Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 09/30/13

NAC Circuit Voltage Drop Calculation

Project Name	DEA MAINE		
Date	8/30/2013		
Circuit Number	FACP-2		
Area Covered	DEA BUILDING		
NAC Source Alarm Voltage	20.4	Wire Gauge	Resistance Per MFt Cable
Minimum Device Voltage	16	14	5.84
Distance to first appliance	20		
Total Circuit Current	1.352		

Wire Gauge for balance of circuit	14	5.84

Circuit is within limits

	Device Current	Distance from previous device	Voltage at Device	Drop from source	Percent Drop
Appliance 1	0.098		20.24	0.16	0.8%
Appliance 2	0.064	20	20.10	0.30	1.5%
Appliance 3	0.064	15	19.99	0.41	2.0%
Appliance 4	0.064	20	19.86	0.54	2.6%
Appliance 5	0.064	20	19.74	0.66	3.3%
Appliance 6	0.064	25	19.59	0.81	4.0%
Appliance 7	0.064	15	19.51	0.89	4.4%
Appliance 8	0.098	25	19.38	1.02	5.0%
Appliance 9	0.078	30	19.25	1.15	5.7%
Appliance 10	0.259	40	19.08	1.32	6.5%
Appliance 11	0.064	25	19.02	1.38	6.8%
Appliance 12	0.175	50	18.91	1.49	7.3%
Appliance 13	0.098	35	18.87	1.53	7.5%
Appliance 14	0.098	35	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
END	0.000	0	18.85	1.55	7.6%
Totals	1.352	375			

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 1996 NEC Table 8 Uncoated DC resistance. Solid conductors except gauges 10 and 12 which are for stranded.

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NAC Circuit Voltage Drop Calculation

Project Name	DEA MAINE		
Date	8/30/2013		
Circuit Number	FACP-2		
Area Covered	NOTIFICATION APPLIANCE POWER EXTENDER TRIP		
NAC Source Alarm Voltage	20.4	Wire	Resistance
Minimum Device Voltage	16	Gauge	Per MFt Cable
Distance to first appliance	0	14	5.84
Total Circuit Current	0.000		

Wire Gauge for balance of circuit	14	5.84

Circuit is within limits

	Device Current	Distance from previous device	Voltage at Device	Drop from source	Percent Drop
Appliance 1	0.000		20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
END	0.000	0	20.40	0.00	0.0%
Totals	0.000	0			

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 1996 NEC Table 8 Uncoated DC resistance. Solid conductors except gauges 10 and 12 which are for stranded.