



Arkansas Power & Light Company
Arkansas Nuclear One
Route 3, Box 137 G
Russellville, AR 72801
Tel 501 964 3100

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U. S. Nuclear Regulatory Commission
Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

SUBJECT: Arkansas Nuclear One - Units 1 and 2
Docket Nos. 50-313/50-368
License Nos. DPR-51 and NPF-6
Response to Inspection Report
50-313/89-42; 50-368/89-42

Gentlemen:

Pursuant to the provisions of 10CFR2.201, attached is the response to the violations identified in the subject inspection report.

Very truly yours,

E. C. Ewing
General Manager,
Technical Support
and Assessment

ECE/JDJ/sgw
attachment

cc: Region Administrator
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

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PDR ADOCK 05000313
Q PDC

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Notice of Violation

A. Control of Welding Activities

Criterion IX of Appendix B to 10 CFR 50 and the licensee's approved quality assurance plan require that special processes, such as welding, be controlled and accomplished by qualified personnel using qualified procedures. In the following examples, this did not occur.

1. The travel speed specified on Drawing 2CCB-14-2 for Weld FW18C1 is 3-10 inches per minute.

Contrary to the above, the welding speeds in use were 2 and 1 1/2 inches per minute.

2. The Welding Procedure Specification (WPS) for Weld FW1C1 did not address the use of demineralized water to quench the weld.

Contrary to the above, demineralized water was sprayed on the weld to expedite cooling below 350° F, the maximum interpass temperature in the WPS.

3. Flare-bevel Welds FW9, FW10, FW15, and FW16 identified on Drawing 2CCC-6-H-2 were specified to be 2 inches of weld 4-inch centers.

Contrary to the above, these welds were accepted although they were made continuously (for 6 inches without break).

This is a Severity Level IV violation. (Supplement II)(313/8942-01; 368/8942-01)

Response to the Violation

1. The reason for the violation:

With regard to examples 1 and 2, the cause of the violation was the failure of management to clearly communicate expectations regarding adherence to the quality requirements built into the program to the weld craftsmen and weld craftsmen supervision.

In example 1, the welder was not aware that the travel speed specification was in the WPS. (As stated in paragraph 3.b of the Inspection Report, the WPS, not the drawing, is the document containing the travel speed specifications.)

Concerning example 2, the use of demineralized water as a quenching spray on austenitic stainless steel was an historical construction practice not covered by procedure. The welder was following what he considered to be an accepted practice instead of strictly adhering to the WPS.

With regard to example 3, the cause of the violation was inattention to detail by the welder. After completing the welding on a nearly identical hanger 2CCC-12-H1 which specified a continuous weld, he failed to note the difference in the drawings and welded hanger 2CCC-6-H2 similarly.

2. The corrective steps that have been taken:

To ensure that weld craftsmen and weld craftsmen supervision were aware of management's expectations for the conduct of welding activities, training was conducted on October 20, 21, and 22, 1989, which emphasized that the requirements of the WPS must be followed and that circumstances prohibiting WPS compliance require that work is stopped and the supervisor is notified for resolution. Also, supervisors began reviewing each weld package and the WPS with the craftsman before the job is started. These actions were previously addressed in our letter of October 26, 1989 (ØCAN1Ø8917).

Additional training which discussed weld procedure specifications and compliance with these requirements was conducted during the week of November 27, 1989, for plant modifications weld craftsmen and maintenance weld craftsmen.

The "Control of Plant Modification Welding" and "Conduct of Maintenance Welding" procedures have been changed to state that a copy of the WPS shall be in the work package at the work location and that the supervisor will review the weld packages and the WPS with the craftsmen at the start of each shift. The procedures now clearly state that welding specifications will be followed, activities not addressed in procedures or specifications will not be done, and circumstances prohibiting compliance with the specifications require stopping work and notifying the cognizant supervisor for resolution.

Also, to address the additional weakness identified in the inspection report regarding Quality Control (QC) surveillance of welding activities, QC has implemented a special welding surveillance checklist which has been incorporated into QCO-6, "Welding Inspection", along with monitoring frequency guidance. Routine, random surveillance of in-process welding activities is being performed and documented.

Concerning the adequacy of the weld noted in example 1, the supporting procedure qualification records for the WPS were reviewed by Engineering. As a result, the WPS travel speed was determined to be overly restrictive, and the WPS was revised accordingly to require 1-10 inches per minute. As this change to the WPS was non-essential pursuant to the applicable ASME code, the quality of the weld was not affected by the use of a slower travel speed and the weld was determined to be acceptable.

To establish the adequacy of the weld noted in example 2, Engineering determined that the use of demineralized water to control interpass temperature on P8 austenitic stainless steel is an appropriate use of a quenching spray. A memorandum was issued by Engineering which established interim requirements for use of demineralized water as a quenching spray until the weld specifications are revised. (The weld specifications will be revised by February 28, 1990.) However, prior to this determination occurring, the weld was cut out and rewelded without the use of quenching spray and the new weld was determined to be acceptable.

The continuous flare-bevel welds in example 3 were determined to be acceptable in accordance with AP&L specification APL-M-2410, Section 4.11, "Support Assemblies of Greater Strength than Required". The hanger as-built drawing was revised to indicate the continuous weld.

In each of the examples given, the quality of the welds was not affected. AP&L has no indication that procedural non-compliance has resulted in unsafe welding practices.

3. The corrective steps that will be taken to avoid recurrence:

Training on compliance with procedures and specifications will be conducted for new welders coming on site in the future. This on-going training, the training and the procedure changes which have already been completed, and the implementation of the QC welding surveillance checklist will prevent a recurrence of this violation.

A review of AP&L/ANO ASME and AWS Welding Procedure Specifications for accuracy and adequacy was initiated. The 52 AWS D1.1 qualified joint and pre-qualified joint WPSs have been reviewed and no changes were required. Of the 57 ASME Section IX qualified WPSs, 14 of the most commonly used WPSs have been reviewed and revised as necessary. The remaining ASME Section IX qualified Welding Procedure Specifications will be reviewed and revised as necessary by February 28, 1990. Any inadequacies in the remaining WPSs will not affect welding activities as the weld craftsmen and supervisors review the WPS prior to starting work and they are aware that any difficulties must be resolved before the work can be done. The AP&L/ANO Specification M-2415, "Nuclear Welding Standards", will be revised to address the use of demineralized water for controlling interpass temperature on austenitic stainless steels by February 28, 1990.

A review of the welding program at ANO has been initiated for possible enhancements, such as consolidation of the separate controls for the maintenance and modifications groups into uniform, comprehensive procedures and policies. Such procedures and policies would encompass training and qualification requirements for all welders on site. This review is expected to be completed by May 1, 1990.

4. The date of full compliance:

Compliance was achieved by October 22, 1989, with the completion of the training of the weld craftsmen on compliance with procedures and specifications.

As discussed above, the following procedures changes will be completed by February 28, 1990:

- The remaining 43 ASME Section IX qualified WPSs, to be revised as necessary based on reviews.
- AP&L/ANO Specification M-2415 to address the use of quenching spray.

Identified enhancements to the welding program as discussed above are expected to be completed by May 1, 1990.

Notice of Violation

B. Document Control

Criterion VI of Appendix B to 10 CFR 50 and the licensee's approved quality assurance plan require that measures shall assure that document changes are distributed to and used at the location where the prescribed activity is performed.

Contrary to the above, out-of-date revisions of Procedures 1092.011, "Implementing and Control Welding," and 1033.003, "Welding Filler Material Control" were in use at the storeroom during the issue of welding materials. This resulted in procedurally required records not being maintained.

This is a Severity level IV violation. (Supplement II) (313/8942-02; 368/8942-02)

Response to the Violation

1. The reason for the violation:

The correct revision of Procedure 1092.011 was not in the storeroom because Materials Management was not included on the Master Procedure Distribution List (MPDL) for 1092.011. The MPDL is used by Document Control to distribute new procedure revisions. The need for this procedure in the storeroom was apparently overlooked when distribution of the procedure was determined.

The correct revision of procedure 1033.003 was not in the rod storeroom because the Stores Supervisor failed to forward a copy to the rod storeroom.

2. The corrective steps that have been taken:

Copies of the latest revisions of procedures 1092.011 and 1033.003 were placed in the rod storeroom on October 20, 1989.

Materials Management and the rod storeroom have been added to the MPDL for procedure 1092.011, and the rod storeroom was added to the MPDL for procedure 1033.003. Revisions to these procedures will now be issued directly to the rod storeroom by Document Control, and written confirmation of receipt of each revision is required by Document Control procedures.

The Stores Supervisor has a controlled set of procedures required by Materials Management. There are no other work locations in Materials Management (except the rod storeroom) which require distribution of document changes.

The approval form for procedure revisions has recently been revised to ensure that if a procedure revision affects departments other than the department responsible for the procedure, the revision is also approved by a section leader in the other affected departments. This will help ensure that procedures are distributed to the appropriate departments.

3. Corrective steps that will be taken to prevent recurrence:

Actions taken to place the procedures on the MPDL for the rod storeroom will prevent recurrence of this event.

A review will be conducted of the 1033 procedure series (Materials Management procedures) to identify referenced procedures which are the responsibility of other departments. These identified procedures will be reviewed to determine if Materials Management should be on the distribution list for each procedure. This review will be completed by January 15, 1990.

4. The date of full compliance:

Full compliance was achieved October 20, 1989, when the current revisions were placed in the storeroom.