



Commonwealth Edison Company

172 WEST ADAMS STREET * CHICAGO, ILLINOIS 60680

August 19, 1965

In the Matter of)
 the Application of) AEC Docket
 Commonwealth Edison Company) 50-237

Dr. R. L. Doan, Director
 Division of Reactor Licensing
 U. S. Atomic Energy Commission
 Washington, D. C.

Dear Sir:

Seventy copies of Amendment No. 3 to the Plant Design and Analysis Report, previously filed April 15 and May 17, 1965, in support of the Application of Commonwealth Edison Company for a construction permit and operating license for Dresden Unit 2, are submitted herewith.

Amendment No. 3 consists of revised pages III-5-4 and III-5-5 to be substituted for those pages originally submitted as a part of Amendment No. 2, "Answers to AEC Questions".

Very truly yours,

COMMONWEALTH EDISON COMPANY

By Murray Joslin
 Murray Joslin
 Vice President

Subscribed and sworn to
 before me this 19th day
 of August, 1965.

[Signature]
 Notary Public



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average duration of this condition and was therefore used in this analysis. Assumption of a larger duration will give proportionally larger doses. For example, use of a 30 minute duration gives about twice as large a dose.

TABLE III-5-3
Radiological Effects of the Coolant Loss Accident*
External Passing Cloud Dose (rad)

Distance (miles)	First 2-Hour Exposure					
	VS-2	MS-2	N-2	N-10	U-2	U-10
1/2	3.2×10^{-3}	3.4×10^{-3}	3.4×10^{-3}	1.9×10^{-3}	3.4×10^{-3}	1.3×10^{-3} ‡
1	2.4×10^{-3}	3.0×10^{-3}	2.8×10^{-3}	1.1×10^{-3}	2.8×10^{-3}	7.6×10^{-4} ‡
5	-	-	-	8.0×10^{-5}	-	3.4×10^{-5} ‡
9	-	-	-	2.4×10^{-5}	-	9.2×10^{-6} ‡
12	-	-	-	1.3×10^{-5}	-	4.2×10^{-6} ‡
	Total Accident Exposure					
1/2	1.2×10^{-1}	1.2×10^{-1}	1.2×10^{-1}	7.2×10^{-2}	1.2×10^{-1}	5.2×10^{-2} ‡
1	9.0×10^{-2}	1.0×10^{-1}	4.2×10^{-2}	4.2×10^{-2}	1.1×10^{-1}	2.9×10^{-2} ‡
5	1.0×10^{-2}	1.2×10^{-2}	8.3×10^{-3}	3.0×10^{-3}	3.0×10^{-3}	1.3×10^{-3} ‡
9	3.7×10^{-3}	4.6×10^{-3}	1.7×10^{-3}	9.0×10^{-4}	7.1×10^{-4}	3.4×10^{-4} ‡
12	1.9×10^{-3}	2.4×10^{-3}	7.1×10^{-4}	4.9×10^{-4}	2.6×10^{-4}	1.6×10^{-4} ‡
	Lifetime Thyroid Dose (rad)					
	First 2-Hour Exposure					
1/2	a**	a	2.4×10^{-6}	5.0×10^{-5}	2.5×10^{-2}	7.3×10^{-3}
1	a	a	2.6×10^{-3}	1.4×10^{-3}	2.3×10^{-2}	5.6×10^{-3}
5	-	-	-	1.3×10^{-3}	-	5.3×10^{-4}
9	-	-	-	5.6×10^{-4}	-	2.3×10^{-4}
12	-	-	-	3.6×10^{-4}	-	1.4×10^{-4}
	Total Accident Exposure					
1/2	a	a	3.7×10^{-5}	7.5×10^{-4}	3.8×10^{-1}	1.1×10^{-1}
1	a	a	2.0×10^{-2}	2.1×10^{-2}	3.6×10^{-1}	8.5×10^{-2}
5	a	3.3×10^{-3}	1.0×10^{-1}	2.0×10^{-2}	4.0×10^{-2}	8.0×10^{-3}
9	a	1.4×10^{-2}	4.5×10^{-2}	8.5×10^{-3}	1.5×10^{-2}	5.5×10^{-3}
12	a	2.7×10^{-2}	2.8×10^{-2}	5.5×10^{-3}	1.0×10^{-2}	2.1×10^{-3}

*Calculated using meteorological methods described in Sections XI-6.3.2 to XI-6.3.2f of Volume I Plant Design and Analysis Report.

**The symbol "a" means less than 1×10^{-10} .

TABLE III-5-4
Radiological Effects of the Coolant Loss Accident*

Distance (miles)	External Passing Cloud Dose (rad)					
	First 2-Hour Exposure					
	VS-2	MS-2	N-2	N-10	U-2	U-10
1/2	3.2×10^{-3}	3.4×10^{-3}	3.4×10^{-3}	1.9×10^{-3}	3.4×10^{-3}	1.3×10^{-3} †
1	2.4×10^{-3}	3.0×10^{-3}	2.8×10^{-3}	1.1×10^{-3}	2.8×10^{-3}	7.6×10^{-4} †
5	-	-	-	8.0×10^{-5}	-	3.4×10^{-5} †
9	-	-	-	2.4×10^{-5}	-	9.2×10^{-6} †
12	-	-	-	1.3×10^{-5}	-	4.2×10^{-6} †
	Total Accident Exposure					
1/2	3.2×10^0	3.4×10^0	3.4×10^0	1.9×10^0	3.4×10^0	1.3×10^0 †
1	2.4×10^0	3.0×10^0	2.8×10^0	1.1×10^0	2.8×10^0	7.6×10^{-1} †
5	2.8×10^0	3.2×10^{-1}	2.2×10^{-1}	8.0×10^{-2}	8.0×10^{-2}	3.4×10^{-2} †
9	1.0×10^{-1}	1.2×10^{-1}	4.6×10^{-2}	2.4×10^{-2}	1.9×10^{-2}	9.2×10^{-3} †
12	5.0×10^{-2}	6.4×10^{-2}	1.9×10^{-2}	1.3×10^{-2}	7.0×10^{-3}	4.2×10^{-3} †
	Lifetime Thyroid Dose (rad)					
	First 2-Hour Exposure					
1/2	a**	a	5.0×10^{-6}	2.2×10^{-4}	2.1×10^{-2}	1.3×10^{-2}
1	a	a	1.5×10^{-3}	5.9×10^{-3}	2.0×10^{-2}	7.3×10^{-3}
5	-	-	-	3.6×10^{-3}	-	5.3×10^{-4}
9	-	-	-	1.3×10^{-3}	-	1.9×10^{-4}
12	-	-	-	7.9×10^{-4}	-	9.9×10^{-5}
	Total Accident Exposure					
1/2	a	a	3.3×10^{-3}	1.5×10^{-1}	1.5×10^1	8.8×10^0
1	a	a	9.7×10^{-1}	4.0×10^0	1.4×10^1	4.8×10^0
5	a	4.0×10^{-1}	7.5×10^0	2.4×10^0	1.2×10^0	3.5×10^{-1}
9	a	1.0×10^0	2.2×10^0	8.8×10^{-1}	4.2×10^{-1}	1.3×10^{-1}
12	a	2.8×10^0	1.2×10^0	4.8×10^{-1}	2.2×10^{-1}	6.6×10^{-2}

*Calculated using meteorological diffusion methods in HW-SA-2809. See Section XI-6.3.2h of Volume I Plant Design and Analysis Report.

**The symbol "a" means less than 1×10^{-10} .

An example dose was calculated for the site boundary for the 100% melt loss of coolant for comparison to first two hour and total accident doses. These calculations were performed for period of maximum stack release.