UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
230 PEACHTREE STREET, N. W. SUITE 818
ATLANTA, GEORGIA 30303

JUN 22 1976

In Reply Refer To:
IE:II:VLB
50-390/76-6
50-391/76-6

Tennessee Valley Authority
Attn: Mr. Godwin Williams, Jr.
Manager of Power
830 Power Building
Chattanooga, Tennessee 37401

Gentlemen:

This refers to the inspection conducted by Mr. V. L. Brownlee of this office on May 25-28, 1976, of activities authorized by NRC Construction Permit Nos. CPPR-91 and CPPR-92 for the Watts Bar Nuclear Plant, Units 1 and 2 facilities, and to the discussion of our findings held with Mr. J. P. Knight, QA Manager, OEDC on May 26, 1976, and with Mr. J. C. Killian at the conclusion of the inspection.

Areas examined during the inspection and our findings are discussed in the enclosed inspection report. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with personnel, and observations by the inspector.

Within the scope of this inspection, no items of noncompliance were disclosed.

We have also examined actions you have taken with regard to previously identified enforcement matters and unresolved items. The status of these items is identified in Sections II and IV of the summary of the enclosed report.

One new unresolved item resulted from this inspection and is identified in Section III of the summary of the enclosed report. This item will be examined on subsequent inspections.

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 enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you believe to be proprietary, it is necessary that you submit a written application to this office requesting that such information be withheld from public

disclosure. If no proprietary information is identified, a written statement to that effect should be submitted. If an application is submitted, it must fully identify the bases for which information is claimed to be proprietary. The application should be prepared so that information sought to be withheld is incorporated in a separate paper and referenced in the application since the application will be placed in the Public Document Room. Your application, or written statement, should be submitted to us within 20 days. If we are not contacted as specified, the enclosed report and this letter may then be placed in the Public Document Room.

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

Very truly yours,

C. E. Murphy, Chief
Reactor Construction and
Engineering Support Branch

Enclosure:
IE Inspection Report Nos.
50-390/76-6 and 50-391/76-6

cc w/encl: Mr. J. E. Gilleland
Assistant Manager of
Power

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230 PEACHTREE STREET, N. W. SUITE 818
ATLANTA, GEORGIA 30303

IE Inspection Report Nos. 50-390/76-6 and 50-391/76-6

Licensee: Tennessee Valley Authority
830 Power Building
Chattanooga, Tennessee 37401

Facility Name: Watts Bar Nuclear Plant, Units 1 and 2
Docket Nos.: 50-390 and 50-391
License Nos.: CPPR-91 and CPPR-92
Category: A2/A2

Location: Spring City, Tennessee

Type of License: W PWR, 1160 Mwe

Type of Inspection: Announced, Construction

Dates of Inspection: May 25-28, 1976

Dates of Previous Inspection: April 20-23, 1976

Principal Inspector: V. L. Brownlee, Reactor Inspector
Projects Section
Reactor Construction and Engineering
Support Branch

Accompany Inspectors: W. B. Swan, Reactor Inspector
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

J. J. Blake, Metallurgical Engineer
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

Other Accompanying Personnel: None

Principal Inspector: _____ 6/21/76
V. L. Brownlee, Reactor Inspector Date
Projects Section
Reactor Construction and Engineering
Support Branch

Reviewed by: _____ 6/21/76
J. C. Bryant, Chief Date
Projects Section
Reactor Construction and Engineering
Support Branch

SUMMARY OF FINDINGS

I. Enforcement Items

None

II. Licensee Action on Previously Identified Enforcement Matters

75-8-A1(II) Vendor QA Audits (Units 1 and 2)

TVA has submitted a letter of response dated November 10, 1975, which identified the corrective actions and plans. TVA has executed the corrective actions and plans. Followup audits are scheduled. This item is closed. (Details I, paragraph 5.a)

75-4-A1(II) QA Program Breakdown - Documentation of Radiographs and Weld History (Units 1 and 2)

CB&I failed to implement established procedures and TVA's program procedure for field surveillance. They also failed to identify CB&I's nonconformance to established procedures. This item remains open.

75-5-A1(II) Lack of Procedures Implementation (Units 1 and 2)

Criterion V of Appendix B to 10 CFR 50 as implemented by Appendix A, paragraph A.2.5 of the PSAR specifies that activities affecting quality are to be performed in accordance with established procedures.

Contrary to the requirement, TVA failed to implement established procedures as noted:

(1) Cement Testing-Frequency. This item remains open.

(2) Water Testing-Frequency. This item remains open.

III. New Unresolved Items

76-6/1 GE HFA Relays - Cracked Coil Spools (10 CFR 50.55(e) (Units 1 and 2)

TVA informed IE:II that several relay coil spools have been found to be cracked and broken. TVA has identified this item to be reportable (10 CFR 50.55(e)). (Details I, paragraph 7)

IV. Status of Previously Reported Unresolved Items

74-5/1 Valve Wall Thickness Verification Program (Units 1 and 2)

TVA informed IE:II personnel of preliminary plans relative to the valve wall thickness program. TVA will submit a formal valve wall thickness verification program that meets Region II letters of June 30, 1972, and February 16, 1973. This item remains open.

75-3/1 Regulatory Operations Bulletin and Licensee Response (Units 1 and 2)

ROB 74-9 - "Deficiency in General Electric Model 4KV Magne-Blast Circuit Breakers." This item is closed. (Details I, paragraph 4.a)

75-8/1 Charpy Impact Test Specimens (Units 1 and 2)

IE:II has reviewed the Singleton Materials Laboratory method of measuring and documenting critical dimensions of Charpy Impact Test Specimens. This item is closed. (Details II, paragraph 3)

76-1/1 Containment Hold Down Anchor Bolt Nut (Units 1 and 2)

TVA informed Region II of a problem with anchor bolt nuts, and reported it as a 50.55(e) item. TVA submitted the final report on March 9, 1976. Corrective actions and documentation have been sufficiently completed to consider this matter closed. (Details I, paragraph 4.b)

76-2/1 Instrumentation Procedures (Units 1 and 2)

Specific procedures for receipt and handling of instruments have not been completed. TVA expects receipt of instrumentation in the near future which will require the use of these procedures. TVA has committed to develop applicable procedures prior to receipt of instrumentation on-site. This item remains open.

76-4/1 QA Program Breakdown - Documentation of Radiographs and Weld History Records (10 CFR 50.55(e)) (Units 1 and 2)

TVA informed Region II of the QA program breakdown problem and reported it as a 50.55(e) item. Site investigative work is complete. Final report effort continues. This item remains open. (Details II, paragraph 4)

76-5/1 IE Bulletins and Licensee Responses

The following IEB's are identified for specific followup at the Engineering offices, Knoxville, during a subsequent inspection:

a. IE Bulletin No. 76-02 - Relay Coil Failure. This item is closed. (Details I, paragraph 4.c.(1))

b. IE Bulletin No. 76-03 Relay Malfunction. This item is closed. (Details I, paragraph 4.c.(2))

c. IE Bulletin No. 76-05 - Relay Failure. This item remains open.

76-5/2 Documentation of Fabrication For Structural Steel Reactor Coolant System Supports (10 CFR 50.55(e))

TVA's final report is due by June 30, 1976. No hardware has been shipped from vendor's shop. This item remains open. (Details III, paragraph 3)

V. Design Changes

None

VI. Unusual Occurrences

None

VII. Other Significant Findings

None

VIII. Management Interview

The exit interview was held on May 28, 1976, with Mr. J. C. Killian, Project Manager, members of his staff, and QA representatives of DED, DEC and OEDC. They were apprised of the findings of this inspection as noted in this report.

DETAILS I

Prepared by: V L Brownlee 6/11/76
V. L. Brownlee, Reactor Inspector Date
Projects Section
Reactor Construction and Engineering
Support Branch

Dates of Inspection: May 26-28, 1976

Reviewed by: J C Bryant 6/21/76
J. C. Bryant, Chief Date
Projects Section
Reactor Construction and Engineering
Support Branch

All information in Details I applies equally to Units 1 and 2 except where identified with a specific reactor.

1. Individuals Contacted

a. Tennessee Valley Authority (TVA)

Knoxville Offices

J. P. Knight - QA Manager, DEDC
P. L. Duncan - Chief QA Staff, DED
W. D. DeFord - Supervisor QA Engineering, DED
J. S. Colley - DED, QA Staff
J. W. Mabee - QA Audit Section, DED

Watts Bar Site

J. C. Killian - Project Manager
T. B. Northern, Jr. - Construction Engineer
J. M. Lamb - Supervisor, Mechanical Engineering Unit
A. R. White - General Construction Superintendent
L. C. Northard - Supervisor, QA Unit
J. F. Fifrick - QA Engineer
J. H. Purdue - Electrical Engineering Unit Supervisor
R. L. Heatherly - QC and Records Unit Supervisor
J. P. Ballard - Mechanical Engineer
T. Hayes - Electrical Engineer
T. Love - QC and Records Unit

2. Scope

This inspection was performed at both the Knoxville offices and the Watts Bar site. Inspection efforts included determining status of project, resolving of previously identified enforcement and unresolved items, and examining the implementation of QA program procedures for control of documents and QA procedure manuals.

3. Project Status

a. Unit 1

Concreting for the reactor building shield wall has been discontinued until after installation of major NSSS components. The schedule for setting of major NSSS components has been delayed until November, 1976. The schedule for fuel loading has been delayed from June, 1978 until December, 1978. The rail for the polar crane has been installed and grouted. The reactor vessel cavity and refueling canal area have been brought to the control rod drive missile shield elevation. Chicago Bridge and Iron is scheduled to start containment vessel erection during the first week in June, 1976. Installation of the control rod drive mechanism to the reactor vessel head has started.

b. Unit 2

Concreting for the reactor building shield wall has resumed. Reactor building internal concrete work is in progress. Chicago Bridge and Iron is completing work on the erected portion of the steel containment vessel before moving work efforts to Unit 1. Installation of the control rod drive mechanism to the reactor vessel head has started.

4. Previously Reported Unresolved Items

a. ROB 74-9, "Deficiency in General Electric Model 4KV Magna-Blast Circuit Breakers" (75-3/1)

TVA reports that they have no GE Magne-Blast circuit breakers, Types MC-4.76 or M26, at Watts Bar. Watts Bar utilizes Type M36, 6900 Volt, vertical lift switchgear. The roller trip bar interference is not applicable. The stationary auxiliary switch coming loose does not exist because a GE-Type SB-12 switch has been used in lieu of the GE-Type SBM switch. A possible problem of a switch failing to operate did exist if the tie bolts used to clamp together the individual stages of

type SB-12 were insufficiently tightened. This matter has been resolved by retightening all tie bolts to the specified torque. IE:II has no further questions regarding this matter.

b. Containment Hold Down Anchor Bolt Nut (Units 1 and 2) (10 CFR 50.55(e)) (76-1/1)

TVA submitted the final report on March 9, 1976. The report was reviewed and accepted by IE:II. Site examination of this matter verifies that the corrective actions and plans identified in the report are implemented. IE:II has no further questions regarding this matter.

c. IE Bulletins and Licensee Responses

(1) IE Bulletin No. 76-02 - Relay Coil Failure (Units 1 and 2) (76-5/1.a)

TVA submitted the letter of response on May 17, 1976. Relays of the type described are being utilized for IE service. The site electrical unit personnel are aware of the problem. An inspection hold point is being identified in the inspection program and items will become nonconforming when identified. Equipment received prior to May 17, 1976, has been inspected and no nylon units found. Equipment received after May 17, 1976 will receive an incoming inspection. IE:II has no further questions regarding this matter.

(2) IE Bulletin No. 76-03 - Relay Malfunction (Units 1 and 2) (76-5/1.b)

TVA submitted the letter of response on May 17, 1976. No relays of the type described in the bulletin are being utilized for Class 1E service. IE:II has no further questions regarding this matter.

5. Previously Identified Enforcement Matters

a. Vendor QA Audits (Units 1 and 2) (75-8-A1(II))

TVA submitted the letter of response on November 10, 1975. The letter was reviewed and the corrective actions and plans were found to be acceptable. A QA audit was performed at the Bristol Steel and Iron Works, Inc., on February 10-12, 1976. Several deficiencies were identified which is partially responsible for the notificaiton of a Construction Deficiency Report to IE:II. The Construction Deficiency Report matters are

addressed as Unresolved Item 76-5/2, "Documentation of Fabrication For Structural Steel Reactor Coolant System Supports," in Section IV of the Summary of this Report. A followup audit is scheduled during August 1976. Based on discussions with DED, QA and Audit personnel, review of the February 10-12, 1976 audit report, review of followon activities relating to the Construction Deficiency Report and the scheduled followup audit, IE:II concludes that we have no further questions regarding this matter at this time.

6. ITE Motor Control Center - Mis-Stab (Units 1 and 2)

The electrical unit personnel are aware of the problem, the ITE technical instruction letter has been received, the stab gauge is on site. The electrical unit personnel have this problem well defined and corrective measures implemented. IE:II has no further questions regarding this matter.

7. GE HFA Relays - Cracked Coil Spools (Units 1 and 2)

TVA informed IE:II that several Lexan coil spools have been found to be cracked and broken on GE HFA relays utilized in 6900 Volt shutdown boards. TVA is investigating to determine cause and corrective action.

8. Document Control - Quality Control Procedures Manual

WBNP-QCP-1.1 RO, "Print Room Procedure," specified the methods to be used for the control, issue and distribution of manuals, procedures, and instructions.

Discussions with site QA and Quality Control and Records personnel, review of the master list for QCP manual holders, the latest table of Contents and checklist, and physical checks of controlled manuals in the QA unit, Mechanical Unit, Electrical Unit, Civil Unit, and two construction supervisor offices verify that the manuals and procedures were being controlled in accordance with the control procedure.

No enforcement items were identified.

DETAILS II

Prepared by: J. J. Blake 6/18/76
J. J. Blake, Metallurgical Engineer — Date
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

Dates of Inspection: May 25-28, 1976

Reviewed by: A. R. Herdt 6/18/76
A. R. Herdt, Chief — Date
Engineering Support Section No. 2
Reactor Construction and Engineering
Support Branch

All information in these Details applies equally to Watts Bar Units 1 and 2 except where information is identified with a specific reactor.

1. Persons Contacted

a. Tennessee Valley Authority (TVA)

(1) Knoxville - Office of Engineering Design and Construction (OEDC)

J. Knight - OED, Supervisor, QA Engineer
L. G. Hebert - OEDC, QA Staff
J. S. Colley - DED, QA Engineer
W. O. DeFord - DED, Supervisor, QA Engineer

(2) Knoxville - Singleton Materials Laboratory

R. O. Lane - Head Materials Engineering Section
D. Miller - Metallurgical Engineer

(3) Watts Bar Site

J. C. Killian - Project Manager
T. B. Northern, Jr. - Construction Engineer
L. C. Northard - Supervisor, DEC Site QA Unit
L. J. Johnson - Mechanical Engineer
B. L. Majors - Construction Engineering Associate, Welding

b. Contractor Organization

Chicago Bridge and Iron (CB&I)

C. L. Spears - Project Welding and QA Supervisor
G. Rowe - QA Engineer

2. Scope

This inspection was conducted in two parts. The first part of the inspection was conducted in Knoxville, Tennessee, at the Singleton Materials Laboratory (SML) and at the Office of Engineering Design and Construction (OEDC) as described in paragraphs 3 and 4 of this Details section. The second part was conducted at the Watts Bar site as discussed in the remainder of this Details section.

3. Charpy Impact Test Specimens (75-8/1)

The inspector reviewed the Singleton Materials Laboratory procedure for documentation of critical dimensions of Charpy Impact Test Specimens. As a result of this review, the inspector was satisfied that the controls being exercised by Singleton Materials Laboratory will ensure that all of the parameters of the Charpy Impact Test will be met. Unresolved Item No. 75-8/1 is considered to be closed.

4. QA Program Breakdown (76-4/1)

The inspection at OEDC was a review of the background material and the status to date of the licensee's 10 CFR 50.55(e) item concerning the QA program breakdown of the steel containment contractor, Chicago Bridge and Iron (CB&I).

This review included the documentation of all events to date since the time that CB&I became aware of the problem. The documentation included investigation reports, audit reports, CB&I corrective action plans, and all related correspondence.

The documentation reviewed indicates that both CB&I and TVA have been aggressively pursuing this problem and are in the process of preparing the final report required by 10 CFR 50.55(e).

This item will remain open pending the receipt and review of the final report.

5. Chemical and Volume Control System (CVCS) Holdup Tanks

The fabrication of the CVCS holdup tanks is essentially complete. The inspector conducted a visual inspection of the completed tanks and reviewed the documentation for the welding and NDE operations.

The sample welds selected for this inspection were as follows:

a. Unit 1 (CB&I Contract 74-3743)

(1) Shell Assembly

Weld Joints - B3, A2, and C1

b. Unit 2 (CB&I Contract 74-3744)

(1) Shell Assembly

Weld Joint - A1

(2) Shell Penetrations

Weld Joints - 7A and 8B

The documentation reviewed included the weld history records as presented on the CB&I record drawings, liquid penetrant examination reports, radiographic examination reports, and the nonconformance reports generated during fabrication of the tanks.

There were no items of noncompliance in this area of inspection.

6. Nondirected Inspection Effort

a. Installation of Major Mechanical Components

The NSSS group of the Mechanical Engineering Section was in the process of preparing the site procedures for the installation of the NSSS components using the Sequoyah Nuclear Plant (SNP) Procedure No. M-16 as a guide. The inspector reviewed the progress to date and discussed the need for the documentation of critical steps in the installation operations, and the problems that could be avoided by properly sequencing of operational steps and data sheets. The personnel involved in this operation stated that some discussion had been held with the SNP personnel involved with the installation of NSSS components and that further discussions were planned to determine what problems had been encountered in the implementation of the M-16 procedure and to minimize the prospect of encountering similar problems at Watts Bar.

b. Walk-Through Inspection of Containments

The inspector conducted a walk-through inspection of both containments. This inspection was to determine the status of the work on the steel containment and to inspect the condition of the materials involved. The inspector also made observation

of other work in progress and the general condition of the housekeeping in the containments.

There was no work in progress on the steel containments during this inspection as there had been a hold placed on CB&I work pending resolution of the QA program breakdown problem. The inspector did not find any conditions within the containments which could be considered detrimental to the materials which were already in place.

Work in progress during this inspection included concrete form installation in Unit 1 and preparations for a concrete pour in Unit 2. Housekeeping in both units appeared to be in control with a minimum of construction debris to be found.

There were no items of noncompliance in this area of inspection.

DETAILS III Prepared by: W. B. Swan 6/16/76
Date

W. B. Swan, Reactor Inspector
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

Dates of Inspection: May 25-28, 1976

Reviewed by: T. E. Conlon 6/16/76
Date

T. E. Conlon, Chief
Engineering Support Section No. 1
Reactor Construction and Engineering
Support Branch

All information in Details III applies to both Units 1 and 2 except where specifically identified with a specific reactor.

1. Individuals Contacted

a. Tennessee Valley Authority (TVA)

(1) Site

J. C. Killian - Project Manager
T. B. Northern, Jr. - Construction Engineer
A. R. White - General Construction Superintendent
R. L. Heatherly - Supervisor, QC and Records Unit
H. C. Cofield - Supervisor, Materials Engineering Unit
H. S. Shepperd - Supervisor, Civil Engineerng Unit
L. C. Northard - Supervisor, Site QA Unit, DEC QA Staff
J. E. Daniel - QA Engineer, DEC QA Staff
R. L. Young - QA Engineer, DEC QA Staff
J. H. Perdue - Electrical Engineering Unit Supervisor
J. A. Nicholls - Civil Engineer
R. A. Lawson - Construction Engineer Associate
J. D. Shanlever - Mechanical Engineer
L. D. Bates - Mechanical Engineer

(2) Knoxville

J. P. Knight - QA Manager
J. S. Colley - DED - QA Engineer
L. G. Herbert - OEDC - QA Staff
W. D. DeFord - DED - Supervisor, QA Engineering

(3) Singleton Materials Laboratories (TVA)

R. O. Lane - Head, Materials Engineering Section
D. Miller - Metallurgical Engineer

b. Contractor Organizations

Westinghouse Electric Company (W)

R. A. Sawyer - W Site Representative on CRDM Welding

2. Scope of Inspection

At Knoxville, documents were reviewed pertaining to the QA certification of equipment supports fabricated by Bristol Steel and Iron Works and to the procurement by W of charging pumps for the Chemical Volume and Control System (CVCS). A tour inspection was made of the TVA Singleton Materials Laboratories.

At the site, two centrifugal charging pumps were inspected along with the records for receiving, storage, periodic maintenance, and inspection were reviewed. Construction progress of the diesel generator building and the intake pumping station was checked and a followon inspection was made of base concrete placement in Unit 2.

3. Unresolved Item 76-5/2

Documentation of Fabrication For Structural Steel Reactor Coolant System Supports (10 CFR 50.55(e))

TVA representatives stated that the final report letter to NRC on this deficiency is due June 30, 1976, but is expected to be mailed sooner.

The inspector reviewed letters, certifications, and inspection reports in the Civil Engineering Branch (CEB) files pertaining to the fabrication and quality assurance of hardware to be furnished by Bristol Steel and Iron Works (BSIW).

A memorandum to CEB files dated May 7, 1976, by Robert H. Anderson, Civil Engineer (Procurement), entitled "WBNP-RCS Supports-Contract 74C54-85879-M35-22," states that Bristol corrective actions and certifications are acceptable and essentially clears the BSIW Nonconformance Report, (NCR) 39. Attachment E to NCR 39 states that audits have shown similar findings, except that disposition of materials on which welding by one unqualified tack Welder (No. 17) will be by a separate NCR.

This NCR was not produced or its number identified during this inspection so this unresolved item is left open.

None of the materials had been shipped from BSIW.

4. Charging Pumps of Chemical Volume and Control System (CVCS)

At Knoxville, mechanical design engineering file N-3M-2-26, "Procurement Package Documents for Charging Pumps" was reviewed. The pumps were procured by W under their shop order No. 205.

The documents included motor data sheets; W (proprietary) Equipment Specifications 952485, Rev. 3 and 952245 an addendum to 677474; Drawing FC-48590, Rev. 3, "Pacific Pumps Foundation Plan."

At the site two centrifugal charging pumps, one for each unit, had been stored in place on their foundations. These pumps were inspected for protection from environmental and construction damage. Each pump had a tag entitled Exhibit 4.1-1 Mfg. and Installation Quality Plan No. 1-62-F-1, Rev. 1, April 15, 1976, CVCS Eqpt. Unit.

The QC Records file for Pump 1A-A were reviewed. It had been stored in place on April 22, 1976. The file contained W Quality Release Form QR 18100; TVA NSSS QA Release No. 1; Drg. FC 48590, Rev. 2; Equipment Spec. E 678815, Rev. 2; ASME Form M-1; Receiving Report showing receipt on June 3, 1975 and approval for use on July 3, 1975; TVA Receiving and Inspection Check List, No. 10084, had eight applicable items checked off and dated November 15, 1975.

Form QCP 4.5, Rev. A, Attachment A, Equipment Storage and Maintenance Record Sheet was reviewed. Monthly inspections had been made since receipt on June 3, 1975.

There were no noncompliances and or unresolved items identified within the areas inspected.

5. Installation of Control Rod Drive Mechanisms (CRDM) on Reactor Vessel Heads

The work was being conducted in a large, well lit, semi-permanent structure designed and built by TVA for the operation.

The inspector observed the welding of a CRDM housing to nozzle seal along with all of the preparatory operations and inspection

activities. The TVA mechanical and welding engineers, the W representative and the ASME authorized inspector participated in the preparatory operations, signoff of the hold points in the procedure, and visual inspection of the completed weld.

The procedure was available in the assembly structure. It was reviewed and is summarized as follows:

1-WBNP-QCP 4.12, "Assembly and Installation of RPV Head and Control Rod Drive Mechanism, Rev. 0, May 6, 1976"

The procedure references the applicable TVA, W and vendor procedures, drawings and instructions; defines responsibilities of mechanical, welding and NDE, Electrical and QC&R units, and other required support services. The procedure defines the sequence of operations and documentation requirements. Inspection check sheets are attached to the procedure as appendices. Welding and NDE instructions are attached as appendices. The welding procedure specification, "GTA-88-C-3", is applicable to welding of the lower canopy seals and the reactor head adapter to the mechanism latch housing. The procedure employs a dyna-surge, automatic gas, tungsten arc welding system and preplaced consumable insert.

During the inspection TVA stopped work on the Unit 1 CRDM installations and started work on the Unit 2 head because they had found that the lip of the seal on one CRDM mount was thinner than the others. Discussions are being held on NCR 361R by TVA, W, and the vessel builder, Rotterdam Shipbuilding and Drydock Company, as to whether welding to the lip was permissible or whether it would have to be modified prior to the seal welding. Work for Unit 2 could continue while a decision is being made. Work on Unit 1 head had to cease because the welds must be made sequentially.

There were no items of noncompliance identified within the areas examined.

6. Non-Directed Inspection Activity

Category I concrete is required in the diesel generator building, the intake pumping station, and in the containments.

A construction progress walk-through inspection was made of the diesel generator building and the intake pumping station. Work on these structures had been suspended due to severe weather and priority of other works.

In the Unit 2 containment, preparations were being made for base pour RB2-D188 22, a 236.5 cubic yard placement. The inspector questioned the crowding of rebars in side-by-side assemblies of three to five rebars. The site civil engineers stated that this item had been discussed with design. Dimensional restrictions had forced the crowding. Adequate bond of the concrete on these bars is to be attained by the use of grout and/or half inch maximum aggregate in the concrete mix to be used in the congested areas.

Prior to the placement, the inspectors had noted that some of the burlap sacks had been displaced from the top of the reinforced concrete columns that are supposed to be kept wet during the specified curing period. During the following work shift the burlap was returned and wetted. The materials engineer stated that severe weather and construction activities dislodged the curing burlap and plastic. The tops of the thin columns will be chipped before another pour is made.

On the morning following the major base concrete placement, the inspector noted that all curing requirements and protective measures for the new concrete were being met.

Within the areas examined, there were no items of noncompliance identified.