

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
MOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

NUSCO CALCULATION CHANGE NOTICE (CCN)

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1 of 2

OPS837 3-00

1. AFFECTED CALCULATION/PLANT			
<input checked="" type="checkbox"/> MP1 <input type="checkbox"/> MP2 <input type="checkbox"/> MP3 <input type="checkbox"/> CY <input type="checkbox"/> OTHER			
2. CALCULATION NO. PA 79-126-742-GE		REVISION NO. 0	CHANGE NO. 4
CALCULATION ORIGINATED BY: <input checked="" type="checkbox"/> NU <input type="checkbox"/> VENDOR			
3. CALCULATION TITLE MP-1 Diesel Generator Loading			
4. REFERENCES			
Calc No.			
91-LOE-017-M1			
5. REASON FOR CHANGE Incorporate LPCI & CS BHP changes evaluated in the referenced calculation and LPCI/Cont. Cooling Operation			
6. DESCRIPTION OF CHANGE & TECHNICAL JUSTIFICATION			
<u>CHANGES</u> (a) LPCI Pump BHP increases from 500 to 532 HP (b) CS Pump BHP increases from 650 to 736 HP (c) ILPCI Pump is secured prior to initiation of ESW (d) Summary of Results - The EDG loading decreases from 98.8% to 86.7% <u>TECH. JUST.</u> CHANGE IS ACCEPTABLE SINCE LOADING IS DECREASED			
7. NUCLEAR INDICATOR <input checked="" type="checkbox"/> CAT1 <input type="checkbox"/> RWQA <input type="checkbox"/> PPCA <input type="checkbox"/> ATWB			
8. AFFECTED CALC. PAGES 70+9 90+9			
9. PREPARED BY: (PRINTED NAME) Richard J. Hackett		SIGNATURE <i>Richard J. Hackett</i>	
10. REVIEWED BY: (PRINTED NAME) Richard G. Ewing		SIGNATURE <i>Richard G. Ewing</i>	
11. APPROVED BY: (PRINTED NAME) David B. Vail		SIGNATURE <i>David B. Vail</i>	
		DATE 7-25-91	
		DATE 7/25/91	
		DATE 7-29-91	

9110170190 911007
PDR ADDOCK 05000245
PDR

DG Ratings		Time After DG Breaker Closure	Loads	HP Req.	KW Req.	Step KW	Total KW	DG Load	Comments
KVA Rating	3330	0 Sec.	(Connected Load)			219	219	8.2%	Assumes Diversity Factor
p.f.	0.8		Safety Injection MOV's	N/A	112.0				Note 3
KW	2665		Isolation MOV's	N/A	67.0				Notes 4 & 11
Short-time KW	2932		Diesel Auxiliaries	N/A	10.7				Note 1
Start KW	3000		480 V Xlms, 12F Losses	N/A	18.6				Note 2
Constants			Emergency Lights	N/A	70.0				Note 4
KW/HP	0.746		Instrument AC	N/A	23.3				Note 5
Large Mr. Eff.	93%		Stand-By Gas Treatment	N/A	9.7				Note 6
Small Mr. Eff.	80%		Emergency Air Handling	N/A	37.0				Note 7
Start Check			Water Cooled Condenser	N/A	63.3				Note 8
HP to KW	1.8		Reactor Bldg. Elevator	N/A	23.3				Note 9
Running p.f.	0.86		Reactor Feed & Seal Water Return	N/A	4.7				Note 10
Starting Check Input		0 Sec.	Start Check	600	1080	427	646	24.2%	
2nd Emer. Service Water			1st LPCI Pump	632	427		1299	43.3%	
Load		5 Sec.	Start Check	500	900	427	1072	40.2%	
HP, 4r	2700		2nd LPCI Pump	632	427		1546	51.5%	
HP, 48r	202								
KW, 48	56	10 Sec.	Start Check	800	1440	590	1663	62.4%	
			Core Spray Pump	736	590		2512	83.7%	
Diversity	50%	22 Sec.	Start Check	600	1080	401	2084	77.4%	
			Service Water Pump	500	401		2743	91.4%	
		32 Sec.	Start Check	150	270	108	2172	81.5%	
			Turbine Bldg. Sec. Closed Clg. Wtr.	135	108		2334	77.8%	
		47 Sec.	MOV's Stopped	N/A	-90	-90	2083	78.1%	
		60 Sec.	Start Check	0	0	0	2083	78.1%	
			Control Rod Drive Pump	0	0		2083	69.4%	
		65 Sec.	Start Check	0	0	0	2083	78.1%	
			RBCCW Pump	0	0		2083	69.4%	
		300 Sec.	Reactor Bldg. Elevator Off	N/A	-12	1	2083	78.2%	
			SBLC Heater	N/A	12.5				Note 13
		600 Sec.	Secure "C" LPCI Pump	-532	-427	-427	1657	62.2%	
		605 Sec.	Secure CRD or RBCCW	0	0	0	1657	62.2%	
		610 Sec.	Start Check	400	720	321	1978	74.2%	
			1st Emergency Service Water Pump	400	321		2377	79.2%	
		615 Sec.	Start Check	400	720	321	2298	86.2%	
			2nd Emergency Service Water Pump	400	321		2698	89.9%	
		620 Sec.	Start Check	0	0	0	2298	86.2%	
			Restart CRD or RBCCW	0	0		2298	76.6%	
		30 Min.	Battery Charger	N/A	9	9	2308	86.6%	

