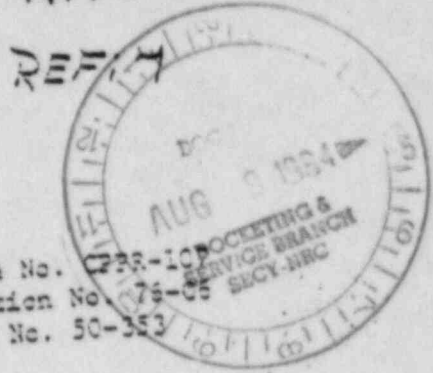


APPL Ex 53



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
621 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

November 10, 1976



License No. CP38-107
Inspection No. 76-05
Docket No. 50-353

Philadelphia Electric Company
Attention: Mr. V. S. Boyer
Vice President
Engineering and Research
2301 Market Street
Philadelphia, Pennsylvania 19101

Gentlemen:

This refers to the inspection conducted by Mr. A. Toth of this office on October 16, 19-22, 1976 at the Limerick Generating Station of activities authorized by NRC License No. CP38-107 and to the discussions of our findings held by Mr. Toth with Mr. J. Corcoran of your staff at the conclusion of the inspection, and to a subsequent telephone discussion between Mr. Toth and Mr. Corcoran on November 2, 1976.

Areas examined during this inspection are described in the Office of Inspection and Enforcement Inspection Report which is enclosed with this letter. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, measurements made by the inspector, and observations by the inspector.

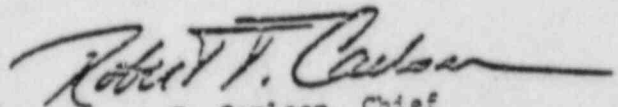
Based on the results of this inspection, it appears that certain of your activities were not conducted in full compliance with NRC requirements, as set forth in the Notice of Violation, enclosed herewith as Appendix A. These items of noncompliance have been categorized into the levels as described in our correspondence to you dated December 31, 1974. This notice is sent to you pursuant to the provisions of Section 2.201 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations. Section 2.201 requires you to submit to this office, within twenty (20) days of your receipt of this notice, a written statement or explanation in reply including: (1) corrective steps which have been taken by you and the results achieved; (2) corrective steps which will be taken to avoid further items of noncompliance; and (3) the date when full compliance will be achieved.

8411270154 840507
PDR ADOCK 05000352
PDR

In accordance with Section 2.790 of the NRC's "Rules of Practice", Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosures will be placed in the NRC's Public Document Room. If this report contains any information that you (or your contractor) believe to be proprietary, it is necessary that you make a written application within 20 days to this office to withhold such information from public disclosure. Any such application must be accompanied by an affidavit executed by the owner of the information, which identifies the document or part sought to be withheld, and which contains a statement of reasons which addresses with specificity the items which will be considered by the Commission as listed in subparagraph (b) (4) of Section 2.790. The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified period, the report will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,



Robert T. Carlson, Chief
 Reactor Construction and Engineering
 Support Branch

Enclosures:

1. Appendix A, Notice of Violation
2. IE Inspection Report No. 50-353/76-06

APPENDIX A

NOTICE OF VIOLATION

Based on the results of the NRC inspection conducted on October 16, 19-22, 1976, it appears that certain of your activities were not conducted in full compliance with conditions of your NRC Facility License No. CFFR-107 as indicated below. These items are infractions.

- A. 10 CFR 50, Appendix B, Criterion IX requires 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, standards, specifications, criteria and other special requirements."

Contrary to the above, the established measures were insufficient to assure that welding of structural steel on September 22, 1976 was accomplished in accordance with the applicable AWS-D.1.1. The fillet welds on structural steel beam connections at elevation 253, columns 23-G and E, did not meet the quality requirements of the AWS Structural Welding Code.

Welding electrode holders were used attached to extension sticks which were not "designed or manufactured so as to enable qualified welders...to attain the results prescribed" in the AWS code, nor were procedures alternatively qualified to establish that acceptable weld quality could be attained with such sticks. Quality control surveillance inspections conducted and documented did not identify and effect correction of the condition.

- B. 10 CFR 50, Appendix B, Criterion X requires in part, "A program for inspection of activities affecting quality shall be established and executed by or for the organization performing the activity to verify conformance with the documented instructions...shall be performed for each work operation where necessary to assure quality."

Contrary to the above, the inspection of activities during October 1976 did not verify conformance with Specification A-26 Revision 2 requirements for protection of machined surfaces during sandblasting and painting operations on the containment dome, and such protection was not maintained and the machined surfaces were inadvertently painted and possibly sandblasted.

- C. 10 CFR 50, Appendix B, Criterion V requires in part, "Activities affecting quality shall be prescribed by documented instructions... and shall be accomplished in accordance with these instructions..."

Contrary to the above, on October 20, 1976 the document control requirements of job rule JR-G-5 were not implemented for design decisions to place holes in the upper flange of structural steel beams at elevation 253 of Area 18 of the reactor building.

SECTION 1 HAS NOT OBTAINED PROPRIETARY
CLEARANCE IN ACCORDANCE WITH 10 CFR 2750

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION I

IE Inspection Report No: 50-353/76-06 Docket No: 50-353

Licensee: Philadelphia Electric Company License No: CFPR-107

2301 Market Street Priority: --

Philadelphia, Pennsylvania 19101 Category: A

Location: Limerick, Pennsylvania Safeguards Group: —

Type of Licensee: BWR - 1065 MWe (GE)

Type of Inspection: Routine, Unannounced

Dates of Inspection: October 16, 19-22, 1976

Dates of Previous Inspection: July 26-28, 1976

Reporting Inspector: A. D. Toth DATE: 11-3-76
A. D. Toth, Reactor Inspector

Accompanying Inspectors: None DATE: _____

Other Accompanying Personnel: None DATE: _____

Reviewed By: R. Keimig DATE: 11/9/76
R. R. Keimig - Acting Chief, Construction Projects Section
Reactor Construction and Engineering Support Branch

SUMMARY OF FINDINGS

Enforcement Action

Items of Noncompliance

A. Infractions (Details, Paragraph 3)

- 76-06-01: Failure to Weld Structural Steel Per AWS Code
- 76-06-02: Failure to Inspect Protective Covers of Containment Dome Flange Face During Cleaning/Painting Activities
- 76-06-03: Failure to Implement Job Rule G-5 Requirements For Control of Design Changes

Licensee Action on Previously Identified Enforcement Items

Not inspected.

Design Changes

None identified.

Unusual Occurrences

None reported.

Other Significant Findings

A. Current Findings

1. Acceptable Items

The following items were inspected with respect to those aspects described in the Details of this report. No departures from regulatory requirements or SAR commitments were identified, subject to any specific exceptions which may be noted elsewhere under Enforcement Action or Current Findings of this report. (Details, Paragraph 5, Subparagraphs as listed below).

- a. Structural Steel Welding Quality Records - Audits
- b. Containment Penetrations Records - Piping
- c. Structural Steel Welding Work Activities
- d. Structural Steel Welding - Records
- e. Safety Related Component Work Activities - Storage, Handling and Protection
- f. Reactor Building Reinforcing Steel Quality Control Inspection
- g. New On Site Vault For Documentation Storage

2. Unresolved Items

The following items have been identified as unresolved.
(Details, Paragraph 4)

76-06-04: Implement Nonconformance Control System for Concrete Aggregate Material Receiving

76-06-05: Determine Adequacy of Concrete In Reactor Building East Wall

76-06-06: Determine Implementation of the Nonconformance Control System for the Structural Steel Vendor

B. Status of Previously Identified Unresolved Items

None inspected.

C. Deviations

None identified.

Management Interview

At the conclusion of the inspection a meeting was held at the site with representatives of the licensee and contractor organizations. Attendees at this meeting consisted of personnel whose names are highlighted (i.e.*) in paragraph 1 of the Details Section of this report. The inspector summarized the purpose and the scope of the inspection (Details, Paragraph 2), and the results of the inspection (as listed in the "Summary of Findings").

In a November 2, 1976 telephone conversation, additional information was provided by the licensee management representative and commitments were made which related to the information gathered and conclusions reached as described in the Details of this report. Specifically, with regard to the unresolved item 76-06-06, the licensee advised the inspector that an audit of structural steel nonconformance control has commenced.

DETAILS1. Persons ContactedPhiladelphia Electric Company

- *J. M. Corcoran, Site Quality Assurance Engineer
- *D. A. Marascio, Quality Assurance Engineer
- *J. T. Robb, Quality Assurance Engineer
- *A. McLean, Construction Engineer - Civil
- W. T. Baxter, Quality Assurance Engineer
- *J. W. Austin, Construction Engineer

Bechtel Corporation

- *J. R. Reiney, Jr., Project Construction Manager
- *E. R. Klossin, Lead Site Quality Assurance Engineer
- *A. G. Weedman, Project Field Engineer
- *R. G. French, Subcontract Engineer
- *M. Brown, Project Field Quality Control Engineer
- *R. Co, Quality Assurance Engineer
- L. Brown, Concrete Lab Quality Control Supervisor
- *K. Bishop, Quality Control Welding Engineer
- R. Lamley, Assistant Project Field Quality Control Engineer
- S. Summers, Quality Control Engineer - Cadwelding
- D. Miller, Quality Control Engineer - Cadwelding
- J. Gasparich, Quality Control Engineer - Cadwelding
- V. Ferretti, Quality Control Engineer - Welding
- A. DiPietro, Quality Control Engineer - Civil
- L. Brown, Quality Control Engineer - Civil
- P. Glanski, Quality Control Engineer - Civil
- D. Kaas, Quality Control Engineer - Civil
- R. H. Pauza, Quality Control Engineer - Receiving Inspection
- M. Greenidge, Area #1 Engineer - Construction Supervision
- J. Johanson, Area #1 Structural Engineer
- R. Merdell, Area #1 Rebar Superintendent
- E. Immon, Field Assistant - Area Office Stock Coordinator
- R. DeWitt, Construction Assistant - Weld Rod Room
- J. Windsor, Area #1 Structural Steel & Rigging Superintendent
- R. Beech, Quality Control Documentation Coordinator
- R. Seisle, Foreman - Ironwork
- G. P. Auclair, Welder IU-1
- J. Kier, Welder IH-3
- S. Olson, Cadwelder
- M. Walsh, Cadwelder
- S. Bradburn, Material Supervisor
- R. Carlson, Assistant Material Supervisor
- S. W. Gearhart, Assistant Material Supervisor

O. B. Cannon Company

E. Pokropski, Field Quality Control Inspector

2. General

A pre-inspection meeting was held on site on October 19, 1976, with the senior licensee representative, to discuss the scope of the inspection, and work progress or occurrences which may bear upon the inspection. The status of previously identified unresolved items, corrective actions or other outstanding items was discussed.

The inspector stated that the scope of the inspection would include observation of structural steel work in progress and associated records, review of containment penetration records for control rod drive hydraulic lines, and general observation of work.

The inspector stated that he had also been on site October 16, 1976 in conjunction with an inspection of RPV transport tests for license CPPR-106, and at that time had observed concrete curing activities for the CPPR-107 containment dry-wall wall.

3. Items of Noncompliance

The following three items appeared to involve noncompliance with regulations of the Nuclear Regulatory Commission or conditions of the applicable NRC license. These items are infractions.

76-06-01:
Failure To Weld Structural Steel Per AWS Code

During observation of welding of structural steel at Area 13 elevation 283, the inspector observed that one steel floor beam passed close to column H at wall line 23. The clearance was such as to limit access to the required fillet welds of angle clips to the beam end and the embed on wall No. 23. Interviews with craft and supervision personnel revealed the plan to perform the welding with the electrode holder fastened to the end of a broomstick; the personnel stated, and licensee and contractor QA and QC personnel later confirmed that this approach had been used on the similar limited access weld joints at elevation 253, columns F and H at wall 23.

The inspector determined that the weld procedure PI-A-Lh (Structural) Rev. 0 had not been qualified using electrode holder extensions, nor had the welder been qualified using such extensions. Although the applicable Code AWS D1-1-72 does not specifically address the use of electrode holder extensions with respect to procedure/welder qualifications, it does in Part 3.1.2 require that equipment be designed and manufactured so as to enable qualified welders to attain the results prescribed in the AWS Code. The inspector considered that an electrode holder attached to a stick did not meet this requirement unless proven satisfactory by qualification test for the six different weld configurations to be welded at the limited access joints. The licensee disagreed, and the inspector requested that provisions be made to permit his visual inspection of the limited access welds performed at elevation 253 on steel beam piece numbers 232B7. An elevator hoist and an inspection mirror and light were made available to the inspector. The welds were found to not comply with the requirements of AWS-D-1-1 Section 3 "Workmanship," in that the welds were of unacceptable profile, contained excessive undercut, and were incomplete at the upper and lower edge of the angle clip (root pass complete, only). For the weld joints designated #3 in the record drawing of the in-process checklist, all inspection items had been checked-off by the Bechtel quality control inspector, including "Final Quality Verification." The QC inspection apparently did not comply with the requirements of AWS-D-1-1 Section 6 "Inspection." The inspector reviewed the following documentation relative to the above item:

QCIR-C-201-W-1-8	Quality Control Inspection Report - E1253
C-41A-515-3	Vendor Drawing (Record Copy) Elevation 253
QCIR-C-204-W-1-2	Quality Control Inspection Report - E1253
C-41A-657-3	Vendor Drawing (Record Copy), Elevation 253
PI-A-Lh (Structural) Rev. 0	Weld Procedure
	Quality Control In-Process Check-Off Sheet - Welding, C-201-W-1-8.

This item is a noncompliance with regard to 10 CFR 50 Appendix B, Criterion IX requirements that special processes such as welding be controlled in accordance with applicable codes and standards.

76-06-02:

Failure To Inspect Protective Covers of Containment Dome Flange Face During Cleaning/Painting Activities

During observation of storage conditions of the containment dome, the inspector observed workmen finishing the exterior surface of the dome which had recently been painted. The inspector observed and interviewed the painting contractor quality control supervisor at the work.

The inspector observed that, at several locations, several feet of protective tape had come loose from the machined flange face. The protective coating which had been on the face, and covered by the tape, was also missing; phenol base paint had been sprayed on the machined surface. It was not evident that the protective coatings had been removed by sandblasting or other operations. Up to the time of these observations, the dome inner surface had been sandblasted and painted and the outer surface had been sandblasted and painted.

The job specification A-26 Revision 2 for Special Coatings requires in part 9.9 that "Prefinished items and adjacent surfaces not to receive coatings shall be masked and protected prior to surface preparation and during all operations." This had been initially accomplished as evidenced by the existence of the masking gaps, but controls during operations had apparently failed to maintain compliance. This is a noncompliance with regard to 10 CFR 50 Appendix B, Criterion X requirements for examination of each work operation to assure quality.

76-06-03

Failure to Implement Job Rule G-5 Requirements For Control of Design Changes

During general observation of structural steel erection work in the reactor building exterior to the containment vessel, the inspector observed ironworkers cut and ream holes in the top flange of structural steel beams at elevation 253 in area 18. The workmen described these holes as being for the attachment of temporary steel cross beams as a construction aid to stabilize the float for use as a laydown area for reinforcing steel. The inspector examined design drawings and found that the holes were not shown, nor were they shown on the record drawings or otherwise identified for the responsible quality control inspectors. The inspector interviewed the ironworkers and foreman, construction engineer, field engineer and quality control engineers and found that the holes were identified in a telephone record in the construction engineers' files. There was no Field Change Request (FCR), Nonconformance Report (NCR), Design Change Notice (DCN), or Field Design Change Notice (FDCN) available.

The site job rule JR-G-5 requires that design change information or clarification in the form of TNY or other correspondence shall be handled in a specific manner, including issuance of a Field Design Change Notice (FDCN), reference of the FDCN on the appropriate drawings, and specific reviews and approvals. Failure to apply this control is a noncompliance with regard to 10 CFR 50 Appendix B Criterion V requirements to implement established measures for the control of issuance of design documents.

The inspector reviewed the following documentation relative to the above item:

- C-201 Rev. 4 Structural Steel Drawing
- QCIR-C-210-C63-2 Quality Control Inspection Report
- Telecon Record dated February 6, 1976
- FIM-G-2 Rev. 3, PSP-G-2-1 Rev. 0, JR-G-5 Rev. 12: Project Procedures

4. Unresolved Items

The following items were identified by the inspector as unresolved items, subject to future inspection and examination of supplemental information.

276-06-04
Implement Nonconformance Control System for Concrete Aggregate Material Receiving

During a walk-through inspection at the on-site concrete batch plant, the inspector observed aggregate fines on the surface of the coarse aggregate pile in amounts which would normally be considered excessive. However, this batch plant has provisions to withdraw aggregate from the bottom of the center of the pile, and to rescreen the aggregate as it is transferred to weighing hoppers. The inspector interviewed quality control personnel regarding effectiveness of such rescreening. At this time the inspector determined that on September 27, 1976 the concrete batch plant quality control laboratory staff identified that coarse aggregate received from the supplier contained excess fines to a degree such that even after processing through the batch plant screens the material did not meet gradation specifications. Concrete for safety related structures was not produced in the batch plant that day, and subsequent test records showed that the gradation was corrected. However, no nonconformance report was prepared, and the corrective action taken to segregate and disposition the nonconforming material was not documented.

The inspector observed that the batch plant material receiving inspection control requirements are variable, in that the batch plant is used for production of concrete for both safety related and non-safety related structures at the site. In this particular case safety related structures were not involved and a noncompliance situation was avoided. However, the practice of not implementing the nonconformance control system at the batch plant for safety related work is unresolved pending NRC further inspection of concrete records.

The licensee stated that a meeting is scheduled on site the following week to determine a resolution of this item.

96-06-05:

Determine Adequacy of Concrete In Reactor Building East Wall

During a walk-through inspection at reactor building elevation 253 the inspector observed a nonconformance tag number NCR-1934 at the east wall. The associated back up records showed that concrete placements number RW-HJ-25 and-30 involved low 28 day cylinder-break strengths for three consecutive test cylinder pairs. The low strength (4585 psi, 4825 psi, 4770 psi) was identified in NCR-1825 on July 26, 1976. The NCR was dispositioned "use-as-is" on the basis that "the design load is not expected on the above placement for at least 90 days, at which time the concrete will reach the required compressive strength of 5000 psi." However, on September 27, 1976 the field quality control staff found that the required strength had not been reached after 91 days (4720 psi and 4530 psi values for test cylinder pair #1806). The field staff tagged the placement with the observed NCR-1934, which has been referred to the home office engineers for disposition.

This item is unresolved pending review of the final disposition of this item, and the controls to assure follow-up on this type of use-as-is disposition (i.e. predicated on assumed future action or occurrences).

96-06-06:

Determine Implementation of the Nonconformance Control System for the Structural Steel Vendor

During a walk-through inspection of elevation 217 the inspector observed that existing bolt holes had been elongated in a horizontal direction, in the web of structural steel beam W-30 x 132-6, at column line F. The inspector discussed this item with ironworkers in the vicinity, who stated that existing holes, designed for pass-through of reinforcing steel, could be elongated up to 3 inches in the longitudinal direction only; this was based upon verbal direction from the construction engineers.

The inspector discussed this item with the responsible construction engineers and reviewed the applicable design drawing (C-198 Rev. 10) and vendor drawing (C46-273-5). The design drawings showed the holes as elongated, but the vendor drawing showed no elongation. The construction engineer stated that the field was correcting the vendor error, as necessary, within limits of the design. There apparently was no nonconformance report applicable for this item. This item is unresolved pending further review of the controls for structural steel vendor nonconformances.

In a telephone conversation on November 2, 1976, the licensee advised the inspector that his site QA staff is now engaged in a surveillance audit of this item to ascertain whether the contractor's controls require improvement.

5. Acceptable Items

The following items were examined by the inspector to ascertain implementation of the quality assurance program with respect to these items. The inspector did not identify any departures from regulatory requirements or PSAR commitments, except as may be specifically described in other paragraphs of this report and referenced in subparagraphs below.

a. Structural Steel Welding Quality Records - Audits

The inspector examined the Bechtel audit schedule and two audit reports regarding audit of structural steel activities. The inspector also examined three audit reports prepared by the licensee's own quality assurance on-site staff, regarding structural steel work on the reactor building and control room. For the Bechtel audits, the inspector also examined the backup checklists and field notes.

The Bechtel audit records included detailed checklists, including separate weld observation checklists with acceptance criteria and space for data. The records of both Bechtel and the licensee showed cognizance of applicable specifications, drawings, job rules, inspection quality control, and showed that work observation, quality records review, and interview of personnel were included. Audit findings were documented in the prescribed manner and there was evidence of management review. The inspector examined one audit finding and observed that timely corrective action was documented. The inspector examined the following specific records:

- PECO Site Audit Reports
- C-59 (June 1975)
- C-79 (March 1976)
- C-82 (June 1976)

- Bechtel Project Audit Reports
- PFA-55, 18-6-1 (June 1975)
- PFA-81, 18-6-2 (December 1975)

Bechtel Finding Report AWR-C-047

b. Containment Penetration Records - Piping

The inspector examined the survey records for the control rod drive hydraulic line penetrations of the reactor containment

drywell wall. The survey records showed that the pipe lines sloped to drain into the containment side of the wall, but did not meet the 1/2 inch per foot slope specified on the CB&I design drawing. However, a nonconformance report had been prepared and had been acceptably dispositioned by the Engineer-Constructor as use-as-is on the basis that each penetration slope exceeded the minimum 1/8 inch per foot specified on the NSSS supplier's design drawing.

The inspector examined the following specific documents:

CB&I Drawing No. 70-7199 - #73 Rev. 6

Dimensional Inspection Reports, File 7-2-1, Contract 70-7199;
Index #13 dated May 19, 1976

Request for Approval of Deviation: RAD-C-8; RAD-C-12.

Specification 8031-C-2.

c. Structural Steel Welding Work Activities

The inspector observed structural steel welding activities at elevation 283 of area 13 of the reactor building. Welds in progress consisted of fillet welds on angle clips connecting three floor beams to embeds in the west wall of the building. Each connection included two clips, each of which was welded to the web of the beam and to the embed. The inspector observed joint preparation and alignment and welding progress.

The welded connections were identified on quality control inspection record drawings and checklists. The records did not identify each weld, but rather the connection number which included two angle clips and four welds. In-process inspection/surveillance checklists indicated that fit-up, joint cleaning, proper weld material, weather protection, and final quality verification were among the items which were inspected for each connection and were found satisfactory. The inspector observed base metal cleaning and joint preparation to be as required in the applicable specification. The licensee stated that consideration was being given to more specifically identify each weld of each connection, on the in-process checkoff sheets. The inspector observed that completed welds met the final profile, size, length, uniformity and lack of undercut and flaw requirements of the applicable construction code (AWS D1.1) and weld procedure (PI-A-Lh-Structural). He observed that welders removed slag at weld bead tie-in and between weld passes and avoided arc strikes on adjacent base metal.

The inspector interviewed the welding quality control engineer (QCE) and examined his records of welder qualification and in-process inspections. The QCE stated that in addition to other observations, he also randomly checks electrical parameters. The inspector also inspected the weld rod issuance trailer and rod issue records for the days of welding observation. Weld rods were identified and stored in calibrated rod ovens. Attendants interviewed stated that they checked returned rod for defects in flux coating, burnt tips and any general damage. Damaged rod segregated from the oven storage was observed as evidence of this inspection. The inspector checked the weld rod issue record for the observed weld joints and verified that the issued rod was as called for by procedure and was in fact in use by the welder. No uncontrolled filler material was observed in the welding areas.

The inspector also observed various structural steel columns where fit-up for welding or where welding had been complete. Base metal weld grooves were observed where paint had not been applied in order to facilitate joint preparation, and run-off plates were installed to ensure sound groove weld termination. The inspector interviewed a welding foreman, who expressed awareness of pre-heat and weather protection requirements.

d. Structural Steel Welding - Records

The inspector examined the records associated with the welding activities he observed during this inspection. These included records for beam connections numbered 1, 2 and 3 at the reactor building area 13 east wall at elevation 283. Record drawings, inspection reports, in-process surveillance checklists, personnel qualifications, and weld rod issue forms were examined, and no discrepancies from NRC requirements or SAR commitments were identified, other than the item of noncompliance (Item 76-06-01 of this report) associated with limited access welding. The following records were examined:

- QCIR-C-204-W-1-2 QC Inspection Report
- C-204 Rev. 3 Record Drawing (layout)
- C-193 Rev. 3 Record Drawing (connection details)
- C-41A-657-3 Vendor Print (layout)
- C-204-W-1-2 Weld QC In-Process Checkoff Sheet
- WR-NC-2 (10-19-76) Filler Metal Withdrawal Authorization(s)
- GNS-Structural, Rev. 1 General Welding Standard
- PI-A-Lh (Structural) Rev 0 Welding Procedure Specification

e. Safety Related Component Work Activities - Storage, Handling and Protection

- (1) The storage, handling and protection of safety related components at the ADWIN warehouse were inspected against the applicable manufacturer's specifications. The mechanical components selected were:

Recirculation Pump (B 32-C001)
Recirculation System Gate Valve (B 32-F023)
Core Spray Pump (E 21-C001)
Jet Pump Assemblies (B-11-D233)

The inspector examined the storage and maintenance file for each component and determined the necessary storage requirements. The inspector then examined the storage conditions for each component, verifying such things as space heaters energized and desiccant in place; he also inspected the cleanliness and preservation condition of each component. The "Insulation Resistance Testing Report" for the recirculation system gate valve motor was also reviewed.

The inspector interviewed the Material Supervisor, QC Engineer and other personnel responsible for surveillance during storage. The general program for maintenance during storage was discussed and several outstanding maintenance action cards were reviewed by the inspector. The personnel interviewed appeared knowledgeable of the computer system for controlling maintenance action and were familiar with specific maintenance and surveillance requirements for the components examined. No discrepancies were noted.

- (2) Storage conditions of the following electrical components were also examined:

Recirculation Pump Motor (B 32-C001A)
Recirculation System MG Set (B 32-S001)
RHR Pump Motor (E 11-C002A)

The inspector examined the storage and maintenance file for each component and determined the storage requirements. The inspector then verified component storage conditions, examining such things as space heaters being energized and

equipment proper oil levels where applicable. The "Insulation Resistance Testing Report" for each component was reviewed. The megger in use at Adwin had a proper calibration sticker. The calibration record dated June 17, 1976 was also reviewed. No discrepancies were noted.

- (3) The inspector observed general storage conditions of most safety related components at the ADWIN warehouse. During the inspection, the inspector noted warehouse personnel changing the desiccant in the following control rod drive assemblies: Serial #6238, 6547, 7337 and 6761. Handling of the components during desiccant replacement appeared to be with due care to prevent damage.

f. Reactor Building Reinforcing Steel Quality Control Inspection

During a walk-through inspection of elevation 217 of the reactor building, the inspector observed interior wall forming and reinforcing steel erection nearly complete for wall number 51. The inspector observed #9 vertical reinforcing steel bars lapped a distance of 8-feet, with seven bars in a plane across the 13 inch channel in the H-column number F/24.5. Rebar clearance did not appear sufficient to permit flow of the usual 3/4 inch aggregate concrete mix into the channel, and did not meet the minimum 1 inch specified in applicable ACI codes. The inspector discussed this item with the responsible quality control engineers (QCE), and the Field Engineers, noting that concrete voids had previously occurred at a similar column at a lower elevation of the facility. The QCE's stated that they had not yet inspected this area, and normally defer such inspections until work progresses to the point that reinforcing steel is tied-off and generally fixed in place and reviewed by the responsible field engineer. The QCE's subsequently inspected this area and prepared an in-process rework notice for this and other items they found. The QCE's demonstrated awareness of governing ACI requirements and applicable job specifications. The inspector examined the following documents relative to this item:

Drawings: C-701 Rev. 7, C-712 Rev. 5, C-121 Rev. 6, C-601 Rev. 13,
C-128 Rev. 5, C-127 Rev. 6

In-Process Rework Notice: dated 10/22/76

Field Change Requests: FCR-1834, FCR-817, FCR-834

8. New On Site Vault For Documentation Storage

The inspector performed a walk-through inspection of the newly constructed quality records vault on site. The vault is larger than the previous vault and has shelf space for radiographs and all other QC records. A temperature and humidity control system is provided, and a halon fire protection system is installed with automatic door closure installation in progress. A counter/gate area access is provided and service personnel in attendance. The facility appears to provide many of the features recommended in ANSI N45.2-9, which the records supervisor stated was used by Bechtel as a guide.