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U. S. ATOMIC ENERGY COMMISSION  
REGION I  
DIVISION OF COMPLIANCE

Report of Inspection

CO Report No. 286/70-5

Licensee: Consolidated Edison Company  
Indian Point No. 3 (IP-3)  
CPPR-62  
Category A

Dates of Inspection: August 24, 26, 27, 1970

Date of Previous Inspection: July 14-16, 1970

Inspected by: R. F. Heishman 9-21-70  
R. F. Heishman, Reactor Inspector Date

Reviewed by: E. M. Howard 9-22-70  
E. M. Howard, Senior Reactor Inspector Date

Proprietary Information: None

SCOPE

A special announced inspection of the 3023 MWt pressurized water reactor (Indian Point No. 3) construction site at Buchanan, New York, was conducted on August 24, 26, 27, 1970. The inspection was directed toward the requirements of Attachment C, "Containment" and applicable portions of Attachment J, "Reactor Vessel." The portions of Attachment J relating to receipt, handling and storage of the reactor vessel were inspected and outstanding items which were previously identified\* relating to containment were reinspected.

SUMMARY

Safety Items - None

Nonconformance Items - None

Unusual Occurences - None

\*CO Report No. 286/70-4

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Status of Previously Reported Problems -

1. Weld material control procedures for the containment liner are not documented for Chicago Bridge and Iron; however, the practices of CB&I and surveillance procedurally required of Wedco and Con Ed was found to be adequate. This item is considered resolved. (See Section C)
2. Detail drawings specifying the applicable welding procedure for a specific weld were not available during the last inspection. The inspector reviewed the contractor's drawings with CB&I welding supervisors and concluded the drawings adequately specify (through the CB&I system) the weld procedure to be used for each weld. This item is considered to be resolved.

Other Significant Items -

Review of U. S. Testing Company reports on the reactor pressure vessel indicated the following:

1. ASME N-1 form has not been signed. (See Section D.2)
2. Purge gas records for the period July 6, 1970 to the second shift July 15, 1970 were not available. (See Section D.3)
3. Painting of the vessel was accomplished prior to the vessel being cleaned and under adverse weather conditions. (See Section D.4)
4. Water containing chlorides was found in the plastic bags covering the instrument tubes. (See Section D.8)

Management Interview

A management exit interview was conducted on August 27, 1970. The following personnel were in attendance:

Consolidated Edison Company

- Mr. F. D. McElwee, Resident Construction Manager
- Mr. J. A. Corcoran, Site Superintendent
- Mr. E. J. Dadson, QA Engineer
- Mr. F. M. Matra, IP-3 Project Superintendent

The following significant items were discussed:

1. Containment (Outstanding Items)

The inspector stated no requirement was found for procedures for weld material control in CB&I liner erection contract. Mr. Dadson stated no requirement existed in the contract with CB&I; however, material control was accomplished by CB&I's standard practice and

close surveillance by Wedco and Con Ed QC personnel and documented in the QC records.

2. Reactor Vessel (Attachment J, PI 3800/2)

The inspector stated Compliance was concerned with the plans for receiving inspection of the reactor vessel particularly the cleaning of external parts of the vessel exposed to sea water. Mr. Corcoran stated Con Ed had received assurance from Wedco that all portions of the vessel exposed to sea water would be adequately cleaned. Mr. Dadson produced documentation from Westinghouse quoting the specifications that would be used for the cleaning. The inspector stated this added documentation, when implemented, appeared to satisfy the concerns. The inspector added followup action would be required to review the documented results of this cleaning during subsequent inspections.

DETAILS

A. Persons Contacted

The following persons were contacted during the inspection in addition to those persons contacted in the management interview:

- Mr. E. McDonnell, U. S. Testing Company
- Mr. M. Snow, Manager, Reliability and Quality Assurance, Wedco
- Mr. T. Lawson, Manager, Site QC, Wedco
- Mr. T. McKenna, Chief Mechanical Engineer, Wedco
- Mr. S. Roberts, Reliability Engineer, Wedco
- Mr. C. Brooks, CB&I Welding Superintendent (IP-3)
- Mr. R. Naegelan, CB&I

B. Status of Construction

The licensee reported the construction to be approximately 38% complete as of August 27, 1970.

C. Primary Containment Liner

The previously reported lack of weld material control procedures (4805.04.g) was reinspected. The practices of CB&I were found to be as follows:

CB&I superintendent requisitions weld rod wire from home office (Greenville, Pennsylvania). Material is delivered to the site with certificates. Certifications are checked by Wedco QC and filed in the QC file. The material is stored in a secured building in one of two ovens. The ovens are marked alternate day (i.e. Monday, Wednesday, Friday - Tuesday, Thursday, Saturday). The welders draw the rod from the ovens in approximately two to four hour supplies. Instructions are given to destroy all suspect rod. Unused rod is returned to the oven at the end of the day.

Surveillance is maintained by CB&I supervision (superintendent, foreman, pusher) and by Wedco QC surveillance. Records for CB&I are not maintained. Records for Wedco are in the form of daily inspection reports. The systems appear to be adequate.

D. Reactor Vessel

The IP-3 reactor vessel fabricated at Combustion Engineering, Chattanooga, Tennessee, was shipped by barge to the site at Buchanan, New York, arriving on August 22, 1970. Con Ed had their contractor, U. S. Testing Company, provide surveillance for the preparation for shipment, loading onto the barge and transit to the site. The inspector reviewed the reports of this surveillance effort which were U. S. Testing Company Report Nos. 10066-158, 10066-160, and 10066-161. The significant items in these reports are as follows:

1. The quality of the final surface painting on some areas of the vessel is questionable due to the lack of proper cleaning. (To be checked on receiving inspection)
2. The ASME N-1 form has not been signed as CE has not submitted the final stress analysis report to the code agency, Hartford Steam Boiler Insurance Company. (No estimate on time for submittal)
3. Records of daily check of purge gas (N<sup>2</sup>) indicated constant purge of the vessel and head, except for the period July 6, 1970 to the second shift July 15, 1970. No explanation was given for the lack of records.
4. The exterior of the vessel was painted without being cleaned and the weather conditions ranged from a heavy mist to torrential rain during approximately 50% of the painting operation. Partial cleaning was accomplished on the remaining 50% of the vessel.
5. Westinghouse issued Quality Control Release No. 0664, dated July 23, 1970, with contingencies noted for the code papers and the painting, copies of which accompanied the vessel to the site.
6. The vessel was inspected by USTC at Westwego, Louisiana, and found to be in good condition. The pressure gauge on the vessel read 0; however, the installed gas flow meter indicated gas flow through the vessel with no loss of purge. The gauge was damaged and was inoperative at this time. The gauge was not repaired until it reached the site.
7. The vessel was inspected by USTC at St. Lucie Locks and Jacksonville, Florida. Inspection revealed that the tarpaulin which covers the bottom of the vessel was off and approximately ten of the plastic bags which were covering the instrument tubes contained water. Water was also in the tarpaulins covering the nozzles and wrapped around the vessel. The tarpaulin was punctured to release the water.

- 8. Water samples were obtained from the instrument tube covers and from two areas of the vessel tarpaulin during the stop at Jacksonville, Florida. The water had a saline taste. Analysis of the water was made by USTC.

Jacksonville Samples (Taken August 13, 1970, by USTC)

<u>Sample Point</u>	<u>Results, ppm</u>	
	<u>Chlorides</u>	<u>NaCl</u>
Instrument tube covers	15	24.73
Vessel cover		
Main Nozzles	17.5	28.5
Lower Flange	120	195.8

Westinghouse and CE also took water samples and checked the general condition of the vessel at Jacksonville. Results of those samples were not available on site.

- 9. Water samples were taken by Wedco when the vessel arrived on site with the following results:

Site Samples (Taken August 22, 1970 by Wedco)

<u>Sample Point</u>	<u>Results</u>		
	<u>Conductivity/umho</u>	<u>Chlorids/ppm</u>	<u>Ph</u>
Aft cover	185	22	6.1
Main nozzle cover	88	7.30	6.15
Bottom Main flange (lower flange)	165	7.50	6.50

The receipt and storage quality control procedures for the reactor pressure vessel were reviewed in accordance with PI 3800/2. Items covered, included 4905.04, b.1 through b.8.

1. Receipt and Storage (4905.04.b)

(a) Definition of Responsibility for Receipt Inspection and Storage (4905.04.b.1)

The Material Control Plan, dated April 1970, as supplemented by letters, Wedco Systems Reliability to Wedco Procurement, dated August 20, 22, and 25, 1970, assigns the responsibility for receipt inspection and storage to the Wedco site quality control organization.

(b) Adequate Records Available at Site to Guide Receipt Inspection and Handling Operations (4905.04.b.2 and b.6)

The Material Control Plan and its supplements listed above, lists handling instructions, storage instructions and environ-

mental protection instructions from the vendor and are a part of the required receiving inspection. The off-loading procedure was reviewed and appears to be sufficiently comprehensive. Manufacturer's handling instructions were not available for review.

(c) Adequate and Appropriate Storage Space (4905.04.b.3)

Storage is to be at the docking area on a concrete pad until installation. The reactor vessel head is to be stored in the protected outside storage area designated for large mechanical components.

(d) Periodic Inspection and Records Instructions (4905.04.b.4, b.5, and b.8)

Attachment A to letter dated August 25, 1970, subject: "Reactor Vessel Receiving Inspection and Quality Control Surveillance", requires the reactor vessel to be monitored every five hours, both prior to and subsequent to off-loading, excluding the receipt inspection period. The equipment maintenance tag and storage maintenance checklist is to be used as a record of this check. A twenty-four hour guard is to be maintained by Wedco security. The security guard must record the following in this log:

Gas pressure on reactor vessel and reactor vessel head.

Condition of shipping covers, moorings and fastening line.

Visitors to security area.

The security guard is provided with the names and telephone numbers of personnel to contact if abnormal conditions develop.

(e) Identification and Quarantine of Nonconforming Components (4905.04.b.7)

The identification and quarantine of nonconforming material is covered by a Wedco general procedure, WQA 4-1; however, the reactor vessel receipt inspection and acceptance appears to exceed that which would be prescribed for other components, since it is one of a kind and does not lend itself to incorporation into the warehousing system.