

NOTICE OF DEVIATION

Based on the results of an NRC inspection conducted on April 24-27, 1978, it appears that certain of your activities were not conducted in full accord with NRC requirements as indicated below:

- A. Criterion IX of Appendix B to 10 CFR 50 states in part, "Measures shall be established to assure that special processes, including welding, . . . are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes"

Paragraph ND-4231.2 in the ASME Section III Code states in part, "Attachments which are welded to the component during construction but which are not incorporated into the final component, . . . are permitted provided the following requirements . . . are met.

- (a) The material is identified and is suitable for welding but need not be certified material.
- (b) The material is compatible for welding to the component material to which it is attached. . .
- (c) The welding material is compatible with the base material and is certified in accordance with ND-2130.
- (d) The welder and welding procedure are qualified in accordance with Section IX and the additional requirements of ND-4320. . . ."

Contrary to the above, the inspector observed unidentified attachments (used for rotation in submerged arc welding) welded to Job No. 8405, Sheet F5734, without also evidence on the Weld History Record of the identity of the welder, welding procedure or welding materials used to weld the attachments.

- B. Criterion V of Appendix B to 10 CFR 50 states in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, . . . and shall be accomplished in accordance with these instructions, procedures, or drawings"

Welding Procedure Specification (WPS) No. 27-III-8-0B-12, which was the selected WPS for Sequence No. 11 on Job No. 8251, Sheet F 1230, requires the use of an argon backing purge and 11-13 volts for gas tungsten arc welding of the joint root at an amperage range of 65-100.

WPS No. 27-III-8-OB-12, which was the selected WPS for Sequence No. 11 on Job No. 8252, Sheet F 1239, requires the WPS to be used in conjunction with General Welding Standard, GWS-SS-III. Paragraph 11.3.5 in GWS-SS-III states in part, "Each weld bead shall be cleaned essentially free of slag or other foreign material before depositing successive beads"

WPS No. IT2-III-1-K1-123, which was the selected WPS for Weld B in Sequence 3 on Job No. 8405, Sheet F 5734, requires a travel speed of 17-24 I.P.M. for submerged arc welding.

Contrary to the above, the inspector observed the following with respect to the referenced operations:

1. Gas tungsten arc welding was being performed on Job No. 8251, Sheet F 1230, without an argon backing purge and with the voltmeter on the power source (S/N 61) indicating 16-18 volts.
 2. Shielded metal arc welding was being performed on Job No. 8252, Sheet F 1239, without removal of slag prior to deposition of successive beads.
 3. Initial submerged arc welding on Job No. 8405, Sheet F 5734, was performed at a travel speed of 33 I.P.M. It was noted that the travel speed was subsequently reduced to within the range stipulated by the WPS.
- C. Criterion V of Appendix B to 10 CFR 50 states in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, . . . and shall be accomplished in accordance with these instructions, procedures, or drawings"

Paragraph 9.2.2 in Procedure No. IX-3, revision dated June 15, 1976, states in part, "Unacceptable defects in welds which require repair shall be removed by mechanical means or thermal gouging process. The cavity shall be examined by magnetic particle or liquid penetrant methods to assure complete removal"

Contrary to the above, a cavity made in Weld A of Job No. 8405, Sheet F 4071, was not examined by magnetic particle or liquid penetrant methods to assure complete defect removal, as evidenced by the absence of a nondestructive examination report for the required inspection.

- D. Criterion IX of Appendix B to 10 CFR 50 states in part, "Measures shall be established to assure that special processes, including welding, . . . are controlled . . . using qualified procedures in accordance with applicable codes"

Paragraph QW-201.1 of the ASME Code, Section IX, states in part, "The Welding Procedure Specification (WPS) shall list in detail . . . variables described for each welding process as either essential or nonessential. (See QW-252 through QW-281.)"

Paragraph QW-201.2 of the ASME Code, Section IX, states in part, "The specific facts involved in qualifying a WPS shall be recorded in a form called Procedure Qualification Record (PQR). This form shall document the essential variables of the specific welding process or processes (as listed in QW-252 through QW-281) A change in any essential variable shall require requalification, to be recorded in another PQR."

Tables QW-253, QW-254, and QW-256 in the ASME Code, Section IX, list an increase in amperage for the shielded metal arc (SMAW), submerged arc (SAW) and gas tungsten arc (GTAW) processes, respectively, as a supplementary essential variable where notch toughness properties are specified.

Contrary to the above, WPS IT2-III-1-K1-123, revision date January 10, 1978, which was approved for Code applications with specified notch toughness requirements, permitted increases in amperage above the range qualified in the supporting PQRs for the SMAW, SAW, and GTAW processes.

- E. Criterion X of Appendix B to 10 CFR 50 states in part, "If mandatory inspection hold points, which require witnessing or inspection . . . and beyond which work shall not proceed without the consent of its designated representative. . . ."

Section X of the QA Manual, paragraph 5.3, states, "The ANI will be given the opportunity to establish Hold Points on each process sheet. He will be notified in advance of a Hold Point."

Contrary to the above, a penetrant inspection was observed to have been performed and weld repairs made without ANI witness on Job No. 8405, Sheet F 1664, although the inspection was a designated ANI hold point and the inspector was informed by the ANI, that he had not been notified of the intended operation.

- F. Criterion V of Appendix B to 10 CFR 50 states in part, "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings . . . and shall be accomplished in accordance with these instructions, procedures or drawings. . . ."

Section X of the QA Manual, paragraph 2.3, states in part, "The actual procedure selected shall be recorded by procedure number and revision date on the appropriate documents in the traveler package."

Contrary to the above, the actual weld procedure selected was not recorded on the appropriate document in the traveler package for repair welds, that had been made on joints A and B for Job No. 8405, F 1664.

- G. Criterion XVIII of Appendix B to 10 CFR 50 states in part, "A comprehensive system of planned and periodic audits shall be carried out to verify compliance with all aspects of the quality assurance program"

Internal Auditing Procedure XVIII-1, paragraph 5.1, states in part, ". . . each activity shall be audited at least once every six months for shop."

Contrary to the above, each activity was not audited every six months in that eight (8) activities had not been audited since March 22-24, 1977, a period of thirteen months, as of the date of this inspection.