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

AUG 25 1980

Report Nos. 50-280/80-27 and 50-281/80-31

Licensee: Virginia Electric and Power Company
Richmond, VA 23261

Facility Name: Surry Power Station

Docket Nos. 50-280 and 50-281

License Nos. DPR-32 and DPR-37

Inspection at Surry site near Williamsburg, Virginia

Inspector: T E Conlon for 8-25-80
R. J. Hardwick, Jr. Date Signed

Accompanying Personnel: N. Merriweather

Approved by: T E Conlon 8-25-80
T. E. Conlon, Section Chief, RCES Branch Date Signed

SUMMARY

Inspection on July 21-25, 1980.

Areas Inspected

This special, announced inspection involved 61 inspector-hours onsite in the areas of documentation review with respect to IE Bulletin 79-01B response.

Results

Of the area inspected, no items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

   Licensee Employees

   *J. L. Wilson, Station Manager
   *R. G. Smith, Staff Engineer
   *D. L. Padula, Associate Engineer

   Other Organizations

   Stone and Webster Engineering Corporation

   P. Reilly, Electrical Engineer
   J. Bonner, Electrical Engineer
   D. Coughlin, Electrical Engineer

   NRC Resident Inspector

   *D. J. Burke

   *Attended exit interview

2. Exit Interview

   The inspection scope and findings were summarized on July 25, 1980 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. IE Bulletin 79-01B

   The inspectors examined documents pertaining to environmental qualification. The examined documents were for electrical instrumentation and control components in the Inside Recirculation Spray (IRS) and Auxiliary Feedwater systems. Some of these documents were previously identified in the licensee's 45-day response to IEB 79-01B and apply to instrumentation and components listed below. This equipment is located in the primary containment and was examined on a previous inspection.

Unit No. 1
Inside Recirculation Spray System

Plant ID No.	Description	Cable No.	Electrical Penetration No.
LT-RS-151A	Level Transmitter	1IT352	RCP-C8E
PT-RS-152A	Pressure Transmitter	1IT49	RCP-C11B
RTD-RS-154A	Temperature Detector	1IT455	RCP-C13D
RTD-RS-150A	Temperature Detector	1IT451	RCP-C11A
1-RS-P-1A	Pump Motor	1H4PL2	RCP-C16D
		1H4PL7	RCP-C15D
1-RS-P-1B	Pump Motor	1JPLZ	RCP-C2C
		1JPL7	RCP-C6E
RTD-RS-150B	Temperature Detector	1IT453	RCP-C8E
RTD-RS-154B	Temperature Detector	1IT457	RCP-C6C
PT-RS-152B	Pressure Transmitter	1IT43	RCP-C8E
LT-RS-151B	Level Transmitter	1IT354	RCP-C13D

Auxiliary Feedwater System

Plant ID No.	Description	Cable No.	Electrical Penetration No.
MOV-FW-151A	Valve Operator	1H10PL208	RCP-C12C
		1H10PL210	RCP-C12C
MOV-FW-151B	Valve Operator	1J10PL231	RCP-C5A
		1J10PL233	RCP-C5A
MOV-FW-151C	Valve Operator	1H10PL224	RCP-C12c
		1H10PL226	RCP-C12C
MOV-FW-151D	Valve Operator	1J10PL219	RCP-C5A
		1J10PL221	RCP-C5A
MOV-FW-151E	Valve Operator	1H10PL216	RCP-C12C
		1H10PL218	RCP-C12C
MOV-FW-151F	Valve Operator	1J10PL238	RCP-C5A
		1J10PL240	RCP-C5A
FT-FW-100A	Flow Transmitter	1IT25	RCP-C13E
FT-FW-100B	Flow Transmitter	1IT27	RCP-C13E
FT-FW-100C	Flow Transmitter	1IT29	RCP-C13E

Unit No. 2
Inside Recirculation Spray System

Plant ID No.	Description	Cable No.	Electrical Penetration No.
LT-RS-251A	Level Transmitter	2IT352	RCP-C8D
PT-RS-252A	Pressure Transmitter	2IT49	RCP-C6C
RTD-RS-254A	Temperature Detector	2IT455	RCP-C11E
RTD-RS-250A	Temperature Detector	2IT451	RCP-C6C
2-RS-P-1A	Pump Motor	2H4PL2	RCP-C3B
		2H4PL7	RCP-C6E

Plant ID No.	Description	Cable No.	Electrical Penetration No.
2-RS-P-1B	Pump Motor	2J4PL2	RCP-C18D
		2J4PL7	RCP-C14D
RTD-RS-250B	Temperature Detector	2IT453	RCP-C8D
RTD-RS0254B	Temperature Detector	2IT457	RCP-C13D
PT-RS-252B	Pressure Transmitter	2IT43	RCP-C8D
LT-RS-251B	Level Transmitter	2IT354	RCP-C11E

Auxiliary Feedwater System

Plant ID No.	Description	Cable No.	Electrical Penetration No.
MOV-FW-251A	Valve Operator	2H10PL208	RCP-C5A
		2H10PL1210	RCP-C5A
MOV-FW-251B	Valve Operator	2J10PL231	RCP-C14A
		2J10PL233	RCP-C14A
MOV-FW-251C	Valve Operator	2H10PL224	RCP-C5A
		2H10PL226	RCP-C5A
MOV-FW-251D	Valve Operator	2J10PL219	RCP-C14A
		2J10PL221	RCP-C14A
MOV-FW-251E	Valve Operator	2H10PL216	RCP-C5A
		2H10PL218	RCP-C5A
MOV-FW-251F	Valve Operator	2J10PL238	RCP-C14A
		2J10PL240	RCP-C14A
FT-FW-200A	Flow Transmitter	2IT25	RCP-C13A
FT-FW-200B	Flow Transmitter	2IT27	RCP-C13A
FT-FW-200C	Flow Transmitter	2IT29	RCP-C13A

During review of the documentation, it was determined that additional information is needed to ensure equipment environmental qualification. The specific areas where additional information or clarification is required are listed below. It should be noted that the completion of outstanding items, identified in the licensee's 45-day IEB 79-01B response, may resolve the need for additional information in some of the specific areas.

For Motor Operated Valves (MOV):

The documents provided for this equipment consisted of three letters regarding additional information requested from a vendor for the North Anna 2 site equipment. No documentation which addressed the Surry site MOV equipment was available for review. The licensee agreed to obtain the applicable qualification documents for review at a later date.

For Pump Motors:

The inspector reviewed a topical report on General Electric Company (G. E.) vertical induction motors for the IRS pumps dated June 12, 1973. Franklin Institute Research Laboratories (FIRL) report number F-C 3519, a part of

the topical report, indicated a chemical spray solution with a value of ph between 5.5 to 6.5 was used during environmental testing. The licensee's IEB 79-01B evaluation work sheet indicates a value of pH between 7 and 11 is required. No discussion or justification is provided for this discrepancy in the evaluation work sheet. The component's environmental qualification (EQ) status has been deferred to the Bulletin 90-day response. The licensee acknowledged this discrepancy and agreed to address it in the 90-day response.

For Level Transmitters (Surry Unit 1):

The inspector reviewed the equipment purchase order, equipment specification, and vendor certification of conformance. Based on data contained in these documents, there is not sufficient information to conclude the equipment is environmentatlly qualified. The licensee's IEB 79-01B evaluation work sheets indicate the component EQ status has been deferred to the 90-day response and that it may be replaced due to insufficient information. Discussions with the licensee and architect-engineer (AE) personnel revealed that a letter has been sent to the equipment vendor requesting additional information. The licensee agreed to provide a copy of the vendor letter and subsequent data received for review at a later date.

For Pressure Transmitters:

The inspector reviewed the equipment specification and Wyle test report number 26304. The licensee indicated that the IEB 79-01B evaluation work sheets contain a typographical error in that the applicable Wyle test report number is 23604 and not 23601. The review of the Wyle test report revealed the following two areas of concern.

a. A Fisher-Parter Model 50EP1041 transmitter was environmentally tested. The evaluation work sheets indicate and the previous site inspection verified that a Fisher-Porter Model 50EP1031 BCXANS transmitter is installed. The licensee stated that they believed the two transmitters to be environmentally qualified by similiarity, but at present, had no written evidence.

b. The fisher-porter model 50EP1041 failed 130 minutes into the loss-of-coolant accident (LOCA) test. The evaluation work sheets specify an operating time of greater than 120 minutes is required.

As indicated on the evaluation work sheets, the component EQ status has been deferred to the 90-day response. At that time, the separating times, accuracy, etc., will be addressed. The licensee acknowledged these concerns and agreed to address them in the 90-day response.

For Cables:

The inspector requested to see the qualification documentation for cable number 1IT49. The liceesee provided the cable "pull sheet", termination sheet, material receiving report, and cable specification number NUS 341. Except for a requirement that the cable must be capable of withstanding a

total radiation dose of 10 rads, no discussion of environmental qualification tests was contained in these documents. The IEB 79-01B evaluation work sheets indicate that the components EQ status has been deferred to the 90-day response. The licensee agreed to provide additional qualification data for review at a later date.

For Electrical Penetration Assemblies (EPA):

The documents provided for this equipment consisted of two letters and a partial copy of a vendor test report regarding Type IIA EPA for the North Anna site. The licensee stated that the Type IIA EPA installed at the Surry site were orginally purchased for installation at the North Anna site. The partial vendor test report was document reference number 14 of the 45-day response. Based on the documents provided, it could not be concluded that EPA environmental qualification had been demonstrated. The inspector requested that a complete copy of document reference numbers 13 and 14 be provided. The licensee agreed to provide these documents for review at a later date.

The additional information requested in the above five areas is identified as Inspector Follow-up Items 50-280/80-27-01 and 50-281/ 80-31-01, Additional IEB 79-01B environmental qualification data required for documentation review.

The inspector discussed with licensee and AE personnel the procedures that were being followed in providing their response to IEB 79-01B, typical problems that have been encountered, and current status of the overall IEB 79-01B Surry response effort. During these discussions the inspector was informed that:

a. The licensee has contracted the aid of their AE in providing the major manpower/review effort necessary to comply with IEB 79-01B. The scope and procedure to be used during this review effort is established and documented using a procedural diagram.

b. There has been difficulty experienced in obtaining EQ test documents from vendors and subvendors. The amount of time expended in locating and obtaining these documents will impact the number of outstanding items in the 90-day response.

c. The "master-list" provided in the 45-day response per Action Item 1 of IEB 79-01Bis primarily based on the Engineered Safety Feature system equipment addressed in the FSAR. A detail review of the plant emergency procedures is currently being performed and additional eomponents may be added to the "Master-list".

d. An inspection of the primary containment is planned in the near future to determine which components are physically located below the maximum flood level and would be subject to a submerged condition.

At the conclusion of this inspection effort. The inspector discussed with site management the details of the above items and the current IEB 79-01B response effort. The present 90-day response commitment date is October 1, 1980. The inspector expressed his concern that the Surry 90-day response would contain an inordinate number of outstanding items identified in the 45-day response. Also, the inspector discussed the memorandum and order dated May 23, 1980 relating to environmental qualification of electrical equipment and its implications.