



METROPOLITAN EDISON COMPANY

SUBSIDIARY OF GENERAL PUBLIC UTILITIES CORPORATION

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November 1, 1978
GQL 1791

Director of Nuclear Reactor Regulation
Attn: R. W. Reid, Chief
Operating Reactors Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Fire Protection Program

Attached is a summary of the fire loading for TMI-1. Fire areas are identified as described in the TMI-1 Fire Hazards Analysis. The second column of the table indicates the total fire loading normally present in each area. The last two columns show the fire loading in BTU/ft² and in pounds (wood equivalent)/ft² assuming a 55 gallon drum of oil or 1000 pounds of Class A combustibles were present in each area in addition to the loading normally present.

As can be seen from the table, the fire barriers that will be provided upon completion of the Fire Barrier Penetration Sealing Program can contain the additional loading as described above, with the exception of the A Makeup Pump cubicle. The fire loading in that cubicle may be increased by 30 gallons of oil or 575 pounds of Class A combustibles before exceeding the barrier rating. However, the cubicle is normally kept free of all transient material and it is therefore felt that no additional modifications are necessary.

Based on the results of the study, Met-Ed feels that Item 3.2.9 of the Fire Protection Safety Evaluation Report has been adequately addressed.

Per October 31, 1978 telecon with Mr. G. B. Zwetzig of your staff and in accordance with paragraph 2.c.(4) of the Facility Operating License DPR-50, this letter is submitted one day late due to an administrative error which resulted in illegible copies of the table.

Sincerely,

781107 0101

J. G. Herbein
J. G. Herbein
Vice President-Generation

JCH:WSS:cjg

Attachment

Acob
S/11

FIRE LOADING SUMMARY

1/1

6/11/10

1/1

FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED	HOUR RATING PROVIDED	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 10 of Class A combustibles) Wood Equivalent BTU'S/FT ²	
							BTU'S/FT ²	LB'S/FT ²
Generator Building Area DG-1 (Elevation 305')	96,000	56,354	39,648	12.00	1-1/2	3	98,290	12.29
Generator Building Area DG-2 (Elevation 305')	96,000	56,354	39,648	12.00	1-1/2	3	98,290	12.29

FIRE AREA	PUMP HOUSE	FIRE LOADING SUMMARY					HOURLY RATING PROVIDED	HOURLY RATING REQUIRED	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 100 lbs. of Class A combustibles)	Wood Equivalent lb ² /ft
		1/1	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²				
Intake Screen and Pump House (Elevation 308') 10000 ft ²			10,000	3,175	6,291	1.25	-	None - Limited Amount of Combustibles	10,840	1.36

TURBINE BUILDING	1/1	FIRE LOADING SUMMARY	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent BTU'S/FT ² LB ² /FT ²	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent BTU'S/FT ² LB ² /FT ²
Turbine Building 42,000 ft ²			111,000	13,500	97,500	13.88	1-1/2	3	111,200	13.90

FIRE AREA	INTERMEDIATE BUILDING 2/2	FIRE LOADING SUMMARY				HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles)	
		TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²			BTU'S/FT ² *	Wood Equivalent LB/FT ²
Intermediate Building at Elevation 355' 4000 ft ²		800	794		.10	None - Limited Amount of Combustibles	-	2,890	.36

INTERMEDIATE BUILDING 1/2		FIRE LOADING SUMMARY				TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD		
FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	BTU'S/FT ²	(A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent LB ² /FT ²
Valve Gallery and Penetration Room (Elevation 295') 400 ft ²	8,500		8,475	1.06	None - Limited Amount of Combustibles	-	29,400	3.68
Turbine Driven Emergency Feedwater Pump Room (Elevation 295') 600 ft ²	14,400	5,292	9,100	1.8	None - Limited Amount of Combustibles	-	28,340	3.54
Motor Driven Emergency Feedwater Pump Area (Elevation 295') 1800 ft ²	7,100	1,764	5,298	.89	None - Limited Amount of Combustibles	-	11,750	1.47
Remainder of Elevation 295' 1700 ft ²	1,900	1,868		.24	None - Limited Amount of Combustibles	-	6,820	.85
Intermediate Building at Elevation 305' 1700 ft ²	1,900	1,868		.24	None - Limited Amount of Combustibles	-	6,820	.85
Intermediate Building at Elevation 325' 6600 ft ²	6,200	2,405	3,747	.78	None - Limited Amount of Combustibles	-	7,470	.93

FUEL HANDLING BUILDING 1/1		FIRE LOADING SUMMARY				TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD	
FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED Amount of Combustibles	HOURLY RATING PROVIDED	(A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent LB ² /FT ²
Fuel Handling Building at Elevation 281' 7500 ft ²	33,000	400	32,120	4.13	None - Limited Amount of Combustibles	-	34,100 4.26
Fuel Handling Building at Elevation 305' 7000 ft ²	32,200	22,000	10,147	4.03	None - Limited Amount of Combustibles	-	33,400 4.18
Fuel Handling Building at Elevations 329' and 331' 4000 ft ²	2,800	750	2,053	.35	None - Limited Amount of Combustibles	-	4,890 .61
Fuel Handling Building at Elevation 348' 7900 ft ²	1,000	800	164	.13	None - Limited Amount of Combustibles	-	2,060 .26
Zone Between Fuel Pool (East Wall) and Control Building Elevations 322' to 380' 2500 ft ²	77,000	35,840	40,683	9.63	None - Limited Amount of Combustibles	-	80,350 10.04
Air Conditioning Equipment Room (Elevation 385') 900 ft ²	3,500		3,484	.44	None - Limited Amount of Combustibles	-	12,790 1.60

CONTROL BUILDING		1/3			FIRE LOADING SUMMARY				TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent LB ² /FT ²	
FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	BTU'S/FT ²	Wood Equivalent LB ² /FT ²		
Control Building Area CB-4a (Elev. 355') 2900 ft ²	82,000	81,920		10.25	1-1/2	2	84,890	10.61		
Control Building Area CB-4b (Elev. 355') 3100 ft ²	58,000	35,174	22,022	7.25	a) floor - 3 b) walls - CB-1-1/2 - FH-1 - TB-3 c) ceiling - 1/2	a) floor - 3 b) walls - CB-2 - FH-3 - TB-3 c) ceiling - 2	60,700	7.59		
Control Building Area CB-5a (Elev. 355') 3000 ft ²	16,000	13,440	1,667	.21	1/2	3	18,790	2.35		
Control Building Area CB-5b (Elev. 380') 3000 ft ²	15,000		44,507	1.88	1/2	3	17,790	2.22		

CONTROL BUILDING 2/3		FIRE LOADING SUMMARY					TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD	
FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	(A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent LB'S/FT ²	
Control Building Area CB-2f (Elev. 322') 600 ft ²	21,000		20,857	2.63	1/2	3	34,900	4.36
Control Building Area CB-2g (Elev. 322') 600 ft ²	17,000		11,042	1.5	1/2	3	25,900	3.24
Control Building Area CB-3a (Elev. 338'6") 800 ft ²	61,000		60,625	7.63	1	3	71,450	8.93
Control Building Area CB-3b (Elev. 338'6") 800 ft ²	59,000		58,750	7.38	1	3	69,450	8.68
Control Building Area CB-3c (Elev. 338'6") 1000 ft ²	30,000		30,000	3.75	1/2	3	38,360	4.8
Control Building Area CB-3d (Elev. 338'6") 2800 ft ²	191,000	1,666	188,571	23.88	3	3	193,990	24.25

CONTROL BUILDING 1/3		FIRE LOADING SUMMARY					
FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LB'S/FT ²	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent LB'S/FT ²
Control Building Area CB-1 (Elev. 306') 6000 ft ²	53,000	50,096	2,298	6.63	NONE	-	54,390 6.80
Control Building Area CB-2a (Elev. 322') 800 ft ²	75,000		75,000	9.38	1	3	85,450 10.68
Control Building Area CB-2b (Elev. 322') 300 ft ²	45,000		45,000	5.63	1	3	55,450 6.93
Control Building Area CB-2c (Elev. 322') 1000 ft ²	52,000	24,128	27,504	6.50	1	3	60,360 7.55
Control Building Area CB-2d (Elev. 322') 600 ft ²	74,000		73,333	9.25	1	3	87,900 10.99
Control Building Area CB-2e (Elev. 322') 600 ft ²	62,000		61,666	7.75	1	3	75,900 9.49

REACTOR BUILDING, /2	FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent LB ² /FT ²
	Reactor Building Inside Secondary Shield, East at RE-1d (Elevation All) 1700 ft ²	204,000		204,000	25.5	NONE	-	208,920 26.12
	Reactor Building Inside Secondary Shield, West at RE-1e (Elevation All) 1700 ft ²	201,000		201,000	25.13	NONE	-	205,920 25.74

REACTOR BUILDING		1/2		TRANSIENT		PERMANENT		TOTAL		HOURLY		HOURLY		TOTAL FIRE LOADING PLUS AN ADDITIONAL	
FIRE AREA		TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)		FIRE LOADING BTU'S/FT ²		FIRE LOADING BTU'S/FT ²		FIRE LOAD WOOD EQUIVALENT LBS/FT ²		RATING REQUIRED		RATING PROVIDED		TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles) Wood Equivalent	
														BTU'S/FT ² LB ² /FT ²	
Reactor Building Outside Secondary Shield, North at RB-1a Elevation 281' 6550 ft ²		4,925						.62		None - Limited Amount of Combustibles		-		6,205 .78	
Reactor Building Outside Secondary Shield, Southeast at RB-1b Elevation 281' 1700 ft ²		NONE Combustibles are negligible								None - Limited Amount of Combustibles		-		4,920 .62	
Reactor Building Outside Secondary Shield, Southwest at RB-1c Elevation 281' 1700 ft ²		9,300		2,060		7,230		1.16		None - Limited Amount of Combustibles		-		14,220 1.78	
Reactor Building Outside Secondary Shield at RB-2 Elevation 308' 9850 ft ²		17,500		670		16,813		2.19		None - Limited Amount of Combustibles		-		18,350 2.29	
Reactor Building Outside Secondary Shield at RB-3 Elevation 346' 9850 ft ²		3,250		670		2,594		.41		None - Limited Amount of Combustibles		-		4,100 .51	

Appendix Building 1/2

FIRE LOADING SUMMARY

FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles)	
							BTU'S/FT ²	Wood Equivalent LB ² /FT ²
Decay Heat Removal Pit A (Elev. 261') 900 ft ²	3,600		3,614	.45	1/2	3	12,890	1.61
Decay Heat Removal Pit B (Elev. 261') 1000 ft ²	3,350		3,352	.42	1/2	3	11,710	1.46
Heat Exchanger Vault (Elevation 271') 7000 ft ²	2,700	1,260	1,430	.34	None - Limited Amount of Combustibles	-	3,900	.49
Make-Up and Purification Pumps A, B, and C Cubicles (Elev. 281') 220 ft ² /cubicle								
A	58,500	-	58,410	7.31	1	1	80,000*	12.06
B	15,200	-	15,120	1.90	1	1	53,200	6.65
C	14,000	-	13,820	1.75	1	1	52,000	6.50
Valve Gallery (Elevation 281' 295') 300 ft ²	3,600		3,600	.45	None - Limited Amount of Combustibles	-	31,470	3.93

* 30 gal. of oil or 575 lbs. of class A combustibles

AUXILIARY BUILDING 2/2

FIRE LOADING 36 LBS

FIRE AREA	TOTAL FIRE LOADING BTU'S/FT ² (Rounded Off)	TRANSIENT FIRE LOADING BTU'S/FT ²	PERMANENT FIRE LOADING BTU'S/FT ²	TOTAL FIRE LOAD WOOD EQUIVALENT LBS/FT ²	HOURLY RATING REQUIRED	HOURLY RATING PROVIDED	TOTAL FIRE LOADING PLUS AN ADDITIONAL TRANSIENT LOAD (A 55 gal. drum of oil or 1000 lbs. of Class A combustibles)	
							BTU'S/FT ²	Wood Equivalent LB ² /FT ²
Penetration Area (Elevation 281') 750 ft ²	41,300	4,000	37,300	5.16	None - Limited Amount of Combustibles	-	52,450	6.56
Remainder of Elevation 281' 14,000 ft ²	20,500	3,855	16,245	2.56	None - Limited Amount of Combustibles	-	21,100	2.64
Demineralizers and Motor Control Centers (Elevation 305') 4500 ft ²	22,000	666	21,700	2.75	None - Limited Amount of Combustibles	-	23,860	2.98
Decay Heat Removal and Nuclear Service Closed Cycle Cooling Pump Area (Elevation 305') 1200 ft ²	9,000	2,500	6,472	1.13	None - Limited Amount of Combustibles	-	15,970	2.00
Gas Decay Tanks (Elevation 305') 950 ft ²	NONE				None - Limited Amount of Combustibles	-	8,800	1.1
Remainder of Elevation 305' 9000 ft ²	23,700	1,770	21,930	2.96	None - Limited Amount of Combustibles	-	24,630	3.08