



LOUISIANA
POWER & LIGHT

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L.V. MAURIN
Vice President Nuclear Operations

April 11, 1983

W3P83-1029
3-A20.16
L.09.02

Director of Nuclear Reactor Regulation
Attention: G. W. Knighton, Chief
Licensing Branch Number 3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Waterford 3 SES
Docket No. 50-382
Environmental Qualification Equipment

Reference: W3P83-0335 dated February 2, 1983

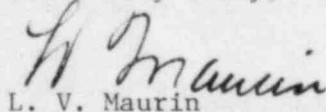
Dear Mr. Knighton:

The purpose of this letter is to provide supplementary information to the radiation analysis attached to the referenced letter. As requested by L. Bell of the Accident Evaluation Branch, an explanation of how the dose reduction factors were determined follows.

The dose reduction factors were derived from a table which shows the dose rates from various pipe sizes versus distance from the source and concrete shielding thickness. The portion of this table which is applicable has been plotted on semi-log paper and is included herewith as an attachment. The table, a copy of which is also attached, was the result of an ISOSHL D parametric computer calculation. A description of ISOSHL D is given in Waterford 3 FSAR 12.3.2.3. This method was employed because for small distances from a volume source, as in this case, the usual assumption of linear dose rate fall-off is not valid, therefore a parametric method is more accurate.

If you have any further questions or comments on this matter, please advise.

Yours very truly,


L. V. Maurin

LVM/SMJ/ssd

Attachments

cc: Jim Wilson (NRC), Larry Bell (NRC), Hukam Garg (NRC), Bob LaGrange(NRC),
M. W. Yost (EG&G), E. R. Holloway (EG&G), E. L. Blake, W. M. Stevenson

A048

Before the
UNITED STATES NUCLEAR REGULATORY COMMISSION

Docket No. 50-382

In the Matter of
LOUISIANA POWER & LIGHT COMPANY

ENVIRONMENTAL QUALIFICATION OF EQUIPMENT

Louisiana Power & Light Company, Applicant in the above captioned proceeding,
hereby files additional information on Environmental Qualification of Equipment.

Respectfully submitted,
LOUISIANA POWER & LIGHT COMPANY

By: *L V Maurin*
L. V. Maurin
Vice President
Nuclear Operations

DATE: _____

STATE OF LOUISIANA)

) SS

PARISH OF ORLEANS)

L. V. Maurin, being duly sworn, states that he is Vice President - Nuclear Operations of Louisiana Power & Light Company and that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission this report.

L. V. Maurin

SUBSCRIBED AND SWORN to before me, a Notary Public, in and for the Parish and State above named, this 2nd day of April, 1983.

Notary Public

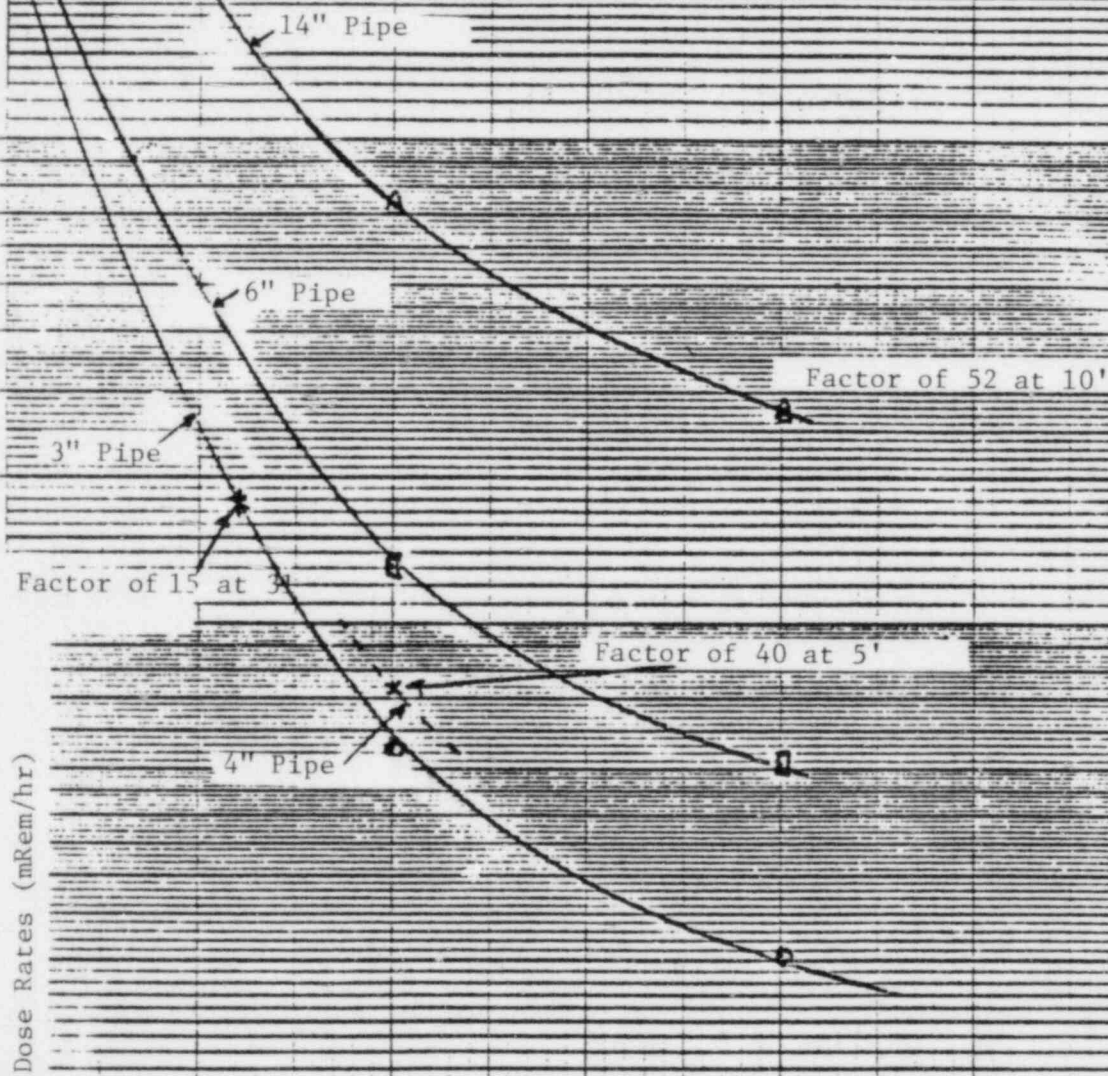
MY COMMISSION EXPIRES:

WITH LIFE

LOUISIANA POWER AND LIGHT CO.
WATERFORD #3

Attachment for Calculation Set #34, Sheet 2

Parametric Study of Dose Rates from Piping
Versus Pipe Size, Distance from Pipe, and
Concrete Shield Thickness.



Distance From Source (feet)

KE
SEMI-LOGARITHMIC 4 CYCLES X 70 DIVISIONS
KEUPPEL & ESNER CO. 9408 100-1

TABLE II Dose Rates at Various Distance from Pipe Center Line
at 1 hr Post LOCA, mRem/hr

Nominal Dia (in)	O.C. (Ft)	Contact Dose Rate	Distance from center line to Detector (feet)				Remarks
			5	10	50	100	
24	0	1.80(8)	1.31(7)	4.85(6)	2.33(5)	5.31(4)	Run # 8142 10/21/80 200' pipe detector at middle
14	0	1.44(8)	7.33(6)	2.77(6)	1.36(5)	3.14(4)	
12	0	1.20(8)	5.98(6)	2.28(6)	1.13(5)	2.60(4)	
10	0	1.23(8)	5.26(6)	1.99(6)	9.80(4)	2.27(4)	
8	0	6.73(7)	2.82(6)	1.09(6)	5.44(4)	1.26(4)	
6	0	3.43(7)	1.31(6)	5.12(5)	2.59(4)	5.98(3)	
3	0	2.67(7)	5.47(5)	2.05(5)	1.01(4)	2.36(3)	
2	0	1.85(7)	2.67(5)	9.80(1)	4.80(3)	1.13(3)	
24	1	1.512(6)	4.70(5)	2.06(5)	1.27(2)	2.91(3)	Run # 6079 10/21/80
24	2	3.08(4)	1.67(4)	7.57(3)	5.46(2)	1.28(2)	
24	3	1.14(3)	8.80(2)	4.04(2)	3.22(1)	7.66(0)	
24	4	6.34(1)	6.34(1)	2.92(1)	2.50(0)	6.03(4)	
14	1	9.90(5)	2.65(5)	1.20(5)	7.55(3)	1.74(3)	
14	2	1.90(4)	9.18(3)	4.31(3)	3.16(2)	7.45(1)	
14	3	6.74(2)	4.71(2)	2.24(2)	1.82(1)	4.35(0)	
14	4	3.63(1)	3.31(1)	1.59(5)	1.38(0)	3.35(-1)	
12	1	8.22	2.16(5)	9.86(4)	6.22(3)	1.44(3)	Run # 8159 10/21/80
12	2	1.58(4)	7.50(3)	3.54(3)	2.61(2)	6.15(1)	
12	3	5.59(2)	3.86(2)	1.84(2)	1.50(1)	3.60(0)	
12	4	3.01(1)	2.71(1)	1.30(1)	1.14(0)	2.77(-1)	
10	1	7.51(5)	1.92(5)	8.76(4)	5.51(3)	1.27(3)	
10	2	1.40(4)	6.52(3)	3.10(3)	2.28(2)	5.38(1)	
10	3	4.89(2)	3.31(2)	1.59(2)	1.29(1)	3.10(0)	
10	4	2.59(1)	2.30(1)	1.11(1)	9.91(-1)	2.36(-1)	

Note: O.C. = Ordinary Concrete