

SSER

6/15/84
revision to include
acknowledgment of package
received from CB&I on 6/14

Task: Allegation A-259

Reference No.: 4-84-A-06-142(3)

Characterization: It has been alleged that "Class D" material used by Chicago Bridge and Iron (CB&I) in the fabrication of certain non-pressure bearing structural components inside containment was not welded with traceable weld rod and that the welds are not traceable to a specific welder.

Assessment of Allegation: This allegation is related to Allegation A-258 regarding the traceability of materials categorized by CB&I as Class D that were used in the fabrication of certain non-pressure bearing structural components in the containment vessel. As described in the assessment of Allegation A-258, these structural components include seismic clips that support safety class piping systems, parts of the equipment hatch handling device, parts of the personnel and escape locks, crane rails and girders, stairs, ladders, and some temporary attachments and components. Ebasco categorized these components, with the exception of ~~these~~ temporary items, as Seismic Category I, therefore requiring material traceability, but according to CB&I quality assurance procedures, material traceability was not required for Class D material and thus was not maintained. As further stated in the assessment of Allegation A-259, the issue of traceability of the Class D structural steel was satisfactorily resolved by Nonconformance Report (NCR) 6224. However, this NCR did not address the traceability of the weld material.

To assess this issue the NRC staff reviewed the structures in which the D Class material was used and ^{on May 25, 1984} requested the licensee to provide the quality assurance documentation for welds in several of the structural components considered to have the greatest safety significance. These components were the containment spray system pipe supports (seismic clips), crane girders, and equipment hatch handling device. Quality assurance (QA) documentation including items such as welding procedures, welder identification and qualifications, weld rod

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identification, and weld inspection results were requested for certain welds in these components. This quality assurance information is required for welds in safety related structures. ~~As of May 31, 1984 LP&L was unable to produce the records requested by the NRC staff.~~ The inability to produce the appropriate quality assurance records makes the quality of the subject safety related structures undeterminable and the NRC staff has concluded that additional actions as described below should be taken by LP&L to resolve this issue.

Potential Violations: The inability to produce quality assurance records for welds in safety related structures constitutes a violation of Criterion XVII, "Quality Assurance Records" of Appendix B ^{to 10CFR part 50} Criterion XVII requires that sufficient records be maintained to furnish evidence of activities affecting quality. Furthermore, the possibility exists that because of the erroneous ~~Class D~~ ^{classification} ~~classification~~ of materials in safety related structures, ~~as Class D~~ the required quality assurance activities were not performed and the required quality assurance records never generated. Thus, there are potentially violations of Criterion VIII, "Identification and Control of Materials, Parts, and Components;" Criterion IX, "Control of Special Processes;" and Criterion X, "Inspection." ~~Criteria VIII and IX~~ ^{Criteria IX requires} require identification and control of materials and ~~identification and~~ control of welding and inspection processes and personnel, ~~respectively.~~ Criterion X requires establishment and execution of an inspection program.

Actions Required: In the event that the licensee cannot produce for NRC review the required quality assurance documentation related to welding of Class D materials inside containment, he shall develop and implement a program to assure that the subject safety related structural components have adequate quality so as not to adversely affect their structural integrity and safety related functions. This program shall be submitted to NRC for review prior to its implementation. The program should include a review of the structures in which Class D material was used and identification of those that are safety related. Actions taken by the licensee to resolve the issue ^{shall utilize one of the} ~~may include but are not~~ limited to the following ~~approaches listed provided below or an~~ ^{equally suitable method.}

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- o Demonstration that quality assurance requirements were met through the review of supplier, contractor, and/or other records.
- o Demonstration that the structural component of concern does not have a significant safety function and hence that quality assurance records are not necessary. ✓
- o Appropriate nondestructive inspection and/or evaluations of subject structural welds.
- o *Destructive analyses (materials property testing, chemical composition analyses etc.) of a representative sample of welds.* ✗
- o Rewelding of critical components in accordance with approved quality assurance and quality control procedures.

The results of the licensee's program shall be submitted to NRC and the NRC staff ^{shall} review the results to ensure that this issue has been satisfactorily resolved prior to initial criticality. ✓

References

1. Assessment of Allegation A-258
2. Nonconformance Report 6224 issued May 13, 1983
3. Code of Federal Regulation, Title 10, Part 50, Appendix B.

Statement Prepared By: _____
J. Strosnider _____
Date _____

Reviewed By: _____
Team Leader _____
Date _____

Reviewed By: _____
Site Team Leader(s) _____
Date _____

Approved By: _____
Task Management _____
Date _____

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9 On June 14 the licensee provided a package of information in response to the NRC Staff's May 25 request. This package included (1) sections from the CB&I Quality Assurance Manual describing the appropriate welding and inspection procedures for ASME Section III products, (2) material certification and material test reports for Class D materials used inside containment, (3) a master checklist for control and certification of welding and inspection operations, (4) magnetic particle examination reports for certain welds made inside containment by CB&I, (5) a list of certified CB&I welders who worked on the Waterford projects, and (6) Certified Material Test Reports for weld rod ~~used~~^{purchased} by CB&I. The NRC Staff review of these documents showed that no traceability could be established between specific weldments and the welders who made the welds or the weld rods used. Furthermore, the magnetic particle examination reports that were provided included only

welds between Class B and Class D material. No evidence was provided that such weld examination reports exist for Class B to Class D material welds. The Staff has therefore concluded that the documentation provided on June 14 do not constitute adequate quality assurance records.