Reviewed for Code Compliance
Inspections Division
Approved with Conditions
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Eaton & Peabody - 100 Middle St
Portland, Maine
NAC Circuit Voltage Drop/Maximum Length Calculations

Remote Booster Panel is existing. Existing strobe cicruit shown in Grey

Strobe Booster Panel (BPS10A) (Candela Ratings are Indoor per UL 1971 UON)

	GCHFWF-S2VMC - Speaker Strobe				G1RF-VM - Strobe Only			Quies (Amp)	Alarm (Amp)	Remaining % Circuit Capacity
	15cd	30cd	75cd	95cd	15cd	30cd	75cd			
	63	90	168	194	59	82	152			
BPS 1								0.0700	0.2700	
1-1			4						0.6720	77.60
1-2			1		4				0.4040	86.53
1-3			3		5				0.7990	73.37
1-4									0.0000	100.00
								0.0700	**2.1450**	78.55
								Total Quiescent	Total Alarm	

All currents are expressed as mA.

Max current per ckt = 3 Amps. Max current per panel = 10 Amps.

Total Quiescent Amp x Time Required (24 Hours)	1.680	AmpHr
Total Alarm Amp x Time Required (15 Minutes)	0.536	AmpHr
Total Battery Required (Quiescent + Alarm AmpHr)	2.216	AmpHr
Total Battery Required + 25%	**2.770**	AmpHr
Battery Supplied	**7.2**	AmpHr

Formulas Used:

R_t = (D) x (R_w) / 1000'
V_d = (R_t) x (I_t)
Substitute for (R_t) and solve for D
D = ((4.0) x (1000)) / ((R_w) x (I_t))

Notes:

1. **NAC Circuit terminal voltage 24Vdc.**
2. **A maximum allowable voltage drop of 4Vdc will provide a minimum of 20 Vdc per circuit.**
3. **Current values listed per device are based on 24Vdc.**

STROBE CIRCUIT MAX WIRE LENGTH CALCULATION

	G1F-HDVM (Horn/Strobe)				-VM - Strob	0	0	Total Circuit Current	Ω per 1000' Pair
	15cd	30cd	75cd	110cd	15cd	30cd	75cd		
	81	94	161	203	59	82	152		14AWG (5.2)
1-1	0	0	4	0	0	0	0	0.6720	1144.69 Ft
1-2	0	0	1	0	4	0	0	0.4040	1904.04 Ft
1-3	0	0	3	0	5	0	0	0.7990	962.74 Ft
1-4	0	0	0	0	0	0	0	0.0000	#DIV/0! Ft