UNE- Coleman Hall Portland
Booster Power Supply Standby Battery Calculations

Reviewed for Code Compliance
Inspections Division
Approved with Conditions
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BPS10A Strobe Booster Panel

	GCF-HDVM (Ceiling Mount Horn Strobe)				GCF-VM (Ceiling Mount Strobe Only)				Quiescent Current	Alarm Current	Remaining % of Capacity
	15cd	30cd	75cd	95cd	15cd	30cd	75cd	95cd			
	91	124	219	257	74	108	205	244			
Panel									0.0700	0.2700	
Circuit 1	2		1		2					0.5490	78.04
Circuit 2			2				3			1.0530	57.88
Circuit 3	1		1		2					0.4580	81.68
Circuit 4	1		1		1		1			0.5890	76.44 %
									0.0700	**2.9190**	70.81 %
									Total Quiesce	Total Alarm	Remaining % Panel

All currents are expressed as mA.
Max current per ckt = 2. Amps. Max current per panel = 10.0 Amps.

Total Quiescent Amp x Time Required (24 Hours)	1.680	AmpHr
Total Alarm Amp x Time Required (5 Minutes)	0.243	AmpHr
Total Battery Required	1.923	AmpHr
Total Battery Required + 20%	**2.308**	AmpHr
Battery Supplied	**7.2**	AmpHr

Strobe Length Calculations

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))

R_t = Total Circuit Resistance
D = Total Circuit Length (Feet)
R_w = Wire Resistance (Ω) per 1000' Pair (Ohms)
V_D = Circuit Voltage Drop (Max allowed is 4.0Vdc)
I_t = Total Circuit Current

Notes:

1. **BPS Power supply 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 20Vdc.**
4. **BPS Power supply output is straight DC (not regulated).**

STROBE CIRCUIT MAX WIRE LENGTH CALCULATION

	GCF-HDVM (Ceiling Mount Horn Strobe)				GCF-VM (Ceiling Mount Strobe Only)				Total Circuit Current	Ω per 1000' Pair		
	15cd	30cd	75cd	95cd	15cd	30cd	75cd	95cd		12AWG (3.5)	14AWG (5.2)	Volt
Panel	91	124	219	257	74	108	205	244	Amp	Max Length (Ft)	Max Length (Ft)	Drop
Circuit 1	2	0	1	0	2	0	0	0	0.4600	2484.47	1672.24	4.0
Circuit 2	0	0	2	0	0	0	3	0	0.5770	1980.69	1333.16	4.0
Circuit 3	1	0	1	0	2	0	0	0	0.3950	2893.31	1947.42	4.0
Circuit 4	1	0	1	0	1	0	1	0	0.3920	2915.45	1962.32	4.0