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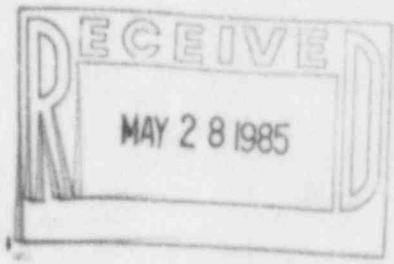
May 21, 1985
Fort St. Vrain
Unit No. 1
P-85172



Regional Administrator
Region IV
U. S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Attn: Mr. E. H. Johnson

Docket No. 50-267

SUBJECT: I&E Inspection Report 85-07

REFERENCE: NRC Letter Johnson to Lee,
(G-85161) dated 04/26/85

Dear Mr. Johnson:

This letter is in response to the Notice of Violation received as a result of inspections conducted at Fort St. Vrain during the period March 1-31 and April 1-16, 1985. The following responses to the items contained in the Notices of Violation are hereby submitted:

Failure to Follow Procedure

10CFR50, Appendix B, Criterion V, states, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." This requirement is implemented by the licensee's Final Safety Analysis Report, Section B.5.2, "Quality Assurance Programs."

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1. Maintenance Quality Control Inspection Program MQCIM-1, Issue 1, dated January 21, 1985, requires that inspection hold points in a procedure be signed off by a maintenance quality control inspector before work will be allowed to continue.

   Contrary to the above, the NRC inspectors determined the MQC hold points incorporated into the control rod drive refurbishment procedures were not signed off by QC and work was allowed to continue.

   This is a Severity Level IV Violation. (Supplement I.D.) (50-267/8507-01)

   (1) The corrective steps which have been taken and the results achieved:

   FHPWP-100 series procedures shall be reviewed by both QA Engineering and Maintenance Quality Control to adequately update Quality Control/Quality Assurance hold points. Currently, each witness point shall be evaluated to determine whether or not it should remain as such or be converted to a hold point. It should be noted that the hold point applies only to the task in which it is located.

   Work within a task shall not proceed beyond a QC hold point until that hold point is signed off. Subtasks may be used to further define the work activities and shall be treated in the same manner as the major work tasks.

   A memo (PPC-85-1697) has been issued to FSV personnel governing Quality Assurance stop work authority. This memo serves to re-emphasize PSC's policy on the stop work authority of quality control personnel. This effort should rectify any ambiguity that may have existed. In addition, a memo (QAC-85-0346) has been issued to QC personnel to specify that hold and witness points that are not applicable during the work operations shall be denoted with an "N/A", signed by the QC individual and a reason provided as to why the point was not applicable. This should eliminate any entries in the procedure that may be confusing.

   (2) Corrective steps which will be taken to avoid further violations:

   The use of subtasks within FHPWP-100 and the above memos should preclude recurrence. Work within a task shall not proceed beyond the hold point until the hold point is signed off.

(3) The date when full compliance will be achieved:

FHPWP-100 was reviewed and issued for work on May 4, 1985.

2. Fuel Handling Procedure Work Packet FHPWP-100-8, Issue 1, dated March 24, 1985, Task 35, "Assemble Gear Box Housing and Gear Train," required installing the second-stage duplex pair (-200-37) with the relieved side of the outer races facing away from the housing shoulder, and verifying that the bearings were properly seated and required shims (-200-68) installed.

Contrary to the above, on April 15, 1985, the NRC inspectors determined that even though the workman had signed off the step as complete and Maintenance Quality Control had signed off the hold point verifying step completion, a bearing had been installed backwards. This was identified during subsequent back-EMF testing when the inner and outer races separated, causing the ball bearings to fall out and the second stage gear to move toward and rub against the drum support.

This is a Severity Level IV Violation. (Supplement I.D.) (50-267/8507-02).

(1) The corrective steps which have been taken and the results achieved:

a) After a thorough investigation, it was determined that the installation of the bearing (backward) was an isolated instance. Both the QC inspector and the mechanic made a mistake. The inspector was put on notice that if this happened again, the inspector would be terminated. The mechanic received a written reprimand with further advise that a similar incident would result in mandatory time off without pay.

b) In a subsequent event, the shim motor from CRD-31 was reassembled on rework Task 48, FHPWP-100-31. It was later identified that the simplex and duplex bearings were installed backwards and that the wrong slinger was installed. Another rework procedure was initiated to correctly assemble the shim motor. It should be noted that PSC identified the problem and took corrective measures to resolve the problems.

(2) Corrective steps which will be taken to avoid further violations:

a) On April 16, 1985, this incident was discussed with the inspector and the mechanic and, as both of the individuals had no previous errors, the incident was considered isolated with no further action being contemplated.

In addition, the Maintenance QC Supervisor on May 2, 1985 held verbal discussions with the inspection staff and emphasized attention to work activities and detail.

b) Subsequently, both the QC inspector and the mechanic were terminated. The QC Supervisor advised the other QC inspectors that any rework caused by negligence would be grounds for immediate termination. Also discussed was the "attention to detail" which the QC Supervisor felt would greatly improve the net results of inspection activity. All mechanics involved in 200 assembly work were reminded that it is their responsibility to ensure that their work is correct and that the seriousness of their failure to observe this responsibility is grounds for similar disciplinary action.

(3) The date when full compliance will be achieved:

a) Full compliance was achieved on April 16, 1985.

b) Full compliance was achieved on May 15, 1985.

3. Administrative Procedure Q-15, "Control of Nonconforming Items," Issue 3, dated June 23, 1982, requires for an NCR disposition involving repair, that the SQAS determine and denote on the NCR any appropriate inspections that may be required and the organization responsible for performing such inspections, and sign the appropriate block.

Contrary to the above, on March 5, 1985, the NRC inspectors determined from a review of previously processed Nonconformance Reports (NCR) addressing control rod drive refurbishment repairs, that the Superintendent of QA Services (SQAS) had not denoted the appropriate inspections and responsible organization. The NRC inspectors were unable to identify what QC requirements were used for repairs which affect quality.

This is a Severity Level IV Violation. (Supplement I.D.) (50-267/8507-03)

(1) The corrective steps which have been taken and the results achieved:

The NRC cited Quality Assurance for failing to follow the requirements stated in Administrative Procedure Q-15, Control of Nonconforming Items, in that:

a) The SQAS (now the QA Services Manager) determines and denotes on the NCR any appropriate inspections that may be required and;

b) Designates the organization responsible for performing such inspections.

The corrective action initiated to resolve these findings is that appropriate inspections are being denoted in the disposition section of the NCR along with identification of the responsible inspection group.

In addition, QC personnel are required to complete a General Inspection Report when closing out NCR's. For dimensional verification, the actual measurements shall be denoted on the form (or an attachment) along with notations of the document used to perform the inspection (e.g., drawing number, revision, applicable notes, etc.).

This was discussed with the NRC Senior Resident Inspector.

(2) Corrective steps that will be taken to avoid further violations:

Quality Assurance currently is following the requirements of Administrative Procedure Q-15. This, coupled with the use of the General Inspection Reports, provides adequate documentation of work performed.

(3) The date when full compliance will be achieved:

Full compliance was achieved on March 5, 1985.

4. Administrative Procedure Q-15, "Control of Nonconforming Items," Issue 3, dated June 23, 1982, states that the QA/QC/MQC assigned to a department or area in which a nonconforming hardware item is identified, is responsible for initiation of a Nonconformance Report (NCR).

Station Service Request (SSR) 84500853, dated November 20, 1984, required the fabrication of seven control rod drive assembly shaft potentiometer drives in accordance with Drawing SLR D1201-240, Revision B, and Maintenance QC verified their conformance on MQC General Inspection Procedure, dated January 18, 1985.

Contrary to the above, on April 8, 1985, the NRC inspector determined that one (1) nonconforming control rod drive assembly shaft potentiometer drive had been identified and an NCR was not initiated.

This is a Severity Level IV Violation. (Supplement I.D.) (50-267/8507-04)

(1) The corrective steps which have been taken and the results achieved:

Quality Control inspection personnel have been advised that, for items that are nonconforming, Nonconformance Reports shall be issued rather than utilizing a Station Service Request. In the instance cited, the shafts had been inspected and found acceptable even though the shafts did not conform to the drawing. The shafts were discovered to be out of tolerance when inspected again on the Refueling Floor. A Station Service Request was utilized to accomplish the rework and dispose of the unacceptable shafts. In cases where an item has been previously inspected and found satisfactory but subsequent inspection/test reveals a nonconformance, a Nonconformance Report shall be issued.

Independent dimensional verifications by quality control are being controlled as follows:

Dimensional Verifications

A. Source Inspections

1) Current Practices

Dimensional inspections are performed during source inspections as deemed necessary for fit, form and function by the QA Engineer preparing the inspection plan. The following source inspections have required or will require extensive dimensional inspections:

a) Bearing Water Pump P-2103 Assembly

b) ART Boron Ball Inspection

c) GLCC Fuel Block/Reflector Block Inspection

d) Lenox CRD Part Fabrication (to be performed this month)

Source inspections are required by MPRM-11.

2) Future Action

Develop source inspection Level 2 procedure to provide detailed instructions for the preparation of source inspection plans. (Reference CAR-84-112) This activity is to be completed by May 31, 1985.

B. Quality Control

1) Immediate Action

a) Qualified MQC inspectors are performing independent verification (hands on) of required dimensional tolerances.

b) These tolerances/dimensions are being recorded on the QC inspection form.

2) Items Being Proposed

a) A training program is being developed to train all QC inspectors in precision measurements.

b) The QC inspection form is being updated/revised to add dimensional tolerances.

c) The MQC inspection program will be rewritten to reflect the addition of dimensional tolerances and the documentation thereof.

These activities are expected to be complete by October 1, 1985.

C. Receiving Inspection

Dimensional checks are being made during the receiving process if: a) the purchasing document makes it a requirement; b) the purchasing document utilizes a drawing (part number) as the requirement.

Past practice has been that these checks have not been recorded other than the acceptable block on the Receiving Inspection Report being checked by the inspector (this is in compliance with MRIM-1).

The following steps will be taken to clarify the receiving inspection dimensional checks:

1) The receiving inspector will request (from QA Engineering) when applicable, critical dimensions of items to be verified.

2) MRIM-1 will be revised to add a dimensional data sheet to record critical dimensions. This revision is expected to be complete by May 15, 1985.

3) QC will purchase additional measuring instruments required to implement the above.

(2) Corrective steps that will be taken to avoid further violations:

The development of procedures and associated training will preclude recurrence.

(3) The date when full compliance will be achieved:

Specific target dates for specific items are delineated in the corrective action measures taken above. The latest target date for the review and revision of the Maintenance QC program is October 1, 1985.

Since the Notices of Violation addressed above are all four related to the CRDOA refurbishment program, Quality Assurance, Nuclear Engineering, and Nuclear Production are taking additional steps to confirm the quality of that program.

To confirm that the 18 CRDOA's which had been refurbished prior to the Enforcement Conference on April 24, 1985, were completed in accordance with high quality standards, an audit of completed work packages is being conducted by Quality Assurance.

This is in response to the commitment to conduct an additional audit to review in depth, specific concerns identified in a previous audit of the CRDOA work.

As part of the control rod drive refurbishment, NFSC G-85-02 Audit, the Fuel Handling Procedure Work Packages (FHPWP) governing the refurbishment of the CRDOA's are being reviewed for proper documentation with emphasis on the QC hold and witness points and for records of task sign-out/sign-in and completion. At this time, a limited review of two FHPWP's has been completed, two FHPWP's have been examined in depth, and five FHPWP's are in the review process.

In addition, the NFSC G-85-02 Audit will review Procedure Deviation Reports (PDR's) related to the CRDOA work, concerns and corrective actions identified in the NFSC G-85-01 Audit, and conduct a review of the D1201-200 series drawings on the CRDOA's.

This D1201-200 review will address the notes on the drawings relative to conflicts with the CRDOA refurbishment program, correctness of revision, and resolution of deficient areas noted during the review process.

Nuclear Engineering Division has obtained the services of a consultant to conduct a review of the CRDOA drawings and O & M Manuals to provide assurance that all design requirements specified on the GA drawings or in the CRD O & M Manual, which relate to the CRDOA refurbishment program, have been incorporated into the FHPWP procedures being used to control the refurbishment work or have been incorporated in the purchase orders for spare parts.

Upon completion of the review, any requirements related to the CRDOA refurbishment work, which are specified on the CRD drawings or identified in the O & M Manual and have not been properly incorporated in the FHPWP or specified in purchase orders for spare parts, will be identified and reported to PSC Engineering for resolution.

Nuclear Production will select a representative sample of the nine CRDOA's to be reworked for installation of slack cable switch bushing retainers and/or back-EMF considerations, and inspect them for quality indicators such as loose bolts, improper lockwiring, frayed cables, RTD positioning, general surface condition, etc. Additional back-EMF and RP-5 testing will also be completed on all nine CRDOA's.

If you have any questions in this matter, please call Mr. M. H. Holmes at (303) 571-8409.

Sincerely,

L. W. Singleton
Manager, Quality Assurance
Fort St. Vrain Nuclear
Generating Station

LWS:kac