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#5**			
Area Covered				
NAC Source Alarm Voltage	19.1		Wire	Resistance
Minimum Device Voltage	16		Gauge	Per KFt Cable
Distance to first appliance	150		14	3.14
Total Circuit Current	2.497			

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	0.397		17.92	1.18	6.2%
Appliance 2	0.397	35	17.69	1.41	7.4%
Appliance 3	0.179	25	17.56	1.54	8.1%
Appliance 4	0.346	35	17.39	1.71	8.9%
Appliance 5	0.176	45	17.23	1.87	9.8%
Appliance 6	0.417	75	16.99	2.11	11.0%
Appliance 7	0.125	45	16.91	2.19	11.5%
Appliance 8	0.230	75	16.80	2.30	12.0%
Appliance 9	0.230	25	16.78	2.32	12.1%
END			16.78	2.32	12.1%
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END			16.78	2.32	12.1%
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Totals	2.497	510			

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