

## Appendix 5: Requirements for the test methods, selection of test vehicles, judgement of test results, recall and correction plans and other compliance matters for the new vehicle random check of diesel vehicles, diesel and alternative clean fuel engine vehicles

### 1. General Provisions

- 1.1 The central competent authority may independently, or commission a inspection and testing organization to, conduct the new vehicle random check on the vehicle configuration or the engine type recorded in the diesel vehicle emissions Certificate of Conformity after the manufactured or imported vehicles of new vehicle configuration or engine has reached the regulated numbers or time period. If the test results show non-compliance, the Certificate of Conformity or Letter of Compliance for that vehicle or engine shall be repealed, and the related motor vehicle departments shall be notified accordingly and issuance of certificate to the vehicle configuration or engine that has gone through the certification process shall be suspended. During the confirmatory selective audit test, the specifications of vehicle emission control systems shall be checked to confirm their consistence with the specifications being recorded in the Certificate of Conformity. If determined as not consistent, the central competence authority shall repeal the Certificate of Conformity for that vehicle model or engine.
- 1.2 The central competent authority shall provide a detailed explanation about the time and tested items of the new vehicle random check. The applicant who has received the Certificate/Letter of Conformity shall respond to the new vehicle random check operations immediately upon receipt of the notice from the central competent authority. After receipt of the notice, if the applicant does not respond within 5 days without any good reason, the central competent authority may suspend the certification process for that engine family or vehicle model.

### 2. Random check requirements

- 2.1 The test engines or vehicles shall be randomly sampled for the test.
- 2.2 The random check engines or vehicles shall be selected and designated by the central competence authority. The test schedule and location shall be designated by the central competence authority. The applicant shall be responsible for the transportation, test and supervision fees for the tests (including supervising personnel's transportation, travel, accommodation and supervision fees).
- 2.3 The applicant shall provide any diesel engines or vehicles already granted the Certificate of Conformity for the central competent authority to select and conduct the test. The test engines or vehicles sample selection methods are as follows:
  - 2.3.1 The applicant's storage area for the engines or vehicles that has

been inspected satisfactorily.

2.3.2 The locations of the applicant designated representative, distributor or dealer where the applicant stores the engines or vehicles.

2.3.3 Storage warehouse of the Republic of China Customs.

2.4 The selected engines or vehicles shall be sent to a location designated by the central competent authority under supervision of the central competent authority designated personnel.

If there is no domestic inspection and testing organization recognized by the central competent authority, the engine or vehicle manufacturer may send the selected engines or vehicles for the random check to a test laboratory abroad and the test laboratory must fulfill the eligibility requirements stipulated in paragraph 5 of this Appendix. The central competent authority may send personnel to the laboratory to supervise the test (including verification of the vehicle, test, preparation, or sales adjustment).

3. Random check sample ratio:

3.1 The new vehicle random check sample ratio for the driving cycle test or smoke opacity test is specified as following:

3.1.1 Heavy-duty Buses and Trucks: For the same engine family (which applies for the Letter of Compliance) or vehicle configuration (which applies for the Certificate of Conformity), one vehicle shall be selected per 500 units. One vehicle shall be selected for the random check even if the annual production is under 500 units.

3.1.2 Light-duty commercial or passenger vehicles: For the same engine family, one vehicle shall be selected per 500 units. One vehicle shall be selected for the random check even if the annual production is under 500 units.

3.1.3 For applicants who fail to fulfill the implementation of a quality control plan, one vehicle shall be selected per 200 units. One vehicle shall be selected for the random check even if the annual production is under 200 units.

3.2 For the OBD test, one vehicle shall be selected per engine family.

4. Sampling and preparation for engines or vehicles

4.1 The engines or vehicles being selected for the random check shall be brand new ones manufactured according to the mass production procedures (such as, quality control and assembly process) by the engine or vehicle manufacturer.

4.2 The engines or vehicles being selected for the random check shall be normally maintained and free from any misuse.

4.3 The maximum accumulated mileage or engine operation hours shall not exceed the following limits:

- 4.3.1 Heavy-Duty Diesel Engines: 125 hours of engine operation.
- 4.3.2 Light-Duty Commercial or Passenger vehicles:
  - 4.3.2.1 Vehicles being tested using the US FTP-75 driving cycle: 6,400 km.
  - 4.3.2.2 Vehicles being tested using the EU NEDC or WLTC driving cycle: 15,000 km.
- 4.4 Upon approval by the central competent authority and under the supervision of personnel designated by the central competent authority, the engine or vehicle manufacturer may implement the vehicle's mileage accumulation, make adjustments, change the test sequence, and conduct maintenance.
- 4.5 When the engine or vehicle manufacturer is authorized by the central competent authority to execute the inspection or adjustment, it is only allowed to use the test and diagnosis equipment with the functionality equivalent to that used by the distributor.
- 4.6 To facilitate the test process, engine or vehicle manufacturers shall supply the necessary test engines or vehicles, special hardware, and personnel within 45 days following the receipt of the notice from the central competent authority in order to ensure the efficiency of test preparation. Inability to provide such special hardware equipment or personnel shall not be an excuse to claim invalidation of the test results, but the applicant may request for extra days for the OBD test according to actual needs.
- 4.7 The engines or vehicles for the new vehicle random check shall comply with the following provisions:
  - 4.7.1 Prior to the random check, the test engines or vehicles shall implement mileage accumulation in accordance with paragraph 4.3 of this Appendix and keep the seal or lead sealing intact.
  - 4.7.2 If the test engines or vehicles are unable to complete the mileage accumulation or if, due to defects of engine or vehicle functionality or a vehicle accident, it is impossible to complete the test, or if the seal or lead seal is damaged, the manufacturer shall provide an explanation to the central competent authority prior to the test. The central competent authority may authorize the manufacturer to conduct adjustments or repairs to restore the engines or vehicles back to a normal operation condition or make them suitable for the test. If the vehicle or engine is deemed as no longer representative for the test, the central competent authority may disqualify that vehicle or engine from the sample vehicles, and select other vehicles as replacement. The number of replacement vehicles is determined by the central competent authority.
  - 4.7.3 Unless approved by the central competent authority, the engine

or vehicle manufacturer shall not perform adjustments, repairs, preparations, carry out any maintenance, modifications, or perform any emissions test on the selected engines or vehicles.

4.7.4 If the engine or vehicle manufacturer can provide enough investigation data or other proof documents to prove that the preparation procedure is the same as that performed by the dealers before delivering the sold vehicles to customers, the central competent authority may approve the engine or vehicle manufacturer to carry out the same preparation procedure. (If the vehicle or engine manufacturer only claims that all his dealers being requested to carry out the preparation procedure before delivering the sold vehicles to customers without any support documents, the central competent authority shall not accept the procedure)

4.7.5 If, subject to prior approval of the central competent authority and under the supervision of personnel designated by the central competent authority, the manufacturer uses the instrument, equipment or tool with the functionality equivalent to that used by the dealers' maintenance centers/depots, the manufacturer may perform the following maintenance, inspection or adjustments:

4.7.5.1 Battery replacement or recharge.

4.7.5.2 Wiring harness safety check.

4.7.5.3 Oil change or filter replacement.

4.7.6 If the engine or vehicle manufacturer requests any additional maintenance items, it shall provide an outline of reasons and related supporting data to the central competent authority for approval, and then may proceed to perform the additional maintenance items.

## 5. Test procedures

5.1 All tests shall be performed in accordance with provisions of paragraph 2.6 of Appendix 1, paragraph 3.8 of Appendix 1, and paragraph 9 of Appendix 2.

5.2 Prior to the random check, in accordance with paragraph 4.7 of this Appendix, the central competent authority may perform adjustments or have to perform necessary adjustments on other adjustable parts within the tolerance range.

5.3 If the central competent authority or the inspection and testing organization approved by the central competent authority has determined that the user is able to access the components settings easily, during the random check, the central competent authority may adjust component settings beyond their designed range.

## 6. Determination and handling of testing results

- 6.1 If the results of the entire random check comply with applicable Emissions Standards, the vehicles shall be deemed to pass the test.
- 6.2 If any of the selected vehicles fail the random check, then the applicant may ask to conduct the retest once or may also ask the central competent authority to conclude that such vehicle has failed the initial test. The applicant shall complete the test within the timeline instructed by the central competent authority. If failing to complete the test within such timeline, then the original test result shall be regarded as the finalized result.
  - 6.2.1 A re-test may be requested only before the test vehicle is removed from the test laboratory.
  - 6.2.2 Any repairs, adjustments, run-in or tests on the vehicle are prohibited during the test.
  - 6.2.3 The re-test results shall be treated as the final result. The vehicle shall be determined to pass the test if it is held to satisfy the Emission Standards.
- 6.3 If a vehicle is determined to fail the initial test, within 20 days from the day of receipt of notice from the central competent authority, the applicant shall submit a written request for re-test, or accept the result that the new vehicle has failed the random check, and then submit the recall and correction plan to the central competent authority according to the requirements regarding defective new vehicles found during the random check.
  - 6.3.1 The number of samples taken for the re-test shall be decided by the applicant personally, provided that it shall be no less than double that of the unqualified samples found in the preliminary test.
  - 6.3.2 The selection, preparation and test method for the vehicles are the same as the initial test.
  - 6.3.3 Before removing a vehicle that failed a re-test, the applicant may ask to repeat the re-test once. The applicant shall complete the second re-test within the timeline instructed by the central competent authority. If failing to complete the second re-test within such timeline, then the first re-test result shall be regarded as the finalized result. Otherwise, the result of the second re-test shall be regarded as the finalized result. In the meantime, the applicant shall not attempt to make any repairs, adjustment or other tests during the entire testing process.
  - 6.3.4 The arithmetic mean should be retrieved from the test values obtained from the vehicles failing the initial test and all the vehicles used in the random check during the retest, as the test result. Meanwhile, the vehicle will be determined qualified only if the arithmetic mean of the respective air pollutant shown in

the test result is lower than the emission standard; otherwise, it shall be determined as defective.

Notwithstanding, in the case of the OBD test, under the circumstances referred to in the preceding paragraph, if the sum of the vehicles failing the initial test plus vehicles failing the re-test divided by the sum of the vehicles failing the initial test and vehicles selected for the re-test shall be less than 0.4, and the sum of the vehicles failing the initial test and re-test is less than 4, the vehicle shall be determined as qualified in the following manners:

Determination	Criterion
Formula 1	$(N_{fn} + N_{sn}) / (N_{fn} + N_s) < 0.4$
Formula 2	$(N_{fn} + N_{sn}) < 4$
Remarks	1. $N_{fn}$ : Number of vehicles failing the preliminary test 2. $N_{sn}$ : Number of vehicles failing the re-test 3. $N_s$ : Number of vehicles undergoing the random check during the re-test

6.3.5 Although the test result shows qualified, for the vehicles failing the initial test or re-test, it is still necessary to explain the reasons and corrective actions, and submit the test report showing that each vehicle satisfies the emission standards after the correction to the central competent authority for future reference.

6.4 If the vehicle is determined to fail the new vehicle random check, the Letter of Conformity for the engine family and Certificate of Conformity for the use of the engine family shall be revoked. If the test vehicle only failed the Smoke Opacity test, only its diesel vehicle model Certificate of Conformity shall be revoked. When the central competent authority revokes the Certificate of Conformity pursuant to the relevant requirements, within 45 days following receipt of the notice, the applicant shall submit a recall and correction plan for the unsold and sold vehicles using the engine family to the central competent authority.

If the proposed recall and correction plan are reviewed and approved by the central competent authority, the applicant shall complete the implementation of recall and correction plan within 90 days upon receiving the approval letter. If unable to complete the recall and correction plan by the deadline, within 45 days upon receipt of the approval letter, the applicant shall submit a specific improvement plan to apply for an extension to the central competent authority. Based on actual conditions, the central competent authority

may approve the extension of deadline, and the maximum extension shall not exceed one year. The central competent authority shall immediately terminate the extension of deadline if the improvement plan implementation is investigated and confirmed not to be in accord with the approved plan.

6.5 The contents of the Recall and Correction Plan shall include the following items:

- 6.5.1 Engineering cause analysis for each vehicle non-compliant with the applicable emissions standards.
- 6.5.2 An impact assessment on the cause of non-compliance.
- 6.5.3 The brand, engine family, vehicle model, vehicle configuration and quantity of the vehicles to be recalled and corrected, and the need to recall and correct the vehicles.
- 6.5.4 The projected ratio for the number of recalled vehicles to the sales of the vehicle.
- 6.5.5 Corrective actions to be taken against recalled vehicles, such as component replacements, repairs, inspection, calibration, adjustments, other necessary changes and any other technical information summaries that are sufficient to prove that they may improve the air pollutant emissions in line with the Emission Standards.
- 6.5.6 The access to the list of names and addresses of the recalled vehicle owners.
- 6.5.7 For recalled vehicles, without the consent of the central competent authority, the vehicle manufacturer or importer shall not force the vehicle owner to comply with any maintenance and operation guideline or conditions (e.g. requiring the vehicle owners to use any spare parts other than those manufactured by the original manufacturer, or having the vehicle serviced by a repair center/depot not authorized by the vehicle manufacturer or importer).
- 6.5.8 The recall and correction procedures to be implemented include setting the starting and end dates for the recall and correction, location, and reasonable hours needed for execution of the work.
- 6.5.9 Technical capability and equipment required for the unit or personnel responsible for executing the recall and correction.
- 6.5.10 Recall Notice to all vehicle owners.
- 6.5.11 Appropriate supply system for the replacement components during the recall period.
- 6.5.12 The work manual needed by workers involved in the recall and correction plan.
- 6.5.13 If the implementation of the recall correction plan will affect the

vehicle's fuel consumption, noise, or other performance functionality, the manufacturer shall provide appropriate explanations.

- 6.5.14 The applicant may provide other technical data or test reports to prove the effectiveness of the recall plan to the competent authority for evaluation.
- 6.6 The central competent authority shall perform various verification tests for the corrective action taken under the recall and correction plan executed by the applicant.
- 6.7 Within 30 days upon completion of the implementation of the recall and correction plan, the applicant shall submit a recall and correction report to the central competent authority for review.
- 6.8 When the central competent authority notifies the applicant of the cancellation or revocation of the Certificate of Conformity, the Ministry of Transportation and Communications should be notified concurrently.
- 6.9 For those unsold vehicles for which the Certificate of Conformity is revoked, once the applicant has completed the implementation of the recall and correction plan as authorized by the central competent authority and is allowed to close the case by the central competent authority, the applicant may re-apply for a Certificate of Conformity for that engine family or vehicle configuration in accordance with these provisions.