UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-390/81-27 and 50-391/81-25

Licensee: Tennessee Valley Authority
500A Chestnut Street
Chattanooga, TN 37401

Facility Name: Watts Bar

Docket Nos. 50-390 and 50-391

License Nos. CPPR-91 and CPPR-92

Inspection at Watts Bar site near Spring City, TN

Inspector: J. R. Harris — 12-7-81 Date Signed

Approved by: T. E. Conlon, Section Chief — 12-7-81 Date Signed
Engineering Inspection Branch
Engineering and Technical Inspection Division

SUMMARY

Inspection on November 24, 1981

Areas Inspected

This special announced inspection involved eight inspector-hours on site in the area of foundation investigations.

Results

Of the one area inspected, no violations or deviations were identified.

REPORT DETAILS

1. Persons Contacted

   Licensee Employees

   *R. W. Olson, Construction Engineer
   *R. M. Pierce, OEDC Project Manager
   *T. R. Trail, NRC Coordinator
   F. Hand, Senior Civil Engineer, OEDC
   J. Hoskins, Civil Engineer, OEDC
   J. Albert, Soils Inspector
   J. Mehaffee, Soils Inspector

   Other Organizations

   S. Huntsman, Civil Engineer, Woodward - Clyde

   NRC Resident Inspector

   J. A. McDonald
   *T. A.Heatherly

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on November 24, 1981 with those persons indicated in paragraph 1 above.

3. Licensee Action on Previous Inspection Findings

   Not inspected.

4. Unresolved Items

   Unresolved items were not identified during this inspection.

5. Independent Inspection

   At the request of NRR the inspector observed the licensee's ongoing foundation investigations along the ERCW pipeline. The investigation is being conducted to determine the nature and extent of low density, fine grained, material beneath the ERCW pipeline. Acceptance criteria examined by the inspector appear in the following documents.

   a. Technical Manual - SM107, Soils Exploration

   b. Procedure SME-QCP6, Soil Investigations

   c. ASTM D-1586, Penetration Test and Split-Barrel Sampling of Soils

The inspector observed soil sampling operations on boring number SS-163A. Ground elevation at the boring is +736.90. Groundwater elevation obtained from a nearby piezometer is +715.0. The boring was made with a Mobile B-61 drill rig using a standard split spoon and AW drill rods. The boring was advanced using a 140 pound hammer with a 30 inch drop as specified in ASTM D-1586. Sampling began at a depth of 5.0 feet and continued to the top of weathered rock. Split spoon samples were taken at 1.5 foot intervals with the 1.5 foot to 2.0 interval being advanced by a fishtail with an uphole directed discharge. Drilling fluid consisted of a slurry consisting of water and a powder with the trade name Revert. The slurry was maintained at or near the top of the hole during drilling operations to offset any groundwater head differential. Blow counts recorded at 6 inch intervals were as follows:

Depth/Feet	Blow Count	Depth/Feet	Blow Count
5.0 - 5.5	4	17.0 - 17.5	4
5.5 - 6.0	11	17.5 - 18.0	7
6.0 - 6.5	14	18.0 - 18.5	4
6.5 - 7.0	Fishtail	18.5 - 19.0	Fishtail
7.0 - 7.5	5	19.0 - 19.5	2
7.5 - 8.0	11	19.5 - 20.0	2
8.0 - 8.5	12	20.0 - 20.5	2
8.5 - 9.0	Fishtail	20.5 - 21.0	Fishtail
9.0 - 9.5	6	21.0 - 21.5	1
9.5 - 10.0	12	21.5 - 22.0	2
10.0 - 10.5	11	22.0 - 22.5	3
10.5 - 11.0	Fishtail	22.5 - 23.0	Fishtail
11.0 - 11.5	5	23.0 - 23.5	5
11.5 - 12.0	9	23.5 - 24.0	23
12.0 - 12.5	6	24.0 - 24.5	45
12.5 - 13.0	Fishtail	24.5 - 25.0	Fishtail
13.0 - 13.5	3	25.0 - 25.5	12
13.5 - 14.0	4	25.5 - 26.0	20
14.0 - 14.5	5	26.0 - 26.5	20
14.5 - 15.0	Fishtail	26.5 - 27.0	Fishtail
15.0 - 15.5	2	27.0 - 27.5	17
15.5 - 16.0	3	27.5 - 28.0	21
16.0 - 16.5	4	28.0 - 28.5	41
16.5 - 17.0	Fishtail	28.5 - 29.0	Fishtail

Blow counts and observed samples indicate that low density fine grained materials exist between 18.5 feet and 23.0 feet.

Drilling operations and sampling techniques were accomplished in accordance with acceptance criteria. Representative samples and photographs of samples were taken by the licensee for examination and testing at the TVA test laboratory.

No violations or deviations were identified.