Audit Event - Energy Audit Diagnostic Tests

- The MN Weatherization Field Guide- SWS Aligned Edition can be found in Appendix B.

• General Tests
  o Blower Door @ 50 Pa – A pressurized blower test will be performed if a home contains vermiculite (12.2 MN Weatherization Field Guide)
  o Attic Zonal Pressures (with respect to outside) – Optional at audit. Can be used to guide air sealing activities when multiple attics exist.
  o Crawlspace Zonal Pressures (with respect to outside) – Only for crawlspaces that are not open to conditioned space. (Crawlspace Guidance – MN WAP Policy Manual Appendix B)
  o Test Existing Smoke & CO Detectors – replace units that are non-functional, or over 5 years old (manufacturers date) (1.3 MN Weatherization Field Guide)
  o Pressure Pan Test (ducts outside thermal envelope) (8.13 MN Weatherization Field Guide)
  o Gas Range CO Tests (oven only) (1.4 MN Weatherization Field Guide)
  o Gas Range Test for Fuel Leaks (accessible lines) (8.1 MN Weatherization Field Guide)
  o Ambient CO test in kitchen and living area (8.1 MN Weatherization Field Guide)
  o Exhaust Fan Flow Test (CFM) (9.2 MN Weatherization Field Guide)

• Water Heater (Combustion safety testing requirements apply only to combustion appliances)
  o Test for Fuel Leaks (8.1 MN Weatherization Field Guide)
  o Water Heater Combustion Analysis/CO in Flue (8.1 MN Weatherization Field Guide)
    ▪ PVC test holes must be plugged with threaded, knurled screws to create a tight seal
  o CAZ Depressurization Test (BPI 1200 Testing Standard, 8.1 MN Weatherization Field Guide)
  o Combustion Spillage Test (BPI 1200 Testing Standard, 8.1 MN Weatherization Field Guide)
  o Hot Water Temperature (10.4 MN Weatherization Field Guide)

• Heating Plant (Combustion safety testing requirements apply only to combustion appliances)
  o Test for Fuel Leaks (8.1 MN Weatherization Field Guide)
  o Heating Plant Combustion Analysis/CO in Flue (8.3 MN Weatherization Field Guide)
    ▪ PVC test holes must be plugged with threaded, knurled screws to create a tight seal
    ▪ When a heating system manufacturer does not allow drilling of a metal flue, use a combustion analyzer to test ambient CO at the front of the heating system cabinet and in the closest supply register.
  o Test Furnace Shutoff Switch (8.5 MN Weatherization Field Guide)
  o Heat Rise Test on Furnace (8.3.1 MN Weatherization Field Guide)
  o CAZ Depressurization Test (BPI 1200 Testing Standard, 8.1 MN Weatherization Field Guide)
  o Combustion Spillage Test (BPI 1200 Testing Standard, 8.1 MN Weatherization Field Guide)
  o Ambient CO Test in Mechanical Room and Living Space (8.1 MN Weatherization Field Guide)
  o Heat Exchanger Integrity - Visual Inspection (8.7 MN Weatherization Field Guide)
  o Heat Exchanger Integrity - Oxygen Concentration Test (8.7 #4 MN Weatherization Field Guide)
• **Space Heater (including gas fireplaces)**
  - Test for Fuel Leaks (*8.1 MN Weatherization Field Guide*)
  - Combustion Analysis/CO in Flue (as feasible) (*8.4 MN Weatherization Field Guide*)
  - CAZ Depressurization Test (*BPI 1200 Testing Standard, 8.4 MN Weatherization Field Guide*)
  - Combustion Spillage Test (as feasible) (*BPI 1200 Testing Standard, 8.4 MN Weatherization Field Guide*)