Emission Strategy
means an element or set of elements of design that is incorporated into the overall design of an engine system or vehicle and used in controlling emissions. An emission strategy consists of one base emission strategy (BES) and usually one or more auxiliary emission strategies (AES).

Base Emission Strategy (BES)
means an emission strategy that is active throughout the speed and load operating range of the engine unless an AES is activated.

Auxiliary Emission Strategy (AES)
means an emission strategy that becomes active and replaces or modifies the base emission strategy for a specific purpose or purposes and in response to a specific set of ambient and/or operating conditions

Defeat Strategy
means an emission strategy that does not meet the performance requirements for a base and/or auxiliary emission strategy as specified in this gtr.

4.1 Prohibition of Defeat Strategies

Engine systems and vehicles shall not be equipped with a defeat strategy.

4.2 WNTE Emissions Requirement.

Engine systems and vehicles shall comply with the WNTE emission limit values described in Section 5.2 when measured in accordance with the requirements of this gtr. For lab based testing according to Section 7.4, emissions during any WNTE event shall not exceed the emissions limits specified in Section 5.2. In the event of in-use testing it is understood that emissions during some WNTE events may not be expected to comply to the WNTE emission limits; therefore, Contracting Parties should define and implement statistical methods for determining compliance that are consistent with Sections 7.2 and 7.3.

5. Performance Requirements

5.1 Emission Strategies

5.1.1 General Requirements

The base (BES) and auxiliary (AES) emission strategies shall be so designed as to enable the engine system, in normal vehicle operation and use to comply with the applicable provisions of this gtr. Normal vehicle operation and use is not restricted to the conditions of use as specified in section 6. The emission strategy shall not discriminate between operation on an applicable type approval or certification test and other normal vehicle operation and use.

5.1.2 Requirements for Base Emission Strategy (BES)

A BES shall not provide a lower level of emission control under conditions outside the applicable type approval or certification tests relative to the level of emission control provided at the type approval or certification test.

5.1.3 Requirements for Auxiliary Emission Strategies

An AES shall not reduce the effectiveness of the emission control relative to the BES under conditions that may reasonably be expected to be encountered in normal vehicle operation and use. However, the AES may reduce the level of emission control under the following specific exceptions:

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Comment [d1]: "Normal vehicle operation and use" might require a more precise definition. One could e.g. use the wording "reasonably foreseeable driving conditions".

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1. The reduction in effectiveness of emission control is only temporary and is fully described and justified at type approval or certification. The extent and duration of the reduction of effectiveness of emission control shall be limited to the minimum that is technically necessary.
2. In addition to point 1., at least one of the following conditions shall also apply:

- The ambient and vehicle operating conditions are substantially included in the applicable type approval or certification tests, including the WNTE provisions of this gtr.
- The reduction of the effectiveness of the emission control is necessary for protecting the engine and/or vehicle from damage or accident, under extreme ambient or operating conditions not substantially included in the applicable type approval or certification tests.
- The reduction of the effectiveness of the emission control is activated in order to trade-off the emission of one type of pollutant for other environmental benefits either during engine starting/warming up [as defined in this gtr] or under extreme ambient/operating conditions not substantially included in the type approval or certification tests. The resulting overall environmental benefit (e.g. faster establishment of engine operating temperature, trade-off of different types of regulated emission) shall exceed the negative impact from the temporary increase of emissions.

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- An AES is allowed if its operation is used to trade-off the control of one type of regulated emissions in order to maintain control of another type of regulated emissions under specific ambient or operating conditions not substantially included in the type approval or certification tests. The overall affect of such an AES shall be to compensate for the effects of extreme ambient conditions in a manner that provides acceptable control of all regulated emissions.