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 FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina      05000400  
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 RECIP. NAME      RECIPIENT AFFILIATION  
 DENTON, H. R.      Office of Nuclear Reactor Regulation, Director (post 851125)

SUBJECT: Forwards revised response to NRC 841205 request for addl  
 info re environ qualification program audit schedule,  
 reflecting changes to dose reduction factors resulting from  
 NRC integrated design insp.

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Carolina Power & Light Company

SERIAL: NLS-86-037

MAR 5 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  
ENVIRONMENTAL QUALIFICATION PROGRAM  
REVISED RESPONSE TO NRC QUESTION 270.5

- REFERENCES: 1. Letter Dated December 5, 1984, G. W. Knighton to  
E. E. Utley, *Shearon Harris, Unit 1 - Request for  
Additional Information in Regard to Environmental  
Qualification Program Audit Schedule*
2. Letter Dated August 27, 1985, A. B. Cutter to  
H. R. Denton, *Environmental Qualification Program  
(NLS-85-269)*

Dear Mr. Denton:

Carolina Power & Light Company hereby submits a revised response to NRC Safety Review Question 270.5 (Reference 1). This revision reflects changes to the dose reduction factors which resulted from the NRC Integrated Design Inspection. Tables 270.5-2, 270.5-3a, 270.5-3b, and 270.5-3c supercede Tables 270.5-2 and 270.5-3 submitted on August 27, 1985 (Reference 2).

If you have any questions, please contact Mr. Pedro Salas at (919) 836-8015.

Yours very truly,

S. R. Zimmerman  
Manager  
Nuclear Licensing Section

PS/ccc (3324PSA)

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TABLE 270.5-2

Gamma Radiation Dose Reduction Factors  
Based on Distance from Source

<u>Distance in Ft. from Source</u>	<u>Dose Reduction Factor</u>
1	2.4
2	4.97
3	9.0
5	18.0
10	58
15	122
20	209
30	460
35	625
40	814
45	1030
50	1170

TABLE 270.5-3a

Gamma Radiation Dose Reduction Factors  
Based on Distance and Thickness of Concrete

<u>Distance from Source in Ft.</u>	<u>Dose Reduction Factors in Concrete for Thickness</u>		
	<u>1 Ft.</u>	<u>2 Ft.</u>	<u>3 Ft.</u>
5	1.62(+2)	4.16(+3)	7.96(+4)
10	5.1(+2)	1.27(+4)	2.39(+5)
15	1.06(+3)	2.63(+4)	4.92(+5)
20	1.82(+3)	4.51(+4)	8.4(+5)
30	3.98(+3)	9.84(+4)	1.82(+6)
40	7.05(+3)	1.73(+5)	3.21(+6)
50	1.1(+4)	2.72(+5)	5.03(+6)

TABLE 270.5-3b

Gamma Radiation Dose Reduction Factors  
Based on Distance and Thickness of Steel

Distance from Source in Ft.	Dose Reduction Factors in Steel for Thickness		
	2 in.	4 in.	6 in.
5	4.08(+1)	2.22(+2)	1.17(+3)
10	1.3(+2)	7.0(+2)	3.64(+3)
15	2.72(+2)	1.45(+3)	7.58(+3)
20	4.69(+2)	2.5(+3)	1.3(+4)
30	1.03(+3)	5.52(+3)	2.87(+4)
40	1.83(+3)	9.81(+3)	5.08(+4)
50	2.89(+3)	1.54(+4)	7.97(+4)

TABLE 270.5-3c

Gamma Radiation Dose Reduction Factors  
Based on Distance and Thickness of Lead

<u>Distance from Source in Ft.</u>	<u>Dose Reduction Factors in Lead for Thickness</u>		
	<u>2 in.</u>	<u>4 in.</u>	<u>6 in.</u>
5	3.32(+2)	5.03(+3)	6.63(+4)
10	1.05(+3)	1.55(+4)	2.01(+5)
15	2.2(+3)	3.23(+4)	4.17(+5)
20	3.79(+3)	5.55(+4)	7.13(+5)
30	8.32(+3)	1.22(+5)	1.56(+6)
40	1.48(+4)	2.16(+5)	2.76(+6)
50	2.32(+4)	3.38(+5)	4.34(+6)