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ZIMMERMAN, S. R. Carolina Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION
DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125

SUBJECT: Forwards addl info re util request for deviation from NUREG-0800 requirements for manual SSE hose stations, per request. Redundant safe shutdown equipment separated by 3 h rated barriers which are Seismic Class I structures.

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NOTES: Application for permit renewal filed. 05000400

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CP&L

Carolina Power & Light Company

SERIAL: NLS-86-315

AUG 25 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
UNIT NO. 1 - DOCKET NO. 50-400
FIRE PROTECTION - ADDITIONAL INFORMATION

Dear Mr. Denton:

In recent conversations with your staff, Carolina Power & Light Company was requested to provide some additional information concerning manual Safe Shutdown Earthquake hose stations at the Shearon Harris Nuclear Power Plant.

Attachments 1 and 2 provide the additional information requested. Should you have any questions concerning this matter, please contact Mr. Patrick P. Carier at (919) 836-8165.

Yours very truly,

S. R. Zimmerman
Manager
Nuclear Licensing Section

PPC/pgp (4059PPC)

Attachments

cc: Mr. B. C. Buckley (NRC)
Mr. G. F. Maxwell (NRC-SHNPP)
Dr. J. Nelson Grace (NRC-RII)

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

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ATTACHMENT 1

TO NLS-86-315

SUMMARY

Carolina Power & Light Company (CP&L) would like to identify a deviation from BTP 9.5-1, Section C.6.c(4) of NUREG-0800 from having to provide manual Safe Shutdown Earthquake (SSE) hose stations in three areas of the plant identified below.

BACKGROUND

Section 9.5.15 of the November 1983 Shearon Harris Safety Evaluation Report (SER) stated that:

> "Based on its evaluation, the Staff finds that sprinkler and standpipe systems have been provided in accordance with Section C.6.(c) of BTP CMEB 9.5-1 and are, therefore, acceptable."
>
> "Standpipe system piping for hose stations protecting safe shutdown equipment has been analyzed for SSE loading and is provided with seismic supports. The Staff concludes the design of the standpipe system piping meets Section C.6.c of BTP CMEB 9.5-1 and is, therefore, acceptable."

The above SER statements were based on CP&L's October 1983 response to NRC Question 280.1. However, the SER did not address the deviations identified in CP&L's response (specifically, that SSE hose stations were not provided for the diesel generator and fuel oil storage buildings).

Amendment No. 20 of the Shearon Harris Final Safety Analysis Report, dated May 10, 1985, identified the Emergency Service Water Intake structure as an additional area where SSE hose stations are not provided.

Following recent conversations with your Staff, CP&L was requested to provide justification for not providing SSE hose stations for the below three areas.

DISCUSSION

The Company requests approval of a deviation from the requirements to provide SSE hose stations in the following plant areas:

Plant Location:	a)	Diesel Generator Building
	b)	Diesel Fuel Oil Storage Building
	c)	Emergency Service Water Intake Structure
Fire Area:	a)	1-D-DGA, 1-D-DGB, 1-D-DTA, 1-D-DTB
	b)	12-0-TA, 12-0-TB, 1-0-PA, 1-0-PB, 5-0-BAL
	c)	12-I-ESWPA, 12-I-ESWPB
SSA Area:	a)	FADDGA, FADDGB, FADDTA, FADDTB
	b)	FCOTKA, FCOTKB, FAOPA, FAOPB, FPOBAL
	c)	FCIESA, FCIESB

Other safe shutdown equipment within the SSA area:

a) Diesel Generator, Diesel Generator Day Tanks, and Diesel Control Panels
b) Diesel Generator Fuel Oil Transfer Pumps, Diesel Generator Storage Tanks
c) Emergency Service Water Pumps and Controls

The Company considers this deviation justified because:

- the above redundant safe shutdown equipment is separated from each other by three-hour rated barriers, which are Seismic Class I structures,
- these areas are provided with non-seismic fire protection systems, and
- the combustible loading in these areas is considered low, except in the case of the diesel day tank and storage tank area where the enclosures are Seismic Class I or ASME Section III.

CONCLUSION

Based on the fire protection provided and described above, CP&L believes that a commensurate level of protection has been provided in lieu of additional SSE hose stations as described in Section C.6.c(4) of NUREG-0800.

ATTACHMENT 2

TO NLS-86-315

REVISION 5
TO
CP&L'S RESPONSE TO NRC QUESTION 280.1
(POINT-BY-POINT COMPARISON OF SHNPP FIRE PROTECTION WITH NUREG-0800, BTP CMEB 9.5-1, GUIDELINES FOR FIRE PROTECTION FOR NUCLEAR PLANTS)

(4059PPC/pgp)

Provisions were made to supply water at least to standpipes and hose connections for manual firefighting in areas containing equipment required for safe plant shutdown in the event of a safe shutdown earthquake, except for the Emergency Diesel Generator and Diesel Fuel Oil Buildings and the ESW Intake Structure, where the redundant counterparts are well separated. The piping system serving such hose stations were analyzed for SSE loading and provided with supports to ensure system pressure integrity. The piping and valves for the portion of hose standpipe system affected by this functional requirement, as a minimum, satisfy ANSI B31.1, "Power Piping." Following an SSE, the water supply is obtained by local manual actuation of valves to connect to the Seismic Category I Emergency Service Water System. The system cross connections are capable of supplying two 75 gpm hose stations. Piping between these valves and the emergency service water system are designed as ASME Safety Class 3. They will not degrade the performance of the Seismic Category I Safety System. 5

NRC GUIDELINES: C. POSITION (Cont'd)

C.6.c(5) The proper type of hose nozzle to be supplied to each area should be based on the fire hazard analysis. The usual combination spray/straight-stream nozzle should not be used in areas where the straight-stream can cause unacceptable mechanical damage. Fixed fog nozzles should be provided at locations where high-voltage shock hazards exist. All hose nozzles should have shut-off capability. (Guidance on safe distances for water application to live electrical equipment may be found in the "NFPA Fire Protection Handbook.")

PROJECT CONFORMANCE: C. POSITION (Cont'd)

C.6.c(5) The proper type of hose nozzle supplied to each area is based on the fire hazard analysis. The usual combination spray/straight-stream nozzle are not used in areas where the straight steam can cause unacceptable mechanical damage. Adjustable spray nozzles, approved for use on energized electrical equipment, are provided on standpipe hoselines available for discharge on electrical equipment and cabling.

NRC GUIDELINES: C. POSITION (Cont'd)

C.6.c(6) Fire hose should be hydrostatically tested in accordance with the recommendations of NFPA 1962, "Fire Hose - Care, use, Maintenance." Hose stored in outside hose houses should be tested annually. Interior standpipe hose should be tested every 3 years.