Audit Event - Energy Audit Diagnostic Tests

- The MN Weatherization Reference Guide - Saturn Resource Management can be found in Appendix B.
- CAZ Depressurization tests are not required in dwellings where all space and water heating plants are electric.

• **General Tests**
  - Blower Door @ 50 Pa – A pressurized blower test will be performed if a home contains vermiculite (BPI 1200 - 2017, 10.2)
  - Attic Zonal Pressures (with respect to outside) – Optional if needed to guide air sealing activities
  - Test Existing Smoke & CO Detectors – replace units that are non-functional, or over 5 years old (manufacturers date) (1.3 MN Weatherization Reference Guide)
  - Pressure Pan Test (ducts outside thermal envelope) (8.13 MN Weatherization Reference Guide)
  - Gas Cookstove CO Tests (oven) (BPI 1200 - 2017, 7.9, Table 1)
  - Gas Cookstove Test for Fuel Leaks (accessible lines) (BPI 1200 - 2017, 7.5)
  - Ambient CO test in kitchen and living area (BPI 1200 - 2017, 7.3.3)
  - Exhaust Fan Flow Test (CFM) (BPI 1200 - 2017, 1.3)

• **Water Heater**
  - Test for Fuel Leaks (BPI 1200 - 2017, 7.5)
  - Water Heater Combustion Analysis/CO in Flue (8.3 MN Weatherization Reference Guide, BPI 1200 - 2017, Table 1 for CO thresholds, or AHJ whichever is more stringent)
    - PVC test holes must be plugged with threaded, gnarled screws to create a tight seal
  - CAZ Depressurization Test (BPI 1200 - 2017, 7.9)
  - Combustion Spillage Test (BPI 1200 - 2017, 7.9)
  - Hot Water Temperature (10.4 MN Weatherization Reference Guide)

• **Heating Plant**
  - Test for Fuel Leaks (BPI 1200 - 2017, 7.5)
  - Heating Plant Combustion Analysis/CO in Flue (8.3 MN Weatherization Reference Guide, PI 1200 - 2017, Table 1 for CO thresholds or AHJ whichever is more stringent)
    - PVC test holes must be plugged with threaded, gnarled 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.
  - CAZ Depressurization/Combustion Spillage Test. This test required on natural draft appliances equipped with a barometric draft control or Category I appliances equipped with a draft hood or connected to a natural draft venting system. (BPI 1200 - 2017, 7.9)
  - Ambient CO Test in Mechanical Room and Living Space (BPI 1200 - 2017, 7.3.3)
  - Heat Exchanger Integrity - Visual Inspection (8.7 MN Weatherization Field Guide)
  - Heat Exchanger Integrity - Oxygen Concentration Test (8.7 #4 MN Weatherization Field Guide)

• **Space Heater (including gas fireplaces)**
  - Test for Fuel Leaks (BPI 1200- 2017, 7.5)
  - Combustion Analysis/CO in Flue (As feasible) (8.1 MN Weatherization Reference Guide, BPI 1200 - 2017, Table 1 for CO thresholds, or AHJ whichever is more stringent)
  - CAZ Depressurization/Combustion Spillage Test. (As feasible) This test required on natural draft appliances equipped with a barometric draft control or Category I appliances equipped with a draft hood or connected to a natural draft venting system. (BPI 1200- 2017, 7.9)