



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30303

Report No. 50-537/82-01

Licensee: U. S. Department of Energy
Clinch River Breeder Project
Plant Project Office
P. O. Box 4
Oak Ridge, Tennessee 37830

Facility Name: Clinch River Breeder Reactor

Docket No. 50-537

License No. 10CFR50.12 Construction Exemption for Initial Site Preparation

Inspection at: Project Office, K-25 Warehousing, and CRBR Construction site in Oak Ridge, Tennessee; Stone and Webster Off-Site construction administration facility, and Scott Warehouse at I-40 and HWY 58 in Kingston Area.

Inspector: W. B. Swan
W. B. Swan

11-19-82
Date Signed

Approved by: J. C. Bryant
J. C. Bryant, Section Chief 2A, Division of
Project and Resident Programs

11/22/82
Date Signed

SUMMARY

Inspection on October 28 and 29, 1982

Areas Inspected

This routine announced inspection involved 14 inspector-hours on project facilities in the areas of quality assurance program, site preparation, and storage and maintenance of safety critical materials and equipment.

Results

In the areas inspected, no deviations were identified.

DETAILS

1. Persons Contacted

Licensee Employees

- *John D. Wagoner, Deputy CRBR Project Director
R. B. Kirk, Chief, Quality Engineering Branch
- *Peter Gross, Assistant Director for Public Safety and Project Licensing
Representative
- *Dale Hedges, Acting Chief, Quality Assurance Division and Chief, Quality
Verification Branch
- *T. E. Burdette, Chief, Quality Improvement Branch
- *H. Jack Hale, Deputy to the Assistant Director for Construction
Tony Doka, Chief, CSM Branch, CRBRP Engineering
- *Frank R. Hodges, QA Engineer, Quality Verification Branch
- *C. Thomas Tinsley, QA Engineer, Quality Verification Branch
- *Jack H. Doyle, QA Engineer, Quality Verification Branch

Contractor Employees

- *Joel Karr, Acting Quality Assurance Manager, Stone and Webster Engineering
Corporation
- *Bill Richardson, Quality Assurance Support Services Supervisor, Stone and
Webster Engineering Corporation
George Carter, Inspection Supervisor, Quality Control, Stone and Webster
Engineering Corporation
- *Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on October 29, 1982, with those persons indicated in paragraph 1 above. The inspector stated that no negative finding had been made.

3. Licensee Action on Previous Enforcement Matters

There were no outstanding enforcement matters.

4. Unresolved Items

Unresolved items were not identified during this inspection.

The CRBR Project Office had previously completed corrective actions and resolved all open items identified in IE-II reports and resolved all open items identified in IE-II and IE-HQ vendor inspection reports through 1978, when inspection effort was halted.

5. Review of CRBR Plant Project Quality Assurance Organization

When the inspector reached the project offices, the Quality Assurance Division personnel presented a slide illustrated briefing of Part II, the Clinch River Breeder Reactor Plant Project Quality Assurance Program dated April 1, 1982. The program was designed to satisfy externally imposed requirements (imposed by NRC in the licensing process) and internally imposed requirements by construction, procurement and fabrication specifications and stipulations in the quality assurance programs of participating agencies and parties.

Discussions were held with the acting chief of the Quality Assurance Division, with the three branch chiefs and support personnel, and with representatives of Stone and Webster Engineering Corporation (S&WEC) and CRBR PO engineering and support groups.

The licensee has an apparently adequate QA organization in place and appears now prepared to implement construction as soon as a construction permit is issued by NRC. The QA program is fully developed but has not received final NRC approval.

No deviation from quality assurance requirements was identified during the briefing and by the inspector's questioning and review of support documents.

6. Site Preparation - Review of Quality Assurance Program Implementing Procedures - Procedure 45051B

The scope of site preparation activities under the NRC Section 50.12 exemption is detailed in the application document entitled:

Clinch River Breeder Reactor Plant
Site Preparation Activities Report
June 1982

Some of the intended activities were excluded by paragraph 1.3 of the S&WEC subcontract with Pereni Company.

Quality Control of the Pereni site preparation work was stipulated in paragraph 1.4 of the subcontract, and by notes on the contract drawings. With the exception of the specific activities defined in the contract, all inspection and test activities required are to be performed by S&WEC (The Purchaser).

Inspection of earth work was being performed by S&WEC under Quality Assurance Directive QAP10.4CR, Rev. 0 Earthwork Inspection. Testing of soils was being performed under QAD 11.4, Rev. A, Testing of Soils. These documents had been reviewed in the RII Office.

The Activities Report was reviewed prior to the inspection. The Pereni contract documents were not reviewed at the site during this exemption

(non nuclear safety-related) inspection. They have now been reviewed. No deviation from requirements was identified.

7. Site Preparation - Observation of Work and Work Activities - Procedure 45053B.

Accompanied by project office QA and S&W personnel, the inspector toured the site and observed nearly completed tree and brush clearance, construction of several catchment basins, stock piling of top soil near the reactor island site, initial improvements of the access road and burning of mounds of tree stumps and brush. Logging of good timber had already been completed. Clearing and grubbing of construction areas was nearly complete.

Three trailers had been set on the site, principally for soils testing operations. Soils tests to classify and qualify the types from proposed borrow areas were under way. Compaction tests were under way for work in progress. The inspector observed soils technicians screening samples of mixtures of fragmented rocks and wet clay lumps prior to testing.

No deviation was identified in the areas observed.

The inspection party visited the Stone and Webster Construction management site across the highway from the CRBR construction site about three miles from the reactor site. The thick long floor slab for the S&W warehouse and principal construction administration building had been placed. Installation of utility systems was underway for surrounding support facilities. The inspector was told that the area would be ready for occupancy about April, 1983.

8. Storage of Safety-Related Components - Review of Implementing Procedures under Procedures 50071B and 92051B (Partial)

Storage (and periodic and preventive maintenance where required) of safety-related equipment is controlled first by the procurement specifications and supplier's instruction, then by S&WEC Construction Methods Procedure P-CMP 1.12, Rev. B: Material/Equipment Maintenance.

Westinghouse controls the computerized listing of all stored equipment, listed by equipment number, short description, approximate size, specification, and storage level required. Listing E SS50, CRBRP Equipment List, Components Requiring Interim Storage also shows the Vendor, and the storage location. Information on equipment processed by S&W is fed to W for incorporation. The controlling document is Ward-D-0053, Rev. 15, March 15, 1982, entitled Program Status and Control System - Systems Description Manual. Section 4 instructs how to program status and data into the record of equipment storage and maintenance.

Vendors are required to provide documentation sixty days prior to delivery detailing the handling and storage requirements for an equipment item.

S&WEC inspection and construction forces provide receiving inspection, store the item, and provide follow up inspection and maintenance during storage.

For items sampled in this inspection, the inspector verified that the equipment was stored in the designated location, that storage conditions met requirements, and that procedures were being followed.

No deviation was identified in the areas reviewed.

9. Inspection of stored safety-related materials and equipment in and near Oak Ridge, Tennessee.

Note: The CRBR project is unique not only in design concepts but in the unusual sequence in which authorizations and implementation have been effected. Before any construction was authorized by NRC: Detailed designs of the NSSS and balance of plant are substantially complete; about 95% of safety-related equipment has been ordered; 70% has been fabricated and stored; and support procedures and organizational manning are available for construction implementation. Trades and labor forces will need to be enlarged.

Because of the unique status of the project and the long term storage of safety related equipment, the inspection of storage involved portions of two IE procedures:

1. Procedure 50073B, Safety-Related Components I-Observation of Work and Work Activities, Paragraph 2a.
2. Procedure 92053B Extended Construction Delay - Observation of Work and Work Activities, Paragraph 1, 2a. and 2b.

Storage on Railroad Siding, Oak Ridge

IHX S. Steam Heat Exchangers 51 PRH001A, - B, and - C were inspected in a sheet metal storage building at a railroad siding between the project offices and the K-25 Storage area. Level C storage was required and met by weather protection from the locked metal shed and by level supports. The S&W QC inspection supervisor had a copy of the required storage specifications.

Storage at K-25 Areas, Oak Ridge

In the "B" level area of the K-25 storage building the inspector saw plastic covered valves, electrical cabinets and boxed items. The section was locked, weather protected and temperature controlled as required. Identification of the items was shown on the containers.

The "A" level area was also locked, and temperature and humidity were controlled. Here the inspector examined storage of three large and one small control panels: Head Heating Control Panels Nos. 15, 16, 17 and 18. Stipulated storage conditions were being met.

In the locked decommissioned original powerhouse, level "C" storage conditions were found to be met for three condensate storage pumps.

Near the old powerhouse three cold leg shutdown valves were found in individual locked metal sheds. The valves were under nitrogen blanket. Humidity control was satisfactory.

In a chain link fenced storage yard at the northerly corner of the BR site Class D storage was provided for three large steam drums, a 100 foot long deaerator storage tank and four tubed up condenser shells, over which workman were erecting a rain canopy.

Large sections of cathodic protection grounding system were resting on the graveled yard. Inquiry disclosed that no storage skids were required for these sections.

Storage at Scott Warehouse at Interstate 40 and Tennessee Highway 58

This warehouse is one of the structures of the closed down Scott Trailer Manufacturing plant. The locations of equipment stored here are mapped on a drawing entitled WH OS-2 Storage Plan No. 12720-TSK 0303-3

In the "A" level storage room the inspector noted plastic wrapped Vibration Signal Condition Drawer ETN 92AABa14 and verified that temperature and humidity conditions were being maintained and that the area was separately locked.

In the "B" level storage areas the following equipment was inspected to the extent practical without de-packaging. Typically, the equipment boxes had been opened during receipt inspection, then the items are stored in the shipping containers or boxes. Most were covered with plastic. Contents were identified:

5 Vertical Drain Motors: 56 PRK 200 B, C; 56 INK 200, A, B, C.

Motor Generator Set Drive Motor 56 INK 202C

12 Boxed Sections of In-Vessel Transfer Machine: EIN 4: IF004; No 99000265

In the areas inspected no deviation from requirements was identified.

10. Equipment Stored Outside Oak Ridge Areas

The inspector was asked, by attendees at the exit interview, when an NRC inspection would be made of equipment stored at Memphis and other distant areas. The inspector stated that the intent is to make an early inspection at the Hake Warehouse in Memphis but a definite schedule could not be set. Inspections at principal storage areas in other states are likewise intended but not scheduled.

The inspector was told that major items are stored or held at the following locations:

<u>Location</u>	<u>By</u>	<u>Item</u>
Hake Warehouse, Memphis	W Advanced Reactor Division	Sodium Vessels and other major NSS items
CBI-Memphis	CBI	R. V. Closure Head Assembly
Mt. Vernon, Indiana	B&W	Reactor Pressure Vessel & Guard Tank Vessel
Santa Susana, CA	Atomics International	In-Cell Crane
Santa Susana, CA	ETEC	Steam Generators (Testing)
San Jose, CA	General Electric	Secondary Control Rod System Prototypes