



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

Report No. 50-261/80-20

Licensee: Carolina Power and Light Company
 411 Fayetteville Street
 Raleigh, NC 27602

Facility Name: H. B. Robinson

License No. DPR-23

Inspection at Robinson site near Hartsville, South Carolina

Inspectors:	<u><i>D. K. Walther for</i></u>	<u>9-25-80</u>
	R. J. Hardwick, Jr.	Date Signed
	<u><i>N. Merriweather</i></u>	<u>9-25-80</u>
	N. Merriweather	Date Signed
Approved by	<u><i>T. E. Conlon</i></u>	<u>9-26-80</u>
	T. E. Conlon, Section Chief, RCES Branch	Date Signed

SUMMARY

Inspection on August 25-29, 1980

Areas Inspected

This special, announced inspection involved 61 inspector-hours on site in the area of installed electrical equipment review with respect to the IE Bulletin 79-01B response.

Results

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

DETAILS

1. Persons Contacted

Licensee Employees

- *R. Starkey, General Manager
- *W. Crawford, Manager, Operations and Maintenance
- *S. Zimmerman, Manager, Technical and Operations
- *B. Garrison, QA Supervisor
- *J. Curley, Engineering Supervisor
- *S. Bohanan, Principal Engineer
- *B. Schwager, Corporate Staff Engineer
- *R. Connally, Director, Nuclear Safety and QA
- *R. McGirt, Generation Specialist
- *R. Stirling, Plant Engineer

NRC Resident Inspector

- *S. Weise

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized on August 29, 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

A physical examination was made of installed electrical instrumentation and control equipment associated with the Safety Injection (SI), Auxiliary Cooling (Aux. Cooling), Reactor Coolant (RC), Heating, Ventilation and Air Conditioning (HVAC) systems. The equipment that was examined is located inside the primary containment. The specific equipment examined is listed below:

Safety Injection System:

<u>Plant ID No.</u>	<u>Description</u>	<u>Cable No.</u>	<u>Electrical Penetration No.</u>
V-866A	Valve Operator	C-2241-A	D8

Auxiliary Cooling System:

<u>Plant ID No.</u>	<u>Description</u>	<u>Cable No.</u>	<u>Electrical Penetration No.</u>
V-744 B	Valve Operator	C-2221-A	D8

Reactor Coolant System:

<u>Plant ID No.</u>	<u>Description</u>	<u>Cable No.</u>	<u>Electrical Penetration No.</u>
LT-459	Level Transmitter	--	--
PT-455	Pressure Transmitter	--	--

HVAC System:

<u>Plant ID No.</u>	<u>Description</u>	<u>Cable No.</u>	<u>Electrical Penetration No.</u>
HVH-1	Fan Motor	C-2511-A	D5
HVH-3	Fan Motor	C-2513-A	C6
HVH-4	Fan Motor	C-2514-A	C8

During examination of electrical penetrations, the cable connectors and cable splices, which terminate the penetration feed-thru cables to the field run cables, were examined. The inspectors observed the installation of a cable splice per cable splice procedure M-521. This procedure, "Safety-Related Cable Splices Inside Containment", is the work instruction for replacing cable splices which were previously identified by the licensee as not having documentation available to substantiate environmental qualification.

A review of the 90-day response to the Bulletin has identified areas where additional information or clarification is necessary. These specific areas are identified below:

a. Section 1.0, Paragraph 1:3.1:

In the discussion of maximum flood level expected inside containment, it is pointed out that three level instruments would be submerged and other instruments would be partially immersed to a depth of two inches. Additional information is required for evaluation of this condition. This information should include the following:

- (1) A listing of the equipment which would be partially immersed.

- (2) The effect partial immersion would have on equipment operation and functional capability including the radiation aspect.
- (3) A discussion of the required equipment operating time relative to expected time of immersion/submergence.
- (4) A discussion of the effect equipment failure would have relative to accident mitigation and post-accident monitoring.
- (5) Further detailed discussion of why the partial immersed and submerged equipment condition is acceptable in the licensee's judgement.

b. Section 3.0, Paragraph 3.2.1:

In the discussion of electrical penetration assemblies (EPA), a comparison by similarity of the equipment at Brunswick and H. B. Robinson Nuclear Power Plants is made. Further clarification should be provided to indicate why these EPA's are considered "similar" and how the test data from the Brunswick equipment is to be used.

The discussion on EPA construction material states that Diallyl phthalate has a radiation threshold between 10^8 and 10^{10} RADS. This is an exception to IE Bulletin 79-01B, Enclosure 4 (DOR Guidelines). The DOR guidelines indicate that Diallyl phthalate radiation threshold is 10^6 RADS. The basis for this exception should be specified and supporting documents referenced.

A discussion of the Crouse-Hinds electrical connectors used in conjunction with the EPA's states that the connectors are watertight and corrosion resistant to salt spray for 300 days. However, the information provided does not explain how or why the salt spray test demonstrates connector qualification with respect to the chemical spray solution. Additional information to support this engineering judgement should be provided.

c. Section 3.0, Paragraph 3.2.2:

In discussion of Fisher & Porter (FP) transmitter Model No. 10B2496, it is stated that the transmitter failed during high temperature, steam/chemical spray testing for qualification to IEEE 323-71 parameters. A Westinghouse document, WCAP 9157, is referenced for the test data. Based on the information given, it is not evident why the FP transmitter was/is acceptable for use at the H. B. Robinson Nuclear Plant. Additional information should be provided that clarifies the basis for transmitter acceptance.

d. Section 3.0, Paragraph 3.2.4:

Typical electrical connections discussed in this paragraph specifies use of electrical tape for overall protection. Also, the Bulletin response "Master List" indicates that a Silicone Rubber Tape #70 is

used for connection protection. However, there is no component evaluation sheet provided to address its qualification. Clarification should be provided which specifies whether the tape used with electrical connections was qualified in conjunction with other equipment testing or whether separate testing is required/or has been performed.

e. General Comments:

The 90-day response should include discussions which delineate the procedures which were used to compile, review and analyze equipment qualification data. This discussion should also reflect any field verification, second review efforts, and any QA or QC procedures which were accomplished.

Additionally, a general discussion of how the DOR guidelines were used should be provided. This discussion should be by DOR guideline paragraphs and reflect the judgements which were made where plant specific options were allowed. The basis for each judgement should be discussed in detail.

The above five areas where additional information or clarification is needed were discussed with the licensee. The licensee agreed to provide the information/clarification in a subsequent revision to the 90-day response of the Bulletin. This item is identified as Inspector Follow-up Item 50-261/80-20-01, Clarification of IE Bulletin 79-01B 90-day response.

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