



inspection records, material identification, nonconforming material identification, and equipment calibration tags. The inspector interviewed craft personnel, supervision, and quality inspection personnel as such personnel were available in the work areas. Where more detailed inspection of an area was conducted, the inspection scope and findings are described in other paragraphs of the report.

No items of noncompliance were identified.

3. Safety-Related Structural Support Work Activities and Quality Records - Residual Heat Removal Heat Exchanger Support (Unit 1 and 2)

The inspector examined completed structures, interviewed licensee personnel and examined records relative to the RHR structural supports erected in area 16 of Unit 1 and area 17 of Unit 2. Specifications, procedures, drawings and quality documentation were reviewed relative to receipt inspection, material test reports, vendor manufacturing and inspection records, nonconformance reports, construction/erection, location of installation, inspection activities and personnel qualifications.

The inspector considered the above items with regard to criteria delineated in:

- Limerick Generating Station Unit 1 and 2 Quality Assurance Plan Volume 1, Design and Construction Phase.
- Specifications C-41A and C-63.
- ASTM Part 4, 1970.
- AISC 1970 Edition.

The inspector examined the following documents relative to the above:

- QC Inspection Reports Nos. C-196-W-1-1, C-196-W-1-3 and C-196-W-1-4.
- QCIR No. C-SF-1347.

- Material Receiving Report, P.O. No. 8031-C-41A-AC.
- In process Rework Notice, Inspection Document No. C-41A-SF-1347.
- Suppliers Document Review 8031-C-41A-70-1, April 13, 1976.
- Test Report - Bars, ASTM A-36-70A, Reference MRR 8031-SF-1347 with statement of conformance.
- Document Package 8031-C-41A-F-70-1, Tag #1-PF1 and 779-1 (four parts).
- Material test reports for heat Nos. 72E64B, 74E617 and 66E607.
- Vendor Drawings 8031-C-41A-291-4, 292-4, 293-4, Bechtel Erection Drawing 8031-C-196 Revision 6.
- Welder - Inspector Training and Qualification Files: WAD, TJW, ERC.

The inspector, using the vendor and erection drawings verified the components and location of the structure by sample measurements. Vendor use of specified nuts and bolts were randomly checked and found acceptable. Documentation indicated the use of calibrated torque wrenches in placements of bolts. Records indicated that test equipment used was in calibration. Records of inspection activities appeared to be complete, legible and readily retrievable. The records reflected current status. The records reviewed indicated that there were no nonconformances identified during the erection of the supports.

No items of noncompliance were identified, except as discussed below.

The inspectors examined the following:

- a. 20 shop welds on 11 steel member connections on the Unit 1 Area 16 support structure: four welds on four connections were found nonconforming;
- b. 10 shop welds on 5 steel connections on the Unit 2 Area 17 support structure: no welds on these connections were found nonconforming;

- c. 24 field welds on 13 connections on the Unit #1 Area 16 support structure; two welds on two connections were found nonconforming;
- d. 2 field welds on 2 connections on the Unit 2 Area 17 support structure: two welds on one connection were found nonconforming. (Nonconforming conditions were relative to AWS-D1.1 code and design drawings.)

The vendor weld discrepancies are considered to be unresolved. This unresolved item is discussed in paragraph 4.

The field weld item is considered to be an item of noncompliance relative to Criterion IX of Appendix B of 10 CFR 50, for Unit 1 and Unit 2. (352/77-12-01; 353/77-12-01) ✓

4. Unresolved: Inspection, Evaluation and Correction of Nonconforming Shop Welds on RHR Heat Exchanger Supports

The inspector measured several shop welds on vendor supplied structural steel supports for the Unit 1 Area 16 RHR heat exchanger and found the following nonconformances with requirements of the applicable AWS-D1.1 welding code and applicable design drawing #C41A-292-4:

- a. The wall brace gussets at the southwest and northwest ends of the lower support (PF1) contained fillet welds which were less than the 1/4" size (3/16"). The undersize was over the full length of the northwest gusset upper edge, and 50% of the length of the southwest gusset lower weld.
- b. The vertical brace (C1) intermittent fillet welds were less than the specified 4-inch length, on the east and west support leg gussets, (2", 3 1/2"). Significant undercut ($\geq 1/16$ "") was visible in three welds of the west leg gusset.

There was no tag or site documentation available which identified this specific nonconforming condition. However, the licensee and Bechtel site QA representative stated that a general condition of nonconforming shop welding for vendor supplied structural steel had been defined in a Management Corrective Action Report (MCAR-1 No. 15) dated June 15, 1977. The RHR heat exchanger support manufacturer (American Bridge) is one of the vendors identified in that MCAR #15.