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#6**			
Area Covered				
NAC Source Alarm Voltage	19.1		Wire	Resistance
Minimum Device Voltage	16		Gauge	Per KFt Cable
Distance to first appliance	100		14	3.14
Total Circuit Current	1.862			

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	0.346		18.52	0.58	3.1%
Appliance 2	0.397	50	18.28	0.82	4.3%
Appliance 3	0.230	45	18.12	0.98	5.1%
Appliance 4	0.179	75	17.91	1.19	6.2%
Appliance 5	0.176	25	17.85	1.25	6.5%
Appliance 6	0.179	25	17.81	1.29	6.7%
Appliance 7	0.230	45	17.76	1.34	7.0%
Appliance 8	0.125	35	17.75	1.35	7.1%
END			17.75	1.35	7.1%
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Totals	1.862	400			

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