**Section 276.205 Evaporative System Integrity Test Procedures**

a) Applicability

The evaporative system integrity test shall be performed in accordance with the fuel cap leak flow test procedures or fuel cap pressure decay test procedures, and fuel cap visual functional test procedures specified in subsections (b) and (c) of this Section.

b) Test Procedures

1) Fuel Cap Leak Flow Test

The fuel cap shall be removed from the vehicle's fuel inlet and installed on the fuel cap leak flow tester, using an adapter if necessary. All fuel caps that require a key for removal from the vehicle's fuel inlet shall be tested with the key removed from the lock. The workstation shall provide the inspector with information as to whether the fuel cap tester can be used to test the vehicle's fuel cap and which adapter, if any, is required, based on one or more of the following items: vehicle identification number (VIN), make, model, and model year. If the fuel cap can be tested, then the following task shall be performed:

A) The fuel cap leak flow tester shall be pressurized to 30 ±1 inches of water. The inspector shall initiate the test. The fuel cap leak flow tester shall measure the fuel cap leak flow rate and simultaneously compare this flow rate with the flow rate through the calibrated orifice;

B) Within 15 seconds after the depression of the start-test button, the fuel cap leak flow tester shall make a pass/fail determination. Pass/fail analysis shall be determined according to the procedures in subsection (c) of this Section;

C) Fuel caps that have failed an initial integrity test under subsection (c)(4) of this Section shall immediately receive a second-chance fuel cap leak flow test after first ensuring that the fuel cap has been installed on the fuel cap leak flow tester correctly. The procedure contained in subsections (b)(1)(A) and (b)(1)(B) of this Section shall be repeated; and

D) At the conclusion of all fuel cap leak flow tests, the fuel cap shall be removed from the fuel cap leak flow tester and replaced on the filler neck, ensuring that it is properly tightened.

2) Fuel Cap Pressure Decay Test

The fuel cap shall be removed from the vehicle's fuel inlet and installed on the fuel cap pressure decay tester, using an adapter if necessary. All fuel caps that require a key for removal from the vehicle's fuel inlet shall be tested with the key removed from the lock. The workstation shall provide the inspector with information as to whether the pressure decay tester can be used to test the vehicle's fuel cap and which adapter, if any, is required, based on one or more of the following items: VIN, make, model, and model year. If the fuel cap can be tested, then the following task shall be performed:

A) The pressure decay tester shall be pressurized to 28 ±1 inches of water. The inspector shall initiate the test. The pressure decay tester shall monitor the pressure behind the fuel cap and look for pressure decay;

B) The pressure decay shall be monitored for 10 seconds after stability is achieved for 10 seconds. Pass/fail analysis shall be determined according to the procedures in subsection (c) of this Section;

C) Fuel caps that have failed an initial integrity test under subsection (c)(4) of this Section shall immediately receive a second-chance fuel cap pressure decay test after first ensuring that the fuel cap has been installed on the pressure decay tester correctly. The procedure contained in subsections (b)(2)(A) and (b)(2)(B) of this Section shall be repeated; and

D) At the conclusion of all fuel cap pressure decay tests, the fuel cap shall be removed from the pressure decay tester and replaced on the filler neck, ensuring that it is properly tightened.

3) Visual Functional Test

If the vehicle has a fuel cap, but the fuel cap cannot be tested using the leak flow or pressure decay test procedures, then a visual functional test of the fuel cap shall be performed.

c) Pass/Fail Determination

1) Vehicles which are presented for testing with missing, inaccessible, incorrect, non-removable, illegal, or otherwise non-testable fuel caps shall fail the evaporative system integrity test.

2) If the vehicle's fuel cap is present and can be tested using either the fuel cap leak flow test or the fuel cap pressure decay test under subsection (b)(1) or (b)(2) of this Section and, if tested, the test result does not exceed either the fuel cap leak flow rate standard contained in 35 Ill. Adm. Code 240.172(b) or the fuel cap pressure decay standard contained in 35 Ill. Adm. Code 240.172(a), then the vehicle shall pass the evaporative system integrity test.

3) If the vehicle's fuel cap is present and is tested under the provisions of subsection (b)(3) of this Section, and the test result does not exceed the visual functional test standard contained in 35 Ill. Adm. Code 240.172(c), then the vehicle shall pass the evaporative system integrity test.

4) If the vehicle's fuel cap is tested using either the fuel cap leak flow test or the fuel cap pressure decay test under the provisions of subsection (b)(1) or (b)(2) of this Section, and does not meet the applicable standards contained in 35 Ill. Adm. Code 240.172, the vehicle shall fail the evaporative system integrity test.

(Source: Amended at 35 Ill. Reg. 11268, effective June 28, 2011)