

**STATE OF NEW HAMPSHIRE DEPARTMENT OF SAFETY**

**OFFICE OF THE COMMISSIONER**

**NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES**

**CHAPTER SAF-C 5800 ROADSIDE DIESEL OPACITY INSPECTION**

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**PART Saf-C 5801 PURPOSE AND SCOPE**

Saf-C 5801.01 Statement of Intent. The purpose of these rules is to implement a roadside heavy-duty diesel emissions testing program mandated by the New Hampshire Legislature as part 1998 NH Laws 207. The law was passed pursuant to the State's agreement with the Federal Environmental Protection Agency on an overall clean air strategy under the provisions of the federal Clean Air Act Amendments of 1990.

Saf-C 5801.02 Applicability. These rules shall apply to all diesel powered motor vehicles with a manufacturer's gross vehicle weight rating of 10,000 pounds or more and all diesel-powered buses manufactured to carry 25 or more passengers, whether these vehicles are registered in New Hampshire or another jurisdiction.

Saf-C 5801.03 Incorporation by Reference. Diesel smoke opacity testing shall be conducted in accordance with The Society of Automotive Engineers' (SAE) J1667 "Snap Acceleration Smoke Test Procedure."

**PART Saf-C 5802 DEFINITIONS**

Saf-C 5802.01 Construction of Terms. For the purposes of this rule, the following words and terms have the following meanings when used in the text of the rule. Other technical terms that may be used in the rule in reference to the SAE J1667 test procedure but not defined herein, shall have the meanings defined in the SAE J1667 test procedure.

Saf-C 5802.02 "Black smoke" means smoke emitted from the exhaust stack of a diesel-powered vehicle that has a dark value with no color hues other than black.

Saf-C 5802.03 "Blue smoke" means smoke emitted from the stack or engine area of a diesel-powered vehicle that, using the visible light spectrum as a guide, displays an obvious hue of the color blue.

Saf-C 5802.04 "Commissioner" means the Commissioner of the Department of Safety.

Saf-C 5802.05 "Department" means the New Hampshire Department of Safety.

Saf-C 5802.06 "Diesel-powered" means a vehicle using diesel fuel and a compression ignition type engine.

Saf-C 5802.07 "Director" means the director of the New Hampshire Division of Motor Vehicles.

Saf-C 5802.08 "Division" means New Hampshire Division of Motor Vehicles.

Saf-C 5802.09 "Driver" means the person driving the vehicle at the time of pullover.

Saf-C 5802.10 "Emissions" or "exhaust emissions" means any substances, including liquids and solids, emitted in the gaseous stream released into the atmosphere from any opening downstream from the exhaust ports of a motor vehicle engine.

Saf-C 5802.11 "Exhaust stack diameter" or "stack diameter" means the diameter of the appropriate portion of the vehicle's exhaust piping, as determined by the SAE J1667 test procedures, that may be measured and entered into the smokemeter as part of the diesel opacity test.

Saf-C 5802.12 "Governor" means a device on the diesel engine installed by the manufacturer for the purposes of limiting maximum engine RPM.

Saf-C 5802.13 "Gross vehicle weight rating" or "GVWR" means the weight specified by the manufacturer as the maximum loaded weight of a single or combination vehicle.

Saf-C 5802.14 "Heavy-duty diesel vehicle" or "HDDV" means a diesel-powered vehicle or bus with a GVWR of 10,000 pounds or more.

Saf-C 5802.15 "Opacity" means the extent to which black exhaust, as measured by a smokemeter and expressed as a percentage, blocks the transmission of light (e.g., smoke that completely blocks out all light has 100% opacity).

Saf-C 5802.16 "Owner" means the person or business entity that owns, leases or is otherwise primarily responsible for the registration, operation and maintenance of the subject vehicle.

Saf-C 5802.17 "Quick Screen" means the process by which a subject vehicle initially selected for pullover may be exempted from the full SAE J1667 test procedure by performing two "snaps" of the accelerator pedal and displaying no visible black smoke.

Saf-C 5802.18 "SAE J1667" means the Society of Automotive Engineers' J1667 Snap Acceleration Smoke Test Procedure recommended for diesel smoke opacity testing.

Saf-C 5802.19 “Smoke” means the emissions, including any solid or liquid substance, released into the atmosphere as a result of combustion.

Saf-C 5802.20 “Smokemeter” means a device used for the measurement of the smoke or exhaust emissions of a diesel-powered motor vehicle.

Saf-C 5802.21 “Snap acceleration” means the SAE J1667 test procedure and refers to the rapid depression of the accelerator pedal by the vehicle operator in order to reach maximum governed RPM as part of the test.

Saf-C 5802.22 “Subject vehicle” means any vehicle that may be subject to testing as listed in Saf-C 5801.02 and not otherwise exempted from testing.

### **PART Saf-C 5803 INSPECTION REQUIRED**

#### **Saf-C 5803.01 Vehicle Inspection.**

(a) All heavy-duty diesel-powered trucks, and all diesel-powered buses manufactured to carry 25 or more passengers operating on the highways, roads and public ways of New Hampshire may be subjected to roadside diesel opacity testing.

(b) Testing shall be performed by officers of the New Hampshire State Police Bureau of Highway Enforcement, in cooperation with the Air Resources Division of the Department of Environmental Services.

(c) Testing shall be conducted as part of normal Bureau operations, either in conjunction with Motor Carrier Safety Assistance Program (MCSAP) inspections or other heavy duty vehicle enforcement duties.

#### **Saf-C 5803.02 Exemptions.**

(a) The following HDDVs shall be exempt from the SAE J1667 test procedure:

(1) All federal vehicles, including military vehicles.

(2) Vehicles that pass the initial “Quick Screen” process upon being selected for pullover.

(3) Vehicles that have:

a. Within the previous year, passed a diesel opacity test in New Hampshire or any other state that conducts opacity testing, and

b. Can present written record of such a passed diesel opacity test,

or

c. Within the previous year have failed a diesel opacity test in New Hampshire or any other state that conducts diesel testing and can present written record of repairs appropriate to an emissions violation.

(b) Notwithstanding (a), above, officers may require an opacity test of any subject vehicle that appears to be emitting visible black smoke such that said vehicle would otherwise not qualify for an exemption under the Quick Screen procedure described in Saf-C 5804.02, below.

(c) The Commissioner may make provisions for recognizing the results of opacity tests substantially similar to the SAE J1667 test procedure that within the previous 12 months have been performed by other states or provinces on a subject vehicle selected for pullover in New Hampshire.

## **PART Saf-C 5804 TEST PROCEDURES AND STANDARDS**

### **Saf-C 5804.01 Initial Pullover.**

(a) Subject vehicles shall be selected for pullover as part of normal operations.

(b) Vehicles shall be observed for smoke.

(c) Vehicles emitting visible black smoke will be designated for the full SAE J1667 test procedure.

(d) Vehicles emitting no obvious black smoke upon pullover will be permitted to attempt to Quick Screen, as described in Saf-C 5804.02

### **Saf-C 5804.02 Quick Screen Test.**

(a) In the absence of visible smoke, vehicles selected for pullover shall be permitted to attempt to “quick screen” before the undergoing the SAE J1667 test procedure.

(b) The Quick Screen shall consist of two “snaps” of the accelerator as described in the SAE J1667 test procedure.

### **Saf-C 5804.03 Passing the Quick Screen Test.**

(a) Vehicles that display no visible black smoke shall be deemed to have passed the Quick Screen.

(b) Said vehicles shall provide the administering officer with the data and information listed in Saf-C 5804.09(c).

(c) Said vehicles shall receive a pass indication on the Diesel Opacity Results and Information form.

(d) Vehicles that pass the Quick Screen shall not have to undergo the SAE J1667 test procedure.

Saf-C 5804.04 Quick Screen Test.

(a) Vehicles that display visible black smoke shall be deemed to have failed the Quick Screen.

(b) Said vehicles shall be directed to undergo the full SAE J1667 test procedure.

Saf-C 5804.05 Opacity Test.

(a) The general diesel smoke emissions test procedure shall be the SAE J1667 test procedure, also known as the "snap acceleration diesel smoke opacity test."

(b) The following summary table of the SAE J1667 test procedure is provided solely as a reference. For the purposes of this rule, the test procedure shall be the SAE J1667 test procedure noted in 3(a). The summary of this procedure is as follows:

Table 1, Summary of Test Procedure
(1) Chock wheels.
(2) Measure exhaust stack diameter and enter in test equipment, if necessary.
(3) Insert exhaust probe in stack.
(4) Disengage brakes.
(5) Place transmission in neutral.
(6) Driver "snaps" the accelerator and holds at governed speed for several seconds, then returns to idle speed. Snap acceleration procedure is repeated a minimum of five times.
(7) Average three last readings to determine pass or fail.

(8) Driver is given Pass/Fail result on test form.

Saf-C 5804.06 Modification of Procedures.

(a) The Department may modify or depart from portions of these procedures so long as:

- (1) The modifications do not represent an unreasonable departure from the SAE J1667 test procedure, or
- (2) The modifications are the result of recommendations by the test equipment manufacturer, or
- (3) The modifications are the result of recommended changes in SAE J1667 procedures.

Saf-C 5804.07 Certification of Troopers. State troopers administering the opacity test shall have received training from the equipment vendor and shall be certified by the vendor as being trained in the performance of the test.

Saf-C 5804.08 Opacity Standards. A vehicle will pass the opacity test if its smoke measurement is at or below the following levels for the model years indicated:

<u>Opacity Level</u>	<u>Model Year of Truck</u>
40%	1991 and newer
55%	1974 to 1990
70%	1973 and older

Saf-C 5804.09 Opacity Test Forms.

(a) Drivers of vehicles that undergo the opacity test shall be given a copy of their test results.

(b) The form given to the operator shall contain at a minimum the following information:

- (1) Date of inspection;

- (2) Time (start and finish);
- (3) License plate number;
- (4) Test standards;
- (5) Test results in percentage;
- (6) Pass/fail indication;
- (7) Information on fine payment and administrative hearings;
- (8) Information on repairs;

(c) The form to be filled in and kept by the Department shall include the following information:

- (1) Date of inspection;
- (2) Inspector's name or identification number;
- (3) Start time of inspection;
- (4) Ending time of inspection;
- (5) Vehicle's State of registration;
- (6) Vehicle make;
- (7) Vehicle year of manufacture;
- (8) Vehicle identification number (VIN);
- (9) Gross vehicle weight rating (GVWR);
- (10) Engine make;
- (11) Mileage;
- (12) Stack diameter;
- (13) Emissions test result in percentage (opacity);
- (14) PASS or FAIL indication;

(15) Quick Screen result.

**PART Saf-C 5805 \* \* \***

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\* \* \* Note: EPA did not approve Saf-C 5805.