NAC Circuit Voltage Drop Calculation

Project Name	**CMP- Portland Service Center**		
Date	**2/6/2017**		
Circuit Number	**Nac#11**		
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	1.396		

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	0.316		18.66	0.44	2.3%
Appliance 2	0.316	50	18.49	0.61	3.2%
Appliance 3	0.281	40	18.40	0.70	3.7%
Appliance 4	0.316	40	18.34	0.76	4.0%
Appliance 5	0.167	40	18.31	0.79	4.1%
END			18.31	0.79	4.1%
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Totals	1.396	270			

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