

NORTHEAST UTILITIES



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

NUSCO CALCULATION CHANGE NOTICE (CCN)

PAGE
1 OF 2

OPS837 3-80

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.	REVISION NO.	CHANGE NO.	CALCULATION ORIGINATED BY:
PA 79-126-742-GE	0	1	<input checked="" type="checkbox"/> NU <input type="checkbox"/> VENDOR
3. CALCULATION TITLE			
MP-1 Diesel Generator Load Study - LOCA & LNP Conditions			
4. REFERENCES			
NONE			
5. REASON FOR CHANGE			
REPLACEMENT OF LPC Pump Motor 1502A			
6. DESCRIPTION OF CHANGE & TECHNICAL JUSTIFICATION			

~~SEE ATTACHED~~

The change covers the replacement of the "A" LPC pump motor from 500 HP to 600 HP. Since the efficiency only drops to 92.7% @ 3/4 load the steady state loading is unaffected. The only significant change to the calc. is the starting req's @ step 1 (OSCC). This is still well within the capability of the EOB.
* from Reliance Rpt. NO. S-1-ZBS-S-600.

7. NUCLEAR INDICATOR	8. AFFECTED CALC. PAGES	
<input checked="" type="checkbox"/> CAT I <input type="checkbox"/> RWQA <input type="checkbox"/> FPQA <input type="checkbox"/> ATW8	PAGE 90 OF 9	
9. PREPARED BY: (PRINTED NAME)	SIGNATURE	DATE
RICHARD HALLECK	<i>Richard Halleck</i>	12/17/90
10. REVIEWED BY: (PRINTED NAME)	SIGNATURE	DATE
Richard G. Ewing	<i>Richard G. Ewing</i>	12/18/90
11. APPROVED BY: (PRINTED NAME)	SIGNATURE	DATE
	<i>[Signature]</i>	12/19/90

2110170175 211007
PDR STOCK 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 50% Diversity Factor
p.f.	0.8		Safety Injection MOV's	N/A	112.0				Note 3
KW	2065		Isolation MOV's	N/A	67.0				Notes 4 & 11
Short-time KW	2932		Diesel Auxiliaries	N/A	10.7				Note 1
Constants			480 V Xlmr. 12F Losses	N/A	18.6				Note 2
KW/HP	0.746		Emergency Lights	N/A	70.0				Note 4
Large Mtr. Eff.	93%		Instrument AC	N/A	23.3				Note 5
Small Mtr. Eff.	80%		Stand-By Gas Treatment	N/A	9.7				Note 6
Start Check			Emergency Air Handling	N/A	37.0				Note 7
HP to KW	2.2		Water Cooled Condenser	N/A	63.3				Note 8
Running p.f.	0.85		Reactor Bldg. Elevator	N/A	23.3				Note 9
			Reactor Feed & Seal Water Return	N/A	4.7				Note 10
Starting Check Input		0 Sec.	Start Check			401	620	23.3%	OK Start
2nd Emer. Service Water			1st LPCI Pump				(1310)	(45.6%)	Reference 3.6
Load		5 Sec.	Start Check	500	1100	401	1021	38.3%	OK Start
HP, 4r			2nd LPCI Pump	500	401		1720	58.7%	Reference 3.6
HP, 48r		10 Sec.	Start Check	700	1540	521	1542	57.9%	OK Start
KW, 48			Core Spray Pump	650	521		2561	87.4%	Reference 3.6
		22 Sec.	Start Check	600	1320	401	1943	72.9%	OK Start
			Service Water Pump	500	401		2862	97.6%	Reference 3.5
		32 Sec.	Start Check	150	330	108	2052	77.0%	OK Start
			Turbine Bldg. Sec. Closed Cfg. Wtr.	135	108		2273	77.6%	Reference 3.5
		47 Sec.	MOV's Stopped	N/A	-90	-90	1962	73.6%	Valves have Cycled
		5 Min.	Reactor Bldg. Elevator Off	N/A	-12	19	1981	74.3%	
			SBLC Heater	N/A	25				Note 13
		10 Min.	Start Check	400	880	321	2302	86.4%	OK Start
			1st Emergency Service Water Pump	400	321		2861	97.6%	Reference 3.5
		10 Min.	Start Check	400	880	321	2623	98.4%	Loading OK
			2nd Emergency Service Water Pump	400	321		3182	108.6%	Check Start
		30 Min.	Battery Charger	N/A	9	9	2632	98.8%	Reference 3.5
									Loading OK

Increase

to 52.5%
still OK
Ref

OK 2/2/2

no real increase