Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 03/16/17

NAC Circuit Voltage Drop Calculation

Project Name	**CMP- Portland Service Center**			
Date	**2/6/2017**			
Circuit Number	**Nac#4**			
Area Covered				
NAC Source Alarm Voltage	19.1		Wire	Resistance
Minimum Device Voltage	16		Gauge	Per KFt Cable
Distance to first appliance	250		14	3.14
Total Circuit Current	1.480			

Wire Gauge for balance of circuit	14	3.14

Circuit is within limits

	Device Current	Distance from previous device	Voltage at Device	Drop from source	Percent Drop
Appliance 1	0.129		17.94	1.16	6.1%
Appliance 2	0.125	35	17.79	1.31	6.9%
Appliance 3	0.129	25	17.69	1.41	7.4%
Appliance 4	0.125	25	17.61	1.49	7.8%
Appliance 5	0.129	35	17.50	1.60	8.4%
Appliance 6	0.281	60	17.34	1.76	9.2%
Appliance 7	0.281	50	17.25	1.85	9.7%
Appliance 8	0.281	50	17.21	1.89	9.9%
END			17.21	1.89	9.9%
END			17.21	1.89	9.9%
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END			17.21	1.89	9.9%
Totals	1.480	530			

Appliance circuit voltage drop calculations start at "end of battery life" as NAC Source Alarm Voltage and use 20% below nameplate rating for Minimum Appliance Voltage.

Note. Wire resistance is based on the 2014 NEC Table 8 Uncoated DC resistance. All resistance is based on solid conductors