the NRC inspectors determined that an NCR 85-378, dated March 29, 1985, was issued documenting a disparity in the number of balls in the new CRD bearings versus the design drawings and original

specifications SLR D1201-261B, 265A, 258B, 257B, 256B, and 222E. The possible reduction in cycles to failure of CRD bearings resulting in CRD inoperability or inability of the CRDs to perform their design function was the concern. The SRI reviewed the purchase orders (PO) and confirmed that both the vendor (General Atomic Technologies) and manufacturer (ITI) certifications verified compliance with the original specifications even though modifications beyond the original specifications had been made. A meeting was conducted in the NRC Region IV office on April 17, 1985, to discuss this issue, and is documented in an NRC letter E. H. Johnson to O. R. Lee, dated April 30, 1985.

On April 8, 1985, the NRC inspector determined that the 54 slack cable bushing caps made in the PSC machine shop and inspected by QC had been placed in the warehouse under code no. 1504244 without any form of identification stamped on the part. From a review of CN 1994 which authorized the cap fabrication and subsequent modification to the CRD 200 assembly on April 15, 1984, the SRI determined that:

- . The independent design verification form for CN 1994 indicated that adequate identification requirements had been specified even though there was no requirement to identify the part fabricated.
- . Adequate identification requirements had not been specified in CN 1994 and subsequent drawings. (i.e., The slack cable bushing caps (-286-2) were fabricated from a sketch that did not have the requirement to stamp the part number on the part. This sketch was subsequently to be added to Drawing D120-286, Revision B, which does require stamping the part number on the slack cable assembly bushing (-286-1).)
- . Fabrication instructions for the slack cable bushing caps were not incorporated in a control work procedure (CWP). (i.e., The slack cable bushing caps were fabricated utilizing a Station Service Request (SSR) 85504388, dated March 28, 1985.)
- . CN 1994 was classified as safety-related only because a safety-related part SLR D1201-281 (slack cable assembly) had to have two holes drilled and tapped in its side to attach the slack cable bushing cap. The cap itself was identified as nonsafety-related.

The failures to incorporate adequate identification requirements during the design review and to provide fabrication instructions utilizing a CWP was contrary to licensee procedure G-9, and constitutes a second example of inadequate procedures for CRD refurbishment (8507-05).

On March 20, 1985, the NRC inspector determined and informed the licensee that the five minute epoxy (Devcon) being used to attach the resistance temperature thermocouples (RTD) to the CRD assembly was only qualified to

200°F, whereas, CRDM operating temperatures are expected to exceed 200°F. Documentation of the qualification of the Devcon epoxy to 300°F is to be provided to Region IV. This is an open item (8507-07).

The NRC inspectors had no further comments in this area.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (50-267/7714-01): Pulled Fuses (CAR-81-137). A fuse data base report has been issued, Fuse List, FL-6-11, Issue A, dated October 31, 1984. Fuses are now listed by component and by location. This item is closed.

(Closed) Open Item (50-267/8209-02): Radiation Monitor Constant Recorders (CAR-82-056). During periods of low radiation levels, multiple pens trace over the same general area resulting in mixing of the recorder pen colors. The licensee verified that when a monitor's radiation level starts increasing, the associated pen starts to leave the area of overlapping traces. Once the pen clears this area, the pen quickly produces its color yielding the desired radiation monitor tracking. This item is closed.

(Closed) Open Item (50-267/8218-03): Procedure to Minimize Backlog of Safety-Related PTRs (CAR-82-086 and 82-113). As identified in NRC Inspection Report 84-30, the licensee has implemented a new maintenance documentation gathering system (PPMIS). This system provides a method for tracking of open and in-progress SSRs, previously designated PTRs. In transition to this new system, the majority of backlogged safety-related PTRs were resolved. Proper use of the PPMIS should eliminate the previous backlog problem. This item is closed.

(Closed) Open Item (50-267/8315-01): Test of Load Shedding Relays (CAR-83-086). As previously discussed in NRC Inspection Report 84-22, this item was to remain open pending incorporation in Technical Specifications the requirement to periodically test load shedding relays. This was a commitment made by the licensee during an electrical specification meeting between the NRC and PSC on August 31, 1984. The recently submitted draft Technical Specification did incorporate this requirement on page 3/4.3-51 note (a6). This item is closed.

(Open) Open Item (50-267/8410-01): Control of Sealed/Critical Valves Associated with ODRs (CAR-84-040). Administrative Procedure P-2, "Equipment Clearances and Operation Deviations," Issue 11, dated October 10, 1984, revised the ODR procedure to include critical/sealed valve controls, however, the ODR form was not changed in order to implement this requirement. This item will remain open pending the necessary ODR form revision.

(Closed) Open Item (50-267/8414-08): Revision to Fire Fighting response Guidelines and Specific Area Plan (CAR-84-066). FSP-11, Issue 2, dated December 21, 1984, incorporated the necessary corrections. This item is closed.

(Closed) Open Item (50-267/8414-09): Revision to CWPM-1A (CAR-84-067). Control Work Procedure Manual, Issue 2, dated January 31, 1985, corrected the problem. This item is closed.

(Closed) Open Item (50-267/8415-04): Procedural Updates for LN₂ System (CAR-84-072). The control room alarm index and data logger printout were corrected. This item is closed.

(Closed) Open Item (50-267/8415-07): Commitment Tracking (CAR-84-074). Administrative Procedure G-2, "FSV Procedure Systems," Issue 14, dated December 31, 1984, was revised to include a "flagging" system in which procedure commitments made to the NRC are set apart by the designator *#* at the beginning and end of each commitment. These commitments are not to be deleted unless comparable controls are utilized. This item is closed.

(Closed) Open Item (50-267/8418-01): Revision to MP 12-6 (CAR-84-088). MP 12-6, Issue 17, dated August 13, 1984, corrected the problems identified in NRC Inspection Report 84-18. This item is closed.

(Closed) Open Item (50-267/8422-04): Revision to G-8 and Part 21 Report (CAR-84-096). Administrative Procedure G-8, "Compliance with 10 CFR 21 Requirements," Issue 5, dated October 26, 1984, corrected the problems identified in NRC Inspection Report 84-22.

The Part 21 Report forwarded by the licensee's letter P-84244 was subsequently corrected by letter P-84342, dated September 6, 1984. This item is closed.

(Closed) Open item (50-267/8426-01): Relabel Annunciators I-06C, Windows 1-2 and 2-3 (CAR-84-099). The windows have been corrected and the temporary change request (TCR) closed. This item is closed.

4. Licensee-Event Report (LER)

The SRI reviewed licensee event reporting activities to verify that they were in accordance with Technical specification, Section 7, including identification details, corrective action, review, and evaluation of aspects relative to operations and accuracy of reporting.

The following LERS were reviewed for adequacy:

- (Open) 84-008, Revision 2
- (Open) 84-009, Revision 1
- (Open) 84-012, Revision 1

(Open) 85-002
(Open) 85-003
(Open) 85-004
(Open) 85-005
(Open) 85-006

During a review of LER 84-012, the SRI noted that the corrective action did not identify the future installation of knock-out pots, moisture elements, and backup helium source for the main CRDOA purge and reserve shutdown purge lines as committed in P-85032.

During a review of LER 85-004, the SRI noted that corrective actions for the inadvertent isolation of the demineralizers were not addressed. This is discussed in paragraph 6 of this inspection report.

During a review of LER 85-006, the SRI noted that the corrective action, regarding Administrative Procedure G-9 having been modified to include requirements for surveillances to be included in the PITR and to be signed off by the CWP work coordinator, was inaccurate. The SRI verified that G-9 had not been revised as stated. The SRI also noted that a previous LER 82-039 had addressed the same problem identified in LER 85-006, and that its corrective action was evaluated by the SRI, upon LER 82-039 closeout in NRC Inspection Report 83-25, to be adequate had the controlled work procedure manual (CWPM) been followed. Failure to follow the CWPM was subsequently identified as a violation in NRC Inspection Report 84-26. Failure to incorporate SR 5.10.4b-X fire barrier requirements into CWPs, as addressed in LER 85-006 corrective actions, is now to be prevented by the Technical Services Department. The SRI will verify implementation of this requirement prior to closeout of LER 85-006.

The SRI discussed the above findings with the licensee. The licensee agreed to make the appropriate LER revisions.

5. Maintenance (Monthly)

The NRC inspectors reviewed records and observed work in progress to ascertain that the following maintenance activities were being conducted as required by approved procedures, Technical Specifications, and appropriate Codes and Standards. The following maintenance activities were reviewed and observed:

SSR 85500761 HV-2253 Repair in accordance with MP 91-18,

"Maintenance and Repair of System 91 Hydraulic Valve Actuators," and MP 22, "Maintenance and Repair of Rockwell-Edwards Valves Pressure-Seal Type"

- . SSR 85500762 HV-2254 Repair in accordance with MP 91-18 and MP 22
- . SSR 84501322 "A" Helium Circulator Removal and Replacement in accordance with MP 21-15, "Helium Circulator Change Out Procedure"
- . SSR 85503703 "B" Helium Circulator Repair in accordance with MP 21-18, "Helium Circulator Compressor Assembly Retaining Bolt Replacement"
- . CN 1886 Reorganization, Functional Grouping, Relabeling, and Demarcation of Instrumentation Components and Systems on I-01/-02

During observation/review of the work on HV-2253/-2254 performed by Rockwell in accordance with PSC procedures, the NRC inspectors identified and informed the licensee of the following problems:

- . Missing from the work package was the welder qualification record and MP 100, "General Welding Procedure," which contains special instructions on housekeeping and sign-offs for the welder and fire-watch. MP 100 was required by both MP 91-18 and MP 22.
- . The valve bodies were littered with debris from valve body weld repairs and no piping plugs were in place to maintain system cleanliness.
- . An unapproved liquid not specified in the procedure was being used (e.g., dye penetrant cleaner).
- . Flammable liquids were not stored properly in safety containers.
- . New and used combustible materials were not stored properly in flame proof containers.
- . Dirty rags and paper wipes on benches and on the floor.
- . Empty paper containers and boxes not removed from the area.
- . Several small sheets of unpainted plywood were in the area being used as tables and walks, etc. Plywood must be painted with a fire retardant paint to be in the building.
- . The fire extinguisher required by MP 100 was not in the immediate area.

The licensee was informed that the above problems were considered an apparent violation of MP 22 requirements (8507-08).

During observation/review of the helium circulator changeout work, the NRC inspector identified and informed the licensee of the following:

- . The direct charge (DC) and PO numbers were not kept on a sheet attached to the SSR as required by Step 3.11.2 of MP 21-15.
- . The Procedure MP 21-15 referenced use of drawing R 1100-100 which was in use, but was an uncontrolled drawing.
- . The helium circulator was received from General Atomic Technologies, upon overhaul completion, without the required documentation. NCR 85-326 allowed the work to start under an emergency disbursement.
- . One torque wrench was identified as being out of calibration.

The licensee immediately corrected the above concerns regarding the helium circulator work.

During observation of the control room design review (CRDR) modifications being made to Panel I-01, the SRI noted that the backside of the modified sections of panels had not been painted (i.e., raw nonpreserved metal from newly installed plate metal). This was discussed with the licensee and the requirement to paint the backs of the modified panels was subsequently incorporated into CN 1886. The SRI also noted that above average cleanliness controls were being maintained during welding/grinding while installing the plate metal pieces. No metal shavings were noted that could create a hazard to electrical components.

The NRC inspectors had no further comments in this area.

6. Operational Safety Verification

The SRI reviewed licensee activities to ascertain that the facility is being operated safely and in conformance with regulatory requirements and that the licensee's management control system is effectively discharging its responsibilities for continued safe operation.

The review was conducted by direct observation of activities, tours of the facility, interviews and discussions with licensee personnel, independent verifications of safety system status and limiting conditions for operations, and review of facility records.

Logs and records reviewed included:

- . Auxiliary Operator Logs
- . Clearance Log

- . Equipment Operator Logs
- . Operations Deviations Reports
- . Operations Order Book
- . Reactor Operator Logs
- . Shift Supervisor Logs
- . Shift Turnover Checklists
- . Station Service Requests (SSR)
- . Technical Specification Compliance Logs
- . Temporary Configuration Reports

During tours of accessible areas, particular attention was directed to the following:

- . Annunciators
- . Clearance Tags
- . Control Room Manning
- . Fire Hazards
- . Fluid Leaks
- . Hanger/Seismic Restraints
- . Housekeeping
- . Monitoring Instrumentation
- . Piping Vibrations
- . Radiation Controls

Plant tours indicated the following types of deficiencies which were brought to the attention of the licensee.

- . Control room and auxiliary equipment room control panels (I-04/I-70(6)) contained loose screws/electrical connectors.

- . Purification helium compressor M-G set panel "off" indicator light burnt out.
- . Fire hose not racked properly (RH1K3).
- . Pipe in overhead had lagging soaked with oil (reactor building - level one).
- . No safety rope utilized while grating was removed (reactor building - level one).
- . Sample line not properly supported upon completion of modification (reactor building - Level 5 1/2 - I-9306).

On March 19, 1985, during a daily review of operations logs, the SRI determined that the 480 volt bus 1 to bus 2 tie breaker was found closed on the graveyard shift and was suspected to have been left closed upon completion of Surveillance SR 5.6.1b-SA, "Loss of Outside Power and Turbine Trip," during the previous dayshift on March 18, 1985. The SRI's review of the completed SR 5.6.1b-SA indicated the following problems:

- . Step 5.5.13, requiring the above tie breaker to be opened had been signed off by the dayshift reactor operator, even though the breaker was subsequently found closed.
- . The time for helium circulator restoration was not entered in Step 5.5.15 as required.
- . Step 5.5.23, for the return of all equipment to normal, was marked N/A.
- . Data Sheet 10 handswitch (HS) positions were not entered as required.

The SRI informed the licensee that the above failures to follow procedures which are Technical Specification requirements is considered an apparent violation (8507-09).

On March 19, 1985, during efforts to identify the root cause of the unplanned radioactive liquid waste release that occurred on March 17, 1985, the SRI determined the main contributor to the operator's identification of this event, was the failure to unisolate the liquid waste demineralizers. This resulted in blockage of the normal flow path when recirculating through the liquid waste effluent monitors. The effluent, therefore, took the path of least resistance, which in this case happened to be a partially open discharge Valve V-6241 as identified in LER 85-004. The licensee has initiated corrective action to ensure that both the Radioactive Liquid Effluent Surveillance ESR 8.1.2bcd-M and Operating Procedure SOP-62 for the liquid waste system are revised to

ensure proper lineup of the demineralizers during recirculation through the liquid effluent monitors. This is considered an open item (8507-10) pending incorporation of the necessary procedure revisions.

The SRI had no further comments in this area.

7. Periodic-Special Report

The SRI reviewed the following reports for content, reporting requirement, and adequacy:

- . Monthly Operations Report for the months of February and March 1985
- . Thirty-fourth Startup report covering the period November 23, 1984, through February 20, 1985
- . Semi-Annual Radioactive Effluent Release Report covering the period July 1, 1984, through December 31, 1984

No violations or deviations were identified.

8. Exit Interview

Exit interviews were conducted at the end of various segments of this inspection with Mr. J. W. Gahm, Manager Nuclear Production, and/or other members of the PSC staff as identified in paragraph 1. At the interviews, the NRC inspectors discussed the findings indicated in the previous paragraphs. The licensee acknowledged these findings.