

Appendix 1: Relevant vehicle testing regulations for new vehicle audit selective testing and in-use vehicle conformity testing

1. Testing vehicle selection

The vehicles that being selected for vehicle testing shall be representative of the said engine family; the principles of selecting test vehicles are as follows:

- 1.1 From the said engine family, the vehicle models expected to have the greatest quantity of emissions shall be selected for the exhaust emissions test. The vehicle with the greatest loaded vehicle weight shall be selected. When different vehicle models have identical load weight, through using the dynamometer setting data, the vehicle model with the greatest road resistance (at 80kph) shall be selected. If the road resistance is identical, the largest size of engine displacement shall be selected for testing. If the size of engine displacement is identical, the vehicle with the greatest total gear ratio numbers (including the overdrive device) shall be selected; the greatest axle ratio shall be considered as the next priority. If the representative vehicle model of the engine family applicable to different classes of emission standards, the most stringent standards should be complied.
- 1.2 Within the Evaporative Family to select one vehicle model with the highest expecting evaporative emissions. If unable to select vehicle model with the highest expecting evaporative emissions, the representative model may be selected by according to the fuel system installation conditions and materials that being used.
- 1.3 If the central competent authority considered that the testing vehicle being selected according to the previous two paragraphs could not be representative to the said engine family or evaporative family, the central competent authority may assign additional vehicle models in the engine family or evaporative family as testing vehicles.
- 1.4 The selected vehicles for the testing shall be complete assembled and ready for normal driving and stable operation.
- 1.5 Vehicles of the same engine family that were being manufactured in or imported from different countries shall be selected respectively for testing.

2. Emissions testing

2.1 Vehicle emissions testing:

- 2.1.1. As to vehicles that comply with the emission standards to be in effect on October 1, 2012 the testing should be conducted in accordance with the “Gasoline vehicle exhaust emissions testing methods and procedures” and the “Gasoline vehicle evaporative emissions testing methods and procedures”: For vehicles comply with EU standards, the testing methods and procedures are in accordance with the Type I, Type II, Type III, Type IV, Type V, and OBD requirements that regulated in directive (EC) No

715/2007. For vehicles comply with the US standards, the testing methods and procedures are in accordance with the Tier II standards requirements.

2.1.2. As to vehicles that comply with the emissions standards in effect on January 1, 2008. The testing methods and procedures are in accordance with the requirements that regulated in the regulations of “Gasoline Vehicle Exhaust Emissions Testing Methods and Procedures” and “Gasoline Vehicle Evaporative Emissions Testing Methods and Procedures”. As to the vehicles comply with EU emission standards, the testing methods and procedures are in accordance with the Type I, Type II, Type V, and ANNEX XI that regulated in Directive 98/69/EC.

2.2 The deterioration factor of the said engine family shall be multiplied or added to the results of new vehicle testing (include type approval certification test, conformity of production test, and selective test). The being multiplied or added values shall be provided as basis for determining whether or not the engine family complies with the emission standards. Before comparing with the emission standards, the test values shall be calculated to one more decimal place of the emission standard values and then rounded. The evaporative emissions test results shall be rounded to the first decimal place. The rounded values shall not exceed the emissions standard.

2.3 The applicant shall determine the minimum mileage needed to attain stabilized test results. However, the accumulated mileage for new vehicle emissions testing shall not exceed the following limits:

2.3.1 For vehicles comply with EU emission standards

For type approval certification test, conformity of production test and selective test, the run in accumulated mileage shall not exceed 15,000 kilometers.

2.3.2 For vehicles comply with the US emission standards

For type approval certification test, conformity of production test, and selective test, the run in accumulated mileage shall not exceed 6,400 kilometers.

2.4 For vehicles that adopting the EU NEDC or WLTC driving cycle test procedures, before conducting the selective test or conformity of production test, the vehicle model of each engine family may choose to use the evolution coefficients that being approved by the central competent authority with the requirement that the testing vehicle must be in the condition without run-in (the accumulated mileage under 150 kilometers) for the testing results to be multiplied. The evolution coefficients are being set according to one of the following methods:

2.4.1 Conduct vehicle on road mileage accumulation test:

2.4.1.1 The exhaust emissions' evolution coefficients may be determined according to the vehicle on road mileage accumulation test. The applicant shall provide the testing plan and driving cycles, after being overviewed and approved by the central competent authority, the

applicant may conduct the vehicle on road mileage accumulation test.

2.4.1.2 The contents of vehicle on road testing plan shall at least include the following item:

- (1) Organization to conduct the test (include the capability information for the organization)
- (2) Test vehicle.
- (3) Test procedure.
- (4) Test schedule.
- (5) Test equipment.
- (6) Maintenance and repair items.
- (7) Test fuel.

2.4.1.3 The test vehicle shall conduct the emissions tests and measure the emissions values at the zero mileage (mileage less than 150 kilometers) and at the required accumulation mileage (not exceed 15,000 kilometers) respectively.

2.4.1.4 The evolution coefficient calculation method for each regulated pollutant: the pollutant's emission test value at required accumulation mileage divided by the emission test value at the zero mileage condition. The evolution coefficient may be less than 1.

2.4.1.5 After the mileage accumulation plan has been completed and being reviewed and approved by the central competent authority, the applicant may use this vehicle on road test evolution coefficient.

2.4.2 Adopting the EU recognized evolution coefficient: Vehicle models already obtained the EU issued Certificate of Conformity must provide the relevant evolution coefficient application information to the central competent authority to review, after being approved, the applicant may use the evolution coefficient being recorded on the proof document.

3. New vehicle model certification verification testing

3.1 The central competent authority may select a representative vehicle of the engine family to conduct the certification emissions tests. The vehicle shall be sent to the testing organization designated by the central competent authority to undergo the certification testing. These test results shall be deemed as the official results.

3.2 When conducting the certification verification testing, the central competent authority may decide whether or not it is necessary to conduct evaporative emission testing.

3.3 The applicant shall refer to the adjustable parameter specifications recorded on the new vehicle certification and adjust the test vehicle to be within the tolerance range. Within the adjustable tolerance range, the test results for of the testing vehicle shall comply with the Emission Standards.

Appendix 2: Documents required and the compliance matters for Certificate of Conformity application

1. When applying for the Certificate of Conformity, the following documents shall be provided:
 - 1.1 Application form (to be completed in application format).
 - 1.2 Draft "Gasoline vehicle model emissions Certificate of Conformity" (to be completed in application format).
 - 1.3 Authorization document provided by foreign vehicle manufacturer to the designated domestic dealer. The authorization documents shall endow the domestic dealer with full authority to represent the vehicle manufacturer, and bear the same responsibilities. Inside the authorization document the vehicle models that being covered by the engine family should be declared; the relevant information on testing items and contents for the US or EU certification and the corresponding vehicle model code recorded on the Certificate of Conformity should be provided. If no attaching authorization documents could be provided, the applicant may submit an application through an association of importers or distributors and with a letter of guaranty certifying that they will bear the same responsibilities as the vehicle manufacturer.
 - 1.4 A letter of guaranty to ensure the vehicle model complies with the related emissions standards and durability requirements and with no defeat devices being installed.
 - 1.5 Quality control (Conformity of Production) plan for mass-production gasoline vehicle emissions control; the plan shall conform to the following provisions:
 - 1.5.1 The Conformity of Production plan shall include the following contents:
 - 1.5.1.1 Self-conducted selective testing method.
 - 1.5.1.2 Selective sampling ratio.
 - 1.5.1.3 Testing items.
 - 1.5.1.4 Organization name that conduct the test.
 - 1.5.1.5 Instruments and equipment.
 - 1.5.1.6 Test results and a complete record of the testing
 - 1.5.1.7 Deployment data for personnel implementing the Conformity of Production plan and the personnel information who will cooperate with the new vehicle selective testing and the recall and correction investigation testing.
 - 1.5.1.8 Flowchart of plan implementation.
 - 1.5.1.9 Improvement plan for problems or issues.
 - 1.5.1.10 Other supplementary explanations and information on mass-production vehicles' after sales service stations.
 - 1.5.2 For domestic made vehicles, the conformity of production testing should be performed by the central competent authority accredited inspection and

testing laboratories.

- 1.5.3 For imported vehicles, the conformity of production testing should be performed by the inspection and testing organizations overseas approved by the central competent authority, or performed by the local inspection and testing organizations accredited by the central competent authority.

For the overseas performed conformity of production testing, if deemed necessary, the central competent authority may designate local inspection and testing organizations to perform comparison testing, the applicant shall pay the fees for testing and vehicle transportation.

- 1.6 General information about applicant and the engine family (see Table A)
- 1.7 Additional engine family information and projected annual sales for all models (see Table B)
- 1.8 Specifications and identification methods for all vehicle models and engine family (see Table C)

Determination factors for the rotary engine vehicles to be considered as the same Engine Family are as follows:

- 1.8.1 The generating radius of the epitrochoid axis and smallest epitrochoid must be identical for each individual vehicle model.
- 1.8.2 The width of the rotor housing in each individual vehicle model must be within 15% of the largest housing width.
- 1.8.3 The air inlet port type (side, peripheral, combined, etc.), exhaust port type (side, peripheral, combined, etc.), and housing surface configurations (air cooling, liquid cooling, and rotor array) must be identical for each individual vehicle model.
- 1.8.4 The combustion cycle, air supply method, the number of spark plugs for each rotor, and fuel system type must be identical for each individual vehicle model.

The types of fuel systems in the previous paragraph are as follows:

- 1.8.4.1 Carburetor system: Number of carburetors, number of Venturi tubes, and operating principles for such as a single Venturi tube, air valve, etc.

- 1.8.4.2 Fuel injection system: System type, type of flow (continuous or intermittent), etc.

- 1.9 Basic engine information (see Table D)
- 1.10 Transmission and gearshift system information (see Table E)
- 1.11 Emission control system descriptions and schematic diagrams (see Table F)
- 1.12 Location of emission control system in vehicle, and a list of all emissions control components with part number for each component (see Table G)
- 1.13 Guideline for owner's manual and emissions label to be affixed to gasoline vehicle (see Table H)

- 1.13.1 The applicant shall provide owner a Chinese user's manual as maintenance guide for vehicle normal operation, thereby ensuring the emission control system can function normally, and clarify the expiration date of warranty for the emission control system.
- 1.13.2 For an application that submitted through the association of importers and distributors, the being provided Chinese version owner's manual should include the addresses and telephone numbers of the after-sales service centers and stations.
- 1.13.3. In the owner's manual, the maintenance guide for the emissions control related components shall be described in detail in the remarks of Table H.
- 1.13.4 The vehicle emissions label requirements are as follows:
 - 1.13.4.1 The applicant shall produce at least one long-lasting and easily identifiable label and affix it to the vehicle in a clearly visible place.
 - 1.13.4.2 The label shall not be easy to remove from the vehicle, if being tear off, it will be damaged or causing printed text unrecognizable.
 - 1.13.4.3 Applicants that have obtained the Certificate of Conformity shall affix the label onto the vehicle before sale. The contents shall include the following information in Chinese:
 - a. The title of the label shall be "Vehicle Emissions Control Information".
 - b. Full title of the company, vehicle manufacturer and brand.
 - c. Engine family, engine displacement, emissions control system and OBD system (OBDII or EOBD).
 - d. The engine optimal performance adjustment specifications such as: idle engine speed, ignition timing, valve clearance, and other parameters deemed necessary by the vehicle manufacturer.
 - e. The vehicle related information such as compliance standards and its effective date etc. shall be stated, such as: For vehicles comply with emission standards effective on Jan. 1, 2008, the statements shall be "This engine family complies with the Stage 4 emission standards effective on January 1, 2008" (or "This engine family complies with the emission standards effective on January 1, 2008") and "Remove or modify the emissions control equipment is prohibited".

For vehicles comply with emission standards effective on October 1, 2012, the statements shall be "This vehicle complies with the gasoline and alterative clean fuel engine emission standards effective on October 1, 2012" and "Remove or modify the emission control equipment is prohibited". For vehicles comply with the emissions standards effective on September 1, 2019, the statements shall be "This vehicle complies with the gasoline and alterative clean fuel

engine emission standards effective on September 1, 2019” and ”Remove or modify the emission control equipment is prohibited”.

- f. Schematic locations of all emissions control equipment related to the engine.
 - g. Vehicles with catalytic converters and carbon canisters shall prepare a damage-resistant label with identification number or model number and affix to a visible place on the emissions control equipment. The said identification number shall be identical to that listed in the "Vehicle Emissions Control Information".
- 1.14 The deterioration factors for each pollutant (see Table I)
 - 1.15 Road-load setting information for the engine family covered test vehicles that being tested on chassis dynamometer (see Table J)
 - 1.16 Vehicle test results and test report for the new vehicle model certification testing (see Table K). If the vehicle uses more than one fuel type, test reports for each fuel type must be attached.
 - 1.17 When applying for carry-over of the model year’s Certificate of Conformity, vehicle configuration modification or the extension of Certificate of Conformity to new configurations, in addition to providing relevant information in accordance with these provisions (if the application information is identical with the previous one in the central competent authority filed archive, the filed information may be specified as reference), a list of amended items each time, date of each amendment, and a summary of amendment contents must be reported (see Table L).
 - 1.18 Vehicle specifications.
 - 1.19 Photograph of the test vehicle.
 - 1.20 Vehicles with the US or EU issued Certificate of Conformity and is in compliance with Taiwan's emission standards and relevant regulations, the following documents shall be submitted to the central competent authority for application purpose:
 - 1.20.1 Photocopies of the US or EU issued Certificate of Conformity and other relevant required documents for application.
 - 1.20.2 An emissions test report consistent with the issued Certificate of Conformity.
 - 1.20.3 The deterioration factors together with complete setting records for the vehicle.

For vehicle with the Tier 2, Tier 3 emission standards Certificate of Conformity issued by the US EPA or LEV II, LEV 3 low emission standards Certificate of Conformity from the state of California and there is no NMHC value on the exhaust emissions test report for the

representative vehicle, the applicant shall convert the recorded value of NMOG into NMHC value and rounded to the three places to the right of the decimal point as the test result value.

- 1.20.4 A declaration confirming that the imported vehicle is identical in configuration to the original foreign vehicle model, and possessing identical emissions characteristics.
- 1.21 The applicable emission standards shall be in accordant with the vehicle category determined by the Ministry of Transportation and Communications.
- 1.22 For the Certificate of Conformity application from gasoline vehicle manufacturer authorized agent, if the name of imported vehicle model is different from the name stated in the Conformity of Certificate obtain from overseas, the following documents shall be submitted to the central competent authority for application:
 - 1.22.1 Proof of origin of the vehicle that being provided by the vehicle manufacturer or by the authorized agent.
 - 1.22.2 Provide related information and descriptions for the said vehicle model's engine family and emissions control system.
- 1.23 Filing of the country of being manufactured or imported: For the engine family or vehicle model that already obtained the US or EU issued Certificate of Conformity, according to the COC recorded country for the filing; for the engine family or vehicle models without the US or EU issued Certificate of Conformity but using the domestic testing reports for the application, the registration of import area shall be according to the on-ship country being recorded on the Customs issued Tax Payment Certificate.
- 1.24 Starting from 2008 (include) model year vehicles, applicants shall provide OBD relevant documents to comply with these provisions. The contents of these documents are as follows:
 - 1.24.1 Description of the OBD system.
 - 1.24.2 Description or annotated drawing of the MIL used in the OBD.
 - 1.24.3 Description of all emissions control equipment and related components/systems monitored by the OBD, as well as a list of malfunction codes, related computer code format and contents.
 - 1.24.4 Description or flowchart of the actuation principle for the OBD monitoring devices (including monitoring strategy, malfunction indicator standards and MIL light on timing).
 - 1.24.5 OBD test report.
 - 1.24.6 An explanation of adopted solutions or strategies to prevent arbitrary adjust or modify the Engine Control Units (ECU).
 - 1.24.7 Description of the location of the OBD connector (DLC).
 - 1.24.8 Other required supplemental documents when deemed necessary.
- 1.25 For HEV applications the following explanations shall be provided:

- 1.25.1 Verification and description of the vehicle type.
- 1.25.2 Operation mode switching and function description.
- 1.25.3 Energy storage device description and warranty mileage.
- 1.25.4 Electrical power and mechanic system.
- 1.25.5 Control unit.
- 1.25.6 Power Control Unit.
- 1.25.7 Pure electrical maximum driving mileage.
- 1.25.8 Suggestion items from vehicle manufacturer.

1.26 The application forms and attached documents shall conform to the requirements of electronic process procedures by providing electronic files.

2. Other binding matters:

If the applicant is not a domestic vehicle manufacturer, nor a local agent authorized by foreign vehicle manufacturer, the application documents shall be filed based on the owner's manual, technical manual, or product catalog of the original manufacturer and the original owner's manual or product catalog shall be attached for the application. If the previous mentioned manual or catalog cannot be obtained the attachment shall be remarked as N/A. However, the application of engine family is limited to the same vehicle model. Relevant emissions testing shall be performed by the accredited testing laboratories designated by the central competent authority, the provision of certificate extension is not applicable in this case.

3. The applicant shall fill out the following forms:

一般資料
GENERAL INFORMATION

表 A
Table A

- 01.車輛製造者
Manufacturer : _____
國內授權代理人
Authorized Representative : _____
- 02.廠牌
Make : _____
- 03.引擎族
Engine family : _____
- 04.車型年
Model year : _____
- 05.製造/進口地區（依據海關核發之進口證明）
Manufacturing/import area : _____
(According to the import certificate by the Customs)
- 06.審驗合格證明請核發給下述公司(公司地址)
The Certificate of Conformity should be issued to the : _____
following company (full address)
- 07.業者連絡人之姓名、地址及電話號碼(含國內及國外連絡人)
Contact Name, Address and Telephone number for all contacts (inside and outside : _____
Taiwan R.O.C.)

備註

Remarks

引擎族之命名應以車型年為結尾(例G...-98)，辨識號碼不得超過12個位數，第一個字母應為燃料種類G=gasoline，D=diesel，L=LPG

The engine family designation must end with the model year of the original application (e.g. G...-98). No more than 12 characters may be used for the identification code. The first position should indicate type of fuel

G=gasoline, D=diesel, L=LPG

附加資料
ADDITIONAL INFORMATION

表 B
Table B

車輛組成型態 Vehicle configuration	蒸發族 Evaporative Family	OBD族 OBD Family	車型銷售名稱 Vehicle models Sales designation	製造 地區	進口 地區	引擎最大功率 Maximum engine power			引擎最大扭矩 Maximum engine torque		
						kW	rpm	測試方法 Meas. method	Nm	rpm	測試方法 Meas. method

引擎族所屬之車輛組成型態

VEHICLE CONFIGURATIONS WITHIN THE ENGINE FAMILY

表 C

Table C

排放控制系統名稱

Emission control system designation

車輛組成型態 Vehicle configuration	車型銷售名稱 Vehicle models Sales designation	車型分類 Vehicle Category	基本引擎名稱 Basic engine designation	排放控制系統名稱 Emission control system designation	變速系統名稱 Transmission system designation	參考重量 Reference mass(kg)

備註：

排放控制系統之辨識名稱請使用下列縮寫：

PMP =空氣噴射之空泵(Air pump for air injection)

PLS =脈衝空氣噴射系統(Pulsating air injection system)

EGR =廢氣再循環(Exhaust Gas Recirculation)

THM=熱反應器(Thermal Reactor))

OXD=氧化觸媒轉化器(Oxidation Catalyst)

RED =還原觸媒轉化器(Reduction Catalyst)

3WY =三元觸媒轉化器(Three-Way Catalyst)

3CL =三元觸媒轉化器、閉迴路(Three-Way Catalyst, Closed Loop)

CAN =活性碳罐(Charcoal Canister)

RET ="延遲系統(如：緩衝器、進氣門開啟器等)

(Retardation system (e. g. dashpot, throttle opener etc.))"

GPF =汽油引擎濾煙器 (Gasoline Particulate Filter)

OTR =其他裝置(Other devices)

基本引擎資料
BASIC ENGINE DATA

表 D
Table D

01.	基本引擎名稱 Basic engine designation	_____
02.	點火方式(PI/CI) <u>Ignition method(Positive Ignition, PI ; Compression Ignition, CI)</u>	_____
03.	燃燒循環(例：2/4行程) Combustion cycle (e.g. 2/4 stroke)	_____
04.	冷卻系統型式(例：氣冷、水冷) Type of cooling system (e.g.air, liquid)	_____
05.	氣缸體型式(例：60°V,L) Cylinder block configuration (e.g. 60°V, L)	_____
06.	氣缸數 Number of cylinders	_____
07.	每一氣缸之氣閥數目，進氣/排氣 Number of valves per cylinder, intake/exhaust	_____
08.	氣缸孔徑(mm) Bore (mm)	_____
09.	衝程(mm) Stroke (mm)	_____
10.	排氣量(cm ³) Displacement (cm ³)	_____
11.	壓縮比(註明公差值) Compression ratio (Specify the tolerance.)	_____
12.	燃料供應方式(例：化油器、間接噴射、直接噴射) Type of fuel supply (e.g. Carburetor, Indirect injection, Direct injection)	_____
13.	車輛燃料型式(例：單燃料、雙燃料、彈性燃料) Vehicle fuel type(e.g. Mono fuel、Bi fuel、Flex fuel)	_____
14.	供氣方式(例：自然供氣/增壓器供氣) Method of air aspiration (e.g. natural/supercharged)	_____
15.	內部冷卻器 Intercooler usage	<input type="checkbox"/> Yes <input type="checkbox"/> No
16.	閥門正時(曲軸角度) Valve timing (crankshaft degrees)	_____
	.01.開啟：進氣/排氣 opening：Intake/Exhaust	_____
	.02.關閉：進氣/排氣 Closing：Intake/Exhaust	_____
	.03.最大升程(mm) Maximum lift (mm)	_____
17.	點火正時 Ignition timing	_____
18.	正常引擎怠轉速度(註明公差值) Normal engine idling speed(Specify the tolerance)	_____
19.	高引擎怠轉速度(註明公差值) High engine idling speed(Specify the tolerance)	_____

備註

Remark

每一基本引擎應個別填報

Separate forms are required for each basic engine

變速系統資料

TRANSMISSION SYSTEM INFORMATION

表 E
Table E

01.	變速系統名稱 Transmission system designation	_____
02.	齒輪箱型式 (例：手排檔／自動排檔／無段變速等) Type of gearbox (e.g. : manual/automatic/CVT)	_____
03.	前進檔數 Number of forward gears	_____
04.	驅動輪 (例：前輪、後輪、恆定4輪／非恆定4輪) Driven wheels (e.g. front, rear, 4WD-permanent/on-demand)	_____
05.	輪胎尺寸及建議輪胎氣壓 Tire sizes and Recommended tire pressure	_____
	.01.標準裝備standard :	前輪 Front 後輪 Rear
	.02.選擇裝備optional	前輪 Front 後輪 Rear
06.	最後驅動比 Final drive ratio	_____
07.	齒輪比 Gear ratios	_____
08.	標準輪胎配備，在一定引擎轉速(如1000 rpm)時各檔位之車輛速度(車速偏差 不超過±8%時，可視為同一車輛型態) (A deviation of max. ±8% is permitted for vehicles to be classified within the same vehicle configuration)	_____

備註

Remark

每一變速系統應個別填報。

Separate forms are required for each transmission system.

排放控制系統說明
DESCRIPTION OF THE EMISSION CONTROL SYSTEM

表 F
Table F

01.	排放控制系統名稱 Emission control system designation	_____
02.	燃料及空氣供應系統 Fuel and air supply system 01-廠牌、型式名稱、構造及說明 Make and type designation, Configuration and method of operation	_____
03.	點火系統 Ignition system 01-廠牌、型式名稱、構造及說明 Make and type designation, Configuration and method of operation	_____
04.	空氣污染防治設備 Measures taken against air pollution	
	01.電子控制單元 Electronic Control Unit	
	A-廠牌、構造及說明 Make, Description and drawings	_____
	B-零件/辨識碼 Type / Identifying part number	_____
	02.觸媒轉化器 Catalytic converter	
	觸媒轉化器數量 Number of catalytic converters and elements	_____
	A-廠牌、構造及說明 Make, Description and drawings	_____
	B-零件/辨識碼 Type / Identifying part number	_____
	03.含氧量感知器 Oxygen sensor	
	A-廠牌、構造及說明 Make, Description and drawings	_____
	B-零件/辨識碼 Type / Identifying part number	_____
	04.二次空氣供給泵 Secondary air injection system (if applicable)	
	A-廠牌、構造及說明 Make, Description and drawings	_____
	B-零件/辨識碼 Type / Identifying part number	_____
	05.排氣再循環系統 Exhaust gas recirculation (if applicable)	
	A-廠牌、構造及說明 Make, Description and drawings	_____
	B-零件/辨識碼 Type / Identifying part number	_____
	06.蒸氣排放控制系統 Evaporative emission control system	
	活性炭乾重 Mass of dry charcoal	_____
	A-廠牌、構造及說明 Make, Description and drawings	_____
	B-零件/辨識碼 Type / Identifying part number	_____
	07.曲軸箱排放控制系統 Crankcase emission control system	
	A-廠牌、構造及說明 Make, Description and drawings	_____
	B-零件/辨識碼 Type / Identifying part number	_____
	08.其他污染控制元件 Additional anti-pollution devices	_____

備註

Remark

每一排放控制系統應個別填報。

Separate forms are required for each emission control system.

車上排放控制系統零件位置
LOCATIONS OF THE EMISSION CONTROL COMPONENTS
IN THE VEHICLE

表 G
Table G

01. 以相片或其他方式顯示排放控制零件於車上之位置
Photograph or equivalent showing the location of the emission control components in the vehicle
該相片之顯著位置應註明車輛組成型態名稱及排放控制系統項目。該零件應以文字或數字作記號且已記載於零件辨識清冊上。
The photograph shall have a heading stating which vehicle configurations(s) and emission control system it describes. The components shall be marked by using a number or letter that shall be found in the part identification list.
如電子控制單元等無法裝置於引擎室之零件，其位置亦應指明。
The location of components such as e.g. an electronic control unit, which might not be located in the engine compartment, must also be indicated.
02. 零件辨識清冊(量產零件)。於表 F 上所載之排放相關零件名稱、料號或辨識號碼均應在此清冊上。
Part identification list (production units). Each emission related component described in annex F must be identified with the name and the identification code that can be found on the component.
該項資料應依 01.項之規定包含數字或文字，且每一零件之位置皆能由相片辨認。
The information shall also include the numbers or letters, required according to item 01., whereby the location of each components can be identified on the photograph.

備註

Remark

每一排放控制系統應個別填報。

Separate forms are required for each emission control system

提供車主之排放相關手冊

EMISSION RELATED INSTRUCTIONS TO THE VEHICLE OWNER

表 H

Table H

01.依本辦法規定欲附貼引擎室內之中文標識影本。

Copy of the label (in Chinese) to be affixed in the engine compartment according to this regulation

02.中文版之車主手冊資訊

Copy of the owner's handbook in Chinese

01.車輛使用之燃油說明

Fuel type and Octane number

02.廢氣排放保證項目、時程/里程

Warranty items, duration/mileage

03.保養與維修項目、時程/里程

Time interval/mileage for maintenance and repair items

04.售後服務單位(如：保養、服務、維修…廠(站))之地址及電話

Maintenance/repair shop address and telephone number

備註

Remark

項目標識之記載項目應容易辨認該車裝有那些排放控制裝置(如自排：三元觸媒轉化器、其他裝置、碳罐；手排：三元觸媒轉化器、碳罐或每一排放控制之組合有一張標識)。

Item, the label should preferably include information whereby the correct combination of emission control devices on a certain vehicle can be identified (e.g. automatic: 3CL OTR CAN, manual: 3CL CAN or alternatively one label for each combination of emission control devices).

車主手冊中，有關排放控制系統有效使用期限及保證期限內，下列項目不需調整、清潔、修理或更換，仍能符合排放標準：曲軸箱通氣閥、排氣相關管線、高壓點火線路、觸媒轉化器、廢氣再循環系統(包含相關之過濾器及控制閥)、空氣噴射系統及零件、燃料噴射器及燃料供應系統、引擎電子控制單元及相關偵測器(包含氧氣偵測器及驅動器)、蒸發排放罐、活性炭罐及其控制裝置、渦輪增壓器。

In the vehicle owner's manual about the related exhaust emissions control system that still within the validation period and warranty limits, the following listed items need not to be adjusted, cleaned, repaired or changed to comply with the emission standards. The listed items are: Crankcase vent valve; Exhaust related pipes; High voltage ignition circuits; Catalyst converters; Exhaust gas re-circulation system (includes filter, control valve, air injection system and related parts); Fuel injectors and fuel supply system; Engine control units and related sensors (includes oxygen sensors and actuators); Evaporative emission control system (includes purge tank, charcoal canister and control units); and Turbo chargers.

劣化係數
DETERIORATION FACTORS

表 I
Table I

01. 車輛組成型態
Vehicle configuration(s)

02. 廢氣排放測試
Exhaust emission test
01.採用方式 Methods

☐ 耐久試驗 Calculated ☐ 採用指定劣化係數 Assigned
☐ 整車測試 Whole vehicle test ☐ 元件劣化 Bench aging test

02.耐久測試方式 Durability test

Df	CO	
	NMHC	
	THC	
	NO _x	
	PM	
	<u>PN</u>	

03. HC 蒸發排放測試
HC Evaporative test, if applicable

01. 採用方式 Methods ☐ 耐久試驗 Calculated

☐ 採用指定劣化係數 Assigned

02.耐久測試方式 Durability test ☐ 整車測試 Whole vehicle test

☐ 元件劣化 Bench aging test
☐ 油箱系統劣化 Fuel system aging

Df	(g/test)
<u>Pf</u>	(g/test)

04. 進化係數
Evolution Coefficient

<u>測試報告編號</u> Test report number	<u>車輛組成型態及測試車輛車型</u> Vehicle configuration and type of test vehicle	<u>CO</u>	<u>NMHC</u>	<u>THC</u>	<u>NO_x</u>	<u>PM</u>	<u>PN</u>

動力計設定
DYNAMOMETER SETTING

表 J
Table J

01. 80km/h之路阻(於85-75 km/h之滑行測試時間)
Road resistance at 80 km/h (coast-down time 85-75 km/h)

車輛組成型態 及車型名稱 Vehicle configuration and vehicle model	方法 Method	路阻(N) Road resistance	動力計設定 Dynamometer setting				
			$F = F_0 + F_1 * V + F_2 * V^2$			等值慣性 質量 Inertia (kg)	滑行時間 Coast-down time (s)
			F_0	F_1	F_2		

採用方式：

Methods：

(a) 滑行試驗

Driving resistance variation during coast-down

(b) 定速扭矩測試法

Torque measurement method at constant speed

(c) 替代方法－採用表列數值

Alternative method-table values

(d) 經中央主管機關同意之其他方法（日期

Other method approved by the EPA (date

)

)

測試報告及數據摘要

表 K

(適用符合汽油汽車一百零一年十月一日施行之排放標準者) Table K

TEST REPORT AND DATA SUMMARY

(Applicable for gasoline vehicles comply with the Emission Standards effective on Oct. 1, 2012)

01. 行車型態排放數據

Emission data

測試報告編號 Test report number	車輛組成型態及 測試車輛車型 Vehicle configuration and type of test vehicle	劣化處理後排放測試結果 Emission test results including DF				
		CO (g/km)	NMHC (g/km)	THC (g/km)	NOx (g/km)	PM (g/km)
標準值Standards						

02. 怠轉狀態測定

Idle test

測試報告編號 Test report number	車輛組成型態及 測試車輛車型 Vehicle configuration and type of test vehicle	正常引擎怠轉測試結果 (Normal Idle test)			高引擎怠轉測試結果 (High engine Idle test)		
		引擎轉速 (rpm)	CO (%)	HC (ppm)	引擎轉速 (rpm)	CO (%)	Lambda
標準值Standards							

03. 曲軸箱吹漏氣測試

Crankcase Test

測試報告編號 Test report number	車輛組成型態及測試車輛車型 Vehicle configuration and type of test vehicle	測試結果 Test result
標準值Standards		

測試報告及數據摘要

表 K

(適用符合汽油汽車一百零八年九月一日施行之排放標準者) Table K

TEST REPORT AND DATA SUMMARY

(Applicable for gasoline vehicles comply with the emission standards effective on September 1, 2019)

01. 行車型態排放數據

Driving Cycle Emission Data

測試報告編號 Test report number	車輛組成型態及 測試車輛車型 Vehicle configuration and type of test vehicle	劣化處理後排放測試結果 Emission test results including DF					
		CO (mg/km)	NMHC (mg/km)	THC (mg/km)	NOx (mg/km)	PM (mg/km)	PN (#/km)
標準值Standards							

02. 怠轉狀態測定

Idle test

測試報告編號 Test report number	車輛組成型態及 測試車輛車型 Vehicle configuration and type of test vehicle	正常引擎怠轉測試結果 (Normal Idle test)			高引擎怠轉測試結果 (High engine Idle test)		
		引擎轉速 (rpm)	CO (%)	HC (ppm)	引擎轉速 (rpm)	CO (%)	Lambda
標準值Standards							

03. 曲軸箱吹漏氣測試

Crankcase Test

測試報告編號 Test report number	車輛組成型態及測試車輛車型 Vehicle configuration and type of test vehicle	測試結果 Test result
標準值Standards		

測試報告及數據摘要(續)

表 K

(適用符合汽油汽車一百零一年十月一日施行之排放標準者) Table K

TEST REPORT AND DATA SUMMARY (Cont) (Applicable for gasoline vehicles comply with the emission standards effective on Oct. 1, 2012)

04. 油箱、化油器蒸發氣測試

Evaporative Emissions Test

測試報告 編號 Test report number	車輛組成型態及測試 車輛車型 Vehicle configuration and type of test vehicle	測試車輛 油箱容量 (L) Tank capacity	測試結果 Test result			
			熱靜置 (Hot Soak)	日間蒸發 (Diurnal)	劣化係數 (Df)	總和 (Total)
標準值Standards						

05. 車上診斷系統測試數據

OBD Test

車輛組成型態及測試車輛 車型 Vehicle configuration and type of test vehicle									
測試報告 編號 Test report number	測試 項目 Test item	故障模擬排放測試結果 Fault Simulation Test Results					故障碼 Trouble Code	故障 指示燈 是否亮起 MIL on?	測試結果是 否須劣化 Deteriorated?
		CO (g/km)	NMHC (g/km)	THC (g/km)	NOx (g/km)	PM (g/km)			
門檻值 threshold									

06. 測試數據

Test data

依本辦法規定所選擇之測試車輛之測試報告應包含下列資料

For each emission test vehicle, selected in accordance with the Regulation, the manufacturer shall present a test report containing the following information:

— 測試編號及測試日期

— Test number and test data

— 測試車輛辨識(車輛組成型態、測試車輛編號、車身號碼、引擎號碼、系統公里數、里程數)

Test vehicle identification (vehicle configuration, test vehicle number, chassis number, engine number, system km, odometer reading)

— 引擎中排放相關零件之設定

Setting of the emission related components of the engine

— 怠轉測試結果

Idle test results

— 預先調整方式

Pre-conditioning method

— 變速裝置之使用(變檔時機)

Use of transmission (gear shifting points)

— 測試狀況(慣量、路阻、胎壓)

Test conditions (inertia, road resistance, tire pressure)

— 測試周圍之環境(大氣壓力、溫度、溼度等)

Ambient conditions (atmospheric pressure, temperature, humidity etc.)

— 行車型態測試結果

Driving cycle test results

— 蒸發排放測試結果

Evaporative emissions test results

測試報告及數據摘要(續)

表 K

(適用符合汽油汽車一百零八年九月一日施行之排放標準者) Table K

TEST REPORT AND DATA SUMMARY (Cont) (Applicable for gasoline vehicles comply with the emission standards effective on September 1, 2019)

04. 油箱、化油器蒸發氣測試

Evaporation Emissions Test

測試報告 編號 Test report number	車輛組成型態及測試車 輛車型 Vehicle configuration and type of test vehicle	測試車輛 油箱容量 (L) Tank capacity	測試結果 Test result			
			熱靜置 (Hot Soak)	日間蒸發 (Diurnal)	劣化係數 (Df+Pf)	總和 (Total)
標準值 Standards						

05. 車上診斷系統測試數據

OBD Test

車輛組成型態及測試 車輛車型 Vehicle configuration and type of test vehicle										
測試報告 編號 Test report number	測試 項目 Test item	故障模擬排放測試結果 Fault Simulation Test Results						故障碼 Trouble Code	故障 指示燈 是否亮起 MIL on?	測試結果是 否須劣化 Deteriorated?
		CO (mg/km)	NMHC (mg/km)	THC (mg/km)	NOx (mg/km)	PM (mg/km)	PN (#/km)			
門檻值 threshold										

06. 測試數據

Test data

依本辦法規定所選擇之測試車輛之測試報告應包含下列資料

For each emission test vehicle, selected in accordance with the Regulation, the manufacturer shall present a test report containing the following information:

— 測試編號及測試日期

— Test number and test data

— 測試車輛辨識(車輛組成型態、測試車輛編號、車身號碼、引擎號碼、系統公里數、里程數)

Test vehicle identification (vehicle configuration, test vehicle number, chassis number, engine number, system km, odometer reading)

— 引擎中排放相關零件之設定

Engine setting of emission related components

— 怠轉測試結果

Idle test results

— 預先調整方式

Pre-conditioning method

— 變速裝置之使用(變檔時機)

Use of transmission (gear shifting points)

— 測試狀況(慣量、路阻、胎壓)

Test conditions (inertia, road resistance, tire pressure, tire make)

— 測試周圍之環境(大氣壓力、溫度、溼度等)

Ambient conditions (atmospheric pressure, temperature, humidity etc.)

— 行車型態測試結果

Driving cycle test results

— 蒸發排放測試結果

Evaporative emissions test results

修正項目目錄
REVISION INDEX

表 L
Table L

修正編號 Revision number	修正日期 Revision date	附件／頁數 Annex/Page(s) affected	說明修正內容 Description of revision

Appendix 3: OBD system

1. Terms used in this Appendix are defined as follows:
 - 1.1 Malfunction: means the failure of an emission-related component or system that would result in emissions exceeding the regulated limits or if the OBD system is unable to fulfill the basic monitoring requirements of this Appendix.
 - 1.2 Malfunction simulation: by replace the emission control device with a deteriorated or defective one or use an electronic simulator to simulate such a failure.
 - 1.3 Malfunction indicator: means a visible or audible indicator that clearly informs the driver of the vehicle in the event of a malfunction of any emission-related component connected to the OBD system, or the OBD system itself.
 - 1.4 Continuous monitoring: Continuous monitoring the circuit continuity of emission-related components connected to a computer, including any relevant sensors to enable monitoring functions (such as lack of circuit continuity, circuit malfunction, and values exceeding normal operating values).
 - 1.5 Driving cycle: A driving cycle consists of engine start-up, driving mode where a malfunction would be detected if present, and engine shut-off.
 - 1.6 Warm-up cycle: A warm-up cycle means sufficient vehicle operation such that the coolant temperature has risen by a least 22 °K from engine starting and reaches a minimum temperature of 343 °K (70 °C).
2. Functions and related testing items of OBD must comply with the following provisions:
 - 2.1 OBD system shall be able to monitoring and performing periodical assessment on emission control equipment and related components, the frequency shall be one OBD monitoring assessment for each driving cycle.
 - 2.2 Vehicle must be equipped with standardized OBD Malfunction Indicator Light (MIL), malfunction code storage capability, and reading malfunction codes via a connector.
 - 2.3 OBD shall perform monitoring assessment on the emission control equipment or related components, unless there is possibility of damaging emission control equipment and related components, or there are safety concerns, or the power take-off units are running.
 - 2.4 OBD testing shall be performed on a test vehicle that has completed durability testing or the equivalent deterioration testing. In the case of a new vehicle, deterioration factors may be applied to the new vehicle OBD test results as the final OBD test results.
 - 2.5 The applicant shall conduct OBD test at the testing laboratory designated by the central competent authority pursuant to the “gasoline vehicle exhaust emissions test methods and procedures”, or submit an OBD test plan pursuant to this

Appendix being approved by the central competent authority, the applicant may self conduct the OBD test.

The OBD test plan shall include the following items:

- 2.5.1 Test laboratory (information includes how to perform malfunction simulation and the laboratory's test capability description)
- 2.5.2 Test procedure, malfunction simulation test flowchart and schedule.
- 2.5.3 Description of test vehicle and the engine family covered vehicle models.
- 2.5.4 Description of OBD test items, equipment and malfunction simulation methods.
- 2.5.5 OBD related proof documents; refer to the description in Appendix 2 paragraph 1.24.
- 2.5.6 Other supplementary description documents that deemed necessary.
- 2.6 If the vehicle models produced by the same vehicle manufacturer have identical engine characteristics, emission control system, OBD monitoring functions and strategies may be categorized in the same OBD family. The test results of the representative vehicle that emits the emissions most will be taken as the test results for the OBD family.
- 2.7 The OBD system shall monitor all exhaust emissions-related control equipment, devices and systems. The applicant shall conduct the testing as follows:
 - 2.7.1 During the new vehicle model certification process, the vehicle manufacturer or his designated agent shall perform at least 4 OBD monitoring item tests; the test items shall include catalytic converter, oxygen sensor, misfire, and evaporative leakage. If the sales of every vehicle model covered in the OBD family is less than 200 units, the vehicle must pursuant to the "Gasoline vehicle exhaust emissions testing methods and procedures" to perform at least one OBD components circuit continuity test.
 - 2.7.2 For applications file by the association of importers and distributors or the application not based on the vehicle model year and engine family, the vehicle must pursuant to the "Gasoline vehicle exhaust emissions testing methods and procedures" to perform at least one OBD components circuit continuity test.
- 3. The OBD threshold limits, scope, items, and the OBD in-use monitoring performance shall comply with the following provisions:
 - 3.1 The OBD threshold limits are being set as follows:
 - 3.1.1 If the US FTP-75 driving cycle is being used for the test:
 - 3.1.1.1 For vehicles comply with the emissions standards effective on Jan. 1, 2008, the OBD threshold limits are: Carbon Monoxide (CO): 3.17g/km; Non-Methane Hydrocarbons (NMHC): 0.068g/km; and

Oxides of Nitrogen (NO_x), 0.11/km.

3.1.1.2 For vehicles comply with the emissions standards effective on Oct. 1, 2012, the OBD threshold limits are: Carbon Monoxide (CO): 3.92g/km; Non-Methane Hydrocarbons (NMHC): 0.081g/km; and Oxides of Nitrogen (NO_x), 0.066/km.

3.1.1.3 For vehicles comply with the emissions standards effective on September. 1, 2019, the OBD threshold limits are: Carbon Monoxide (CO): 3920 mg/km; Non-Methane Hydrocarbons (NMHC): 81mg/km; and Oxides of Nitrogen (NO_x): 66mg/km and Particulate Matter (PM): 9 mg/km.

3.1.2 If the NEDC or WLTC driving cycle is being used pursuant to the “Gasoline vehicle exhaust emissions testing methods and procedures” for the test, the applicable OBD threshold limits are as follows:

3.1.2.1 For vehicles comply with the emissions standards effective on Jan. 1, 2008, the OBD threshold limits are:

Class		CO (g/km)	THC (g/km)	NO _x (g/km)
M1		3.200	0.400	0.600
N1	RW ≤ 1305 kg	3.200	0.400	0.600
	1305 kg < RW ≤ 1760 kg	5.800	0.500	0.700
	1760 kg < RW	7.300	0.600	0.800

3.1.2.2 For vehicles comply with the emissions standards effective on Oct. 1, 2012, the OBD threshold limits are:

Class		CO (g/km)	NMHC (g/km)	NO _x (g/km)	PM* (g/km)
M1		1.900	0.250	0.300	0.050
N1	RW ≤ 1305 kg	1.900	0.250	0.300	0.050
	1305 kg < RW ≤ 1760 kg	3.400	0.330	0.375	0.050
	1760 kg < RW	4.300	0.400	0.410	0.050
*The PM standards only apply to gasoline direct injection (GDI) engine vehicles					

3.1.2.3 For vehicles comply with the emissions standards effective on September 1, 2019, the OBD threshold limits are:

Class		CO (mg/km)	NMHC (mg/km)	NO _x (mg/km)	PM* (mg/km)
M1		1900	170	90	12
N1	RW ≤ 1305 kg	1900	170	90	12
	1305 kg < RW ≤ 1760 kg	3400	225	110	12
	1760 kg < RW	4300	270	120	12
*The PM standards only apply to gasoline direct injection (GDI) engine vehicles					

3.1.2.4 As to the simulated deterioration/malfunction driving cycle test results, for each pollutant, if the emission value exceeds its applicable OBD threshold limit but within 120% range, shall be deemed as in compliance.

3.2 The diagnosis scope and items of OBD

Before performing the following OBD monitoring item tests, the applicant must verify that the test vehicle is conform to the Emission Standards. The central competent authority may assign specific items for the applicant to perform the test.

3.2.1 Catalytic converter – the OBD system must be able to identify the catalytic converter deterioration or malfunction status before causing the exhausted NMHC and NO_x emissions exceed the OBD regulated threshold limits.

3.2.2 Engine misfire – the OBD system must be able to identify the engine misfire malfunction status before the engine misfire causing the exhausted NMHC, CO, NO_x, or PM emissions exceed the OBD regulated threshold limits, or causing damage to the catalytic converter.

3.2.3 Oxygen sensor - the OBD system must be able to identify oxygen sensor deterioration or malfunction status before causing the exhausted NMHC, CO, NO_x, or PM emissions exceed the OBD regulated threshold limits.

3.2.4 Evaporative emissions

3.2.4.1 For vehicles that comply with the EU emissions standards, the electronic related devices must be monitored for circuit continuity and the engine control unit must be able to diagnose the reading values' rationality and actuate correctly.

3.2.4.2 For vehicles that comply with the US emissions standards, if an aperture that causing leakage in the evaporative control system (excluding the tubes and connection devices between the purge valve and the air inlet manifold) is greater than or equal to 1.1mm, or if there is no purge flow in the entire evaporative emission control system, the OBD system must diagnose the malfunction status.

For vehicles with fuel tank capacity exceed 94 liters, the central competent authority may accept the OBD strategies for monitoring the evaporative leakage aperture based on the engineer analysis data provided by the applicant.

3.2.5 Other emission control equipment, related systems or components – the OBD system must be able to diagnose any deterioration or malfunction of power system components or systems before causing the exhausted NMHC, CO, NO_x, or PM emissions exceed the regulated threshold limits, or

systems that may causing excess emissions but not described in paragraphs 3.2.2 to 3.2.5 of this Appendix such as the Exhaust Gas Re-circulation (EGR), Secondary Air System, and Fuel Trim System.

- 3.2.6 Other emissions control related components – the OBD system must be able to diagnose the deterioration or malfunction of sensors, actuators or components related to the electronic signal input/output that affect the emissions control but not being described in the paragraphs of 3.2.1 to 3.2.5. This portion the continuity and rationality of electronic circuits shall be monitored, as to the actuator must be actuated according to the instruction of ECU.

3.3 OBD In-Use Performance Ratio

For vehicles comply with the Emission Standards effective on September 1, 2019, during their in-use condition, the OBD system shall be able to monitoring and store the In-Use Performance related information. The relevant OBD In-Use Performance stipulation shall in accordance with the EU directive (EC) NO 715/2007 (include UN/ECE Regulation No 83). Upon the application for certification, the provided OBD monitored items, monitoring conditions and the OBD In-Use Performance Ratio (IUPR) shall conform to the following table requirements.

	Secondary air system and other cold start related items	Evaporative system	Other items
IUPR	≥ 0.260	≥ 0.520	≥ 0.336

For all the in-use vehicles their OBD's IUPR shall comply with the following requirements:

- 3.3.1 The average of OBD IUPR for each major component or system shall meet the requirements listed in the above mentioned table.
- 3.3.2 The selection of testing vehicles shall in accordance with the provisions in Appendix 4 paragraph 1, paragraph 3.2.2 and paragraph 3.3.1. At least 50% of the testing vehicle, their major components' or systems' OBD IUPR shall conform to the requirements listed in the table above.

The major components or systems mentioned in paragraph 3.3.1 and 3.3.2 are optional equipment to the vehicle as follows:

- (1) Catalytic Converter.
- (2) Oxygen Sensor, include Secondary Oxygen Sensor.
- (3) Evaporative System
- (4) EGR System.
- (5) Variable Valve Timing (VVT) System.
- (6) Secondary Air System.

- (7) PM Filter.
 - (8) NOx after-treatment system (such as NOx adsorbent catalyst, NOx reagent/catalyst system).
 - (9) Turbo/Supercharger Boost System.
- 4. The Malfunction Indicator Light (MIL) shall be installed on the dashboard facing the driver's seat and comply with the following provisions:
 - 4.1 A vehicle must not be equipped with more than one general purpose MIL for emission-related problems. A vehicle must be installed in a visible place not more than one general purpose MIL to the driver with sufficient brightness. The use of red color for a MIL is prohibited. Before engine start and with key on, the MIL shall be on with check engine, or service engine soon display functionalities. The MIL messages such as “Check Engine”, “Service Engine Soon” must comply with the symbol requirements regulated in ISO 2575, or the texts or symbols approved by the central competent authority. Separate specific purpose telltales (e.g. brake system, fasten seat belt, oil pressure, etc.) are permitted.
 - 4.2 When the OBD system detects a malfunction, the MIL must activate. If the engine misfires occurred and may causing damages to the catalytic converter, the MIL must flash once per second. If this type of misfire being detected again during the sequential driving cycle (includes engine start-up and engine shut-off) or if a similar condition occurred again during the following driving cycle, the MIL must remain activate.
 - 4.3 The MIL must activate when the vehicle’s ignition is in the “key-on” position before engine starting or cranking and deactivate after engine starting if no malfunction has previously been detected. In the case where the fuel system or engine misfire have been diagnosed previously, if in the following three consecutive driving cycles under similar conditions the MIL detects no new malfunctions, the indicator light shall be turned off. Similar conditions means the engine speed differential is within 375rpm, engine load differential is 20%, and the engine warm-up conditions are identical to those of the engine misfire that was initially detected.
 - 4.4 For malfunctions other than the fuel system and engine misfire are detected, MIL may be de-activated after three subsequent sequential driving cycles during which the monitoring system responsible for activating the MIL ceases to detect the malfunction and if no other malfunction has been identified that would independently activate the MIL. With the consent of the central competent authority, the applicant may use other statistical method protocol to set criteria for MIL activation.
- 5. The OBD fault code storage and scanning must comply with the following provisions:

- 5.1 The OBD system must save and store the information such as: diagnosed malfunction codes; readiness codes for the emission control system and related components; and emission control system status codes in the computer memory. The stored computer codes must be retrievable through the serial port on the standard link connector.
- 5.2 The OBD system must record the entire detected fault code(s) with MIL activated. The separate malfunction codes must be used and capable to identify the malfunctioned equipment, systems or components. The malfunction codes must be stored and showing the MIL activation status.
- 5.3 When misfire occurred in a single cylinder, the malfunction code shall be capable to identify the malfunctioned cylinder, unless the applicant can provide engineering data or evaluation report to prove that during certain engine operation condition, the misfired cylinder could not be identified accurately. If multi-cylinder misfire occurred, the malfunction code must be capable to identify the malfunction status. When the stored malfunction code is for multi-cylinder misfire, there is no need to identify the misfired cylinder separately.
- 5.4 The OBD system may erase a fault code if the same fault is not re-registered in at least 40 engine warm-up cycles and turn off the MIL.
- 5.5 Separate status codes and readiness codes must be recorded in the computer memory and being used to identify the correctly functioning of the emission control system. Those emission control system need further vehicle operation to be fully evaluated.
- 5.6 For those items that require continuous monitoring (such as engine misfire, fuel system monitoring, etc.), if abnormal operating conditions occurred continuously during the test (such as ambient temperature below 4.5°C and/or at elevations over 2,438 meters above sea level), the OBD system may disable the monitoring and temporarily suspend the storage of relevant status codes.
6. OBD malfunction code storage and reading of the diagnostic relate data shall comply with the following provisions:
 - 6.1 Upon determination of the first malfunction of any component, "freeze-frame" engine conditions present at the time must be stored in computer memory. Should a subsequent fuel system or misfire malfunction occur, any previously stored freeze-frame conditions must be replaced by the fuel system or misfire conditions (whichever occurs first). Stored engine conditions must include, but are not limited to engine speed, open-loop or closed- loop operation, fuel trim value(s), coolant temperature, calculated load value, fuel pressure, vehicle speed, air flow rate, intake manifold pressure, etc., and the fault code which caused the data to be stored.

- 6.2 The applicant must choose the most appropriate set of conditions facilitating effective repairs for freeze-frame storage. After the malfunctioned components or systems are being serviced and repaired, and in compliance with requirements of this regulation, the stored malfunction code may be erased.
- 6.3 If available, the following signals information in addition to the required freeze-frame information must be made available on demand through the serial port on the standardized data link connector, which includes: engine coolant temperature, fuel control system status (closed-loop, open-loop, other), fuel trim, ignition timing advance, intake air temperature, manifold air pressure, air flow rate, engine speed, throttle position sensor output value, secondary air status (upstream, downstream or atmosphere), calculated load value, vehicle speed and fuel pressure. The signals must be comply with the standards of Society of Automotive Engineers (SAE) or the standards of International Organization for Standardization (ISO), and the actual signals must be clearly identified separately from default value or limp-home signals.
- 7. The standardized interface for the OBD system, for vehicles adopting the EU emission standards shall comply with relevant provisions stipulated in directive (EC) No 715/2007; for vehicles adopting the US emission standards shall comply with relevant provisions stipulated in CFR Title 40 Part 86.
- 8. Engine family vehicles that unable to comply with all OBD regulations, the certificate application will be handled according to the following principles:
 - 8.1 After considering the technical feasibility, lead time and production cycles including phase-in or phase-out of engines or vehicle designs and programming upgrades of computers, to extend the current OBD system in compliance with all the OBD requirements in this regulation is infeasible or unreasonable, the applicant may request to the authority that the OBD system be accepted for type-approval even though the system contains one or more deficiencies. With the approval by the competent authority the OBD system may temporary being accepted without fulfill all the requirements in this regulation.
 - 8.2 For the primary OBD monitoring items such as catalytic converter, oxygen sensor, engine misfire, the evaporative purge control device, and EGR, lack of monitoring is prohibited.
 - 8.3 The type approved engine family that temporary without fulfill all the OBD requirements in this regulation, the next year, before applying for carry-over for the certification, the OBD system must be improved to meet all the requirements in this regulation. If considering the hardware or software modification and lead-time for this vehicle model, the deficiency improvements cannot be completed in that model year, the applicant may provide related documents to request for the deficiency carried-over, the competent authority may accept the

request, but the carried-over period must not exceeding 3 years.

- 8.4 For engine family with the US or EU Certificate of Conformity and being issued a Taiwan Certificate of Conformity, if the applicant could not complete improvements for the OBD deficiency , the applicant must not re-apply for the extension of certificate with carried-over deficiency .
- 8.5 For vehicles using alternative clean fuels (such as natural gas, liquefied petroleum gas, methanol, and ethanol), if the usage of alternative clean fuels may reduce the reliability of OBD monitoring function, the applicant may request to the competent authority for the exemptions from some specific monitoring requirements. However, equipped with an OBD system is still being requested.

Appendix 4: Deterioration Factors

1. The exhaust emission and evaporative emission deterioration factors for each engine family are required to represent the vehicle's durability performance in actual operation condition, if the vehicle under normal maintenance in accordance with the owner's manual. Carbon monoxide, hydrocarbon, non-methane hydrocarbon, nitrogen oxide, and particulate matter values are determined by multiply or add appropriate deterioration factors to the test results. Evaporative emissions are determined by adding deterioration factors to the test results. If the assigned multiplicative deterioration factor by applicant is less than 1, it is deemed as equal to 1.
2. Deterioration factors shall be determined according to one of the following methods:
 - 2.1 Perform a durability test Particulate Matters
 - 2.1.1 The applicant shall provide mileage accumulation driving cycle and durability test plan for the durability testing and submit to the central competent authority for approval. The durability testing shall be performed after received the approval from the competent authority. The durability test shall comply with the following provisions:
 - 2.1.1.1 In accordance with the "Gasoline Vehicle Durability Testing Methods and Procedures".
 - 2.1.1.2 In accordance with the test methods and procedures provided by the applicant
 - 2.1.2 The minimum contents of the durability test plan include:
 - 2.1.2.1 Test laboratory name (includes proof of capability to perform the durability test).
 - 2.1.2.2 Test procedures.
 - 2.1.2.3 Test schedule
 - 2.1.2.4 Test vehicles.
 - 2.1.2.5 Test equipment.
 - 2.1.2.6 Repair and Maintenance items.
 - 2.1.2.7 Test fuel testing report.
 - 2.1.2.8 Adjustable parameters description and suggestions.
 - 2.1.3 After completion of the durability test, the applicant may apply to the central competent authority for the deterioration factors, being reviewed and approved by the central competent authority, the applicant may use the deterioration factors derived from the durability test results.
 - 2.2 Adopting the deterioration factors recorded in the US or EU Certificate of Conformity

The engine family with the US or EU issued Certificate of Conformity shall submit the recorded information on deterioration factors to the central competent

authority for application.

2.2.1 For vehicles with the US or EU issued Certificate of Conformity may use the deterioration factors recorded in the certificates.

2.2.2 For vehicles with the US issued Certificate of Conformity may use the NMOG to replace NMHC deterioration factor value, if the NMHC DF is not available.

2.3 Assigned deterioration factors

2.3.1 For vehicles adopting the US FTP75 driving cycle test in accordance with the “Gasoline Vehicle Durability Testing Methods and Procedures”, the assigned deterioration factors that being used must not lower than the values listed in the following table:

2.3.1.1 For vehicles comply with the emissions standards effective on Jan. 1, 2008:

Carbon monoxide : 1.200.

non-methane hydrocarbons: 1.300.

Nitrogen oxides: 1.100.

Evaporative emissions: 0.00 (g/test).

2.3.1.2 For vehicles comply with the emissions standards effective on Oct. 1, 2012:

Carbon monoxide: 1.500.

Non-methane hydrocarbons: 1.600.

Nitrogen oxides: 1.500.

Evaporative emissions: 0.00 (g/test).

2.3.1.3 For vehicles comply with the emissions standards effective on September 1, 2019:

Carbon monoxide: 1.500.

Non-methane hydrocarbons: 1.600.

Nitrogen oxides: 1.500.

Evaporative emissions: 0.00 (g/test).

2.3.2 For vehicles adopting the NEDC or WLTC driving cycle for the test in accordance with the “Gasoline Vehicle Durability Testing Methods and Procedures”, the assigned deterioration factors shall not less than the values listed in the following table:

2.3.2.1 For vehicles comply with the emissions standards effective on Jan. 1, 2008:

Carbon monoxide: 1.200.

Hydrocarbons: 1.200.

Nitrogen oxides: 1.200.

Evaporative emissions: 0.00 (g/test)

2.3.2.2 For vehicles comply with the emissions standards effective on Oct. 1, 2012:

Carbon monoxide: 1.500.

Hydrocarbons: 1.300.

Non-methane hydrocarbons: 1.300.

Nitrogen oxides: 1.600.

Particulate Matters: 1.000.

Evaporative emissions: 0.00 (g/test).

2.3.2.3 For vehicles comply with the emissions standards effective on September 1, 2019:

Carbon monoxide: 1.500.

Hydrocarbons: 1.300.

Non-methane hydrocarbons: 1.300.

Nitrogen oxides: 1.600.

Particulate Matters: 1.000.

Particulate Numbers: 1.000.

Evaporative emissions: Twice the assigned fuel tank permeation factor (120 mg/test × 2).

2.3.3 For in-use gasoline vehicles that being imported from overseas, if the period between the date of production and the date of importation is less than one year, the assigned deterioration factors shall be used directly. For vehicles with the above mentioned period over one year, no need to use the deterioration factors.

3. If the central competent authority has approved carry-over or extension of the Certificate of Conformity for the engine family, the deterioration factors for the previous model year may be carried over. If the engine family emissions control related systems have been modified but still comply with the following provisions, the applicant may apply to the central competent authority for carried-over of the related deterioration factors:

3.1 Engine displacement

3.1.1 The engine still being categorized within the same engine family.

3.1.2 The modification should not cause noticeable temperature gradient increase in the catalytic converter.

3.1.3 If the variation of engine displacement is within 15% of the original representative engine, the original deterioration factors may be carried over.

3.2 Fuel supply system

3.2.1 The design modified fuel injection system, is being used in another engine family, and approved by the central competent authority.

3.2.2 The modification will not cause noticeable increase of temperature gradient

in the catalytic converter. If a throttle body fuel injection system is replaced by an electronic timing multi-point fuel injection system, the original deterioration factors may be carried over.

- 3.2.3 For any fuel supply system modifications other than the conditions that mentioned in previous paragraphs, and the engine cannot be categorized as the same engine family, the applicant must provide relevant description documents, catalytic converter temperature measurement data, durability testing results or engine exhaust emissions stabilized data (may include bench test data) to the central competent authority for review.

3.3 Catalytic converter

- 3.3.1 The location of primary catalytic converter is changed to a place downstream in the exhaust pipe (such as moved from the engine bay to the chassis).
- 3.3.2 Use the same or more precious metals (using active substances for the comparison), the volume increase of the catalytic converter is within 15% of the maximum volume capacity.
- 3.3.3 Increase any or all the major active precious metal (the increase of specific active precious metals ratio is allowed, if being decreased, then an evaluation report must be attached for review).
- 3.3.4 The basic casing or substrate technology for the catalytic converter is changed, reviewed and approved by the central competent authority, and being used in other engine families.
- 3.3.5 No noticeable temperature gradient increase in the catalytic converter due to the modification.
- 3.3.6 For any catalytic converter modifications other than the conditions that mentioned in previous paragraphs and the engine cannot be categorized as the same engine family, the applicant shall provide relevant description documents; catalytic converter temperature measurement data; durability testing results or engine exhaust emissions stabilized data to the central competent authority for review.

3.4 Air injection system

- 3.4.1 Basis modifications of the air injection system, such as the location of air injection, air pump driver method, or adjustments to the secondary airflow rate, is reviewed and approved by the central competent authority for the use in other engine families.
- 3.4.2 Changes of the air injection location, air pump driver method, or adjustments to the secondary airflow rate will not cause noticeable temperature gradient increase in the catalytic converter, the original deterioration factors may be carried over.

- 3.4.3 If the modification of Pump air injection or Purse air injection devices will not cause noticeable temperature gradient increase in the catalytic converter, these devices are deemed as equivalent to the original ones, and the deterioration factors may be carried over.
 - 3.4.4 If Adding Pump air injection or Purse air injection devices on a vehicle originally without those devices, and will not cause noticeable temperature gradient increase in the catalytic converter, the deterioration factors may be carried over.
 - 3.4.5 For any air injection system modifications other than the conditions that mentioned in previous paragraphs and the engine cannot be categorized as the same engine family, the applicant shall provide relevant description documents, catalytic converter temperature measurement data; durability testing results or engine exhaust emissions stabilized data to the central competent authority for review.
- 3.5 Exhaust gas re-circulation system (EGR)
- 3.5.1 The modification of EGR will not cause noticeable temperature gradient increase in the catalytic converter.
 - 3.5.2 Configuration changes of the basic EGR system (including: exhaust gas sampling location, exhaust gas entry position, or exhaust flow rate adjustment method) are being approved by the central competent authority, and used in other engine families.
 - 3.5.3 The valve location, pintle design, exhaust gas flow passage, cooling method, solenoid and diaphragm design all will affect the deterioration of EGR, the manufacturer shall provide test records to prove those modifications will not cause further deterioration of EGR.
 - 3.5.4 For any EGR modifications other than the conditions that mentioned in previous paragraphs, and the modified EGR cannot be categorized as the same EGR system, the applicant must provide relevant description documents, catalytic converter temperature measurement data, durability testing results or engine exhaust emissions stabilized data to the central competent authority for review.
- 3.6 Electronic control system
- 3.6.1 The electronic ignition control parameters shall not be deleted.
 - 3.6.2 The EGR valve location and flow rate sensor parameters shall not be deleted.
 - 3.6.3 The EGR control parameters shall not be added or deleted.
 - 3.6.4 The exhaust oxygen or other gases sensor parameters shall not be added to or deleted.
 - 3.6.5 The odometer parameters (or estimate mileage by using travel time) shall

not be added to or deleted.

3.6.6 The fuel feedback control parameters shall not be added to or deleted.

3.6.7 If unable to comply with the previous provisions, the applicant must provide description documents, durability testing results, and engine emissions stabilized data (include bench test data) to the central competent authority for review.

For manufacturers apply for carry-over of the original deterioration factors in accordance with the modifications described in Paragraphs 3.1 to 3.6 of this Appendix, the determination of catalytic converter's deterioration is based on the following provisions:

3.6.7.1 In accordance with the "Gasoline Vehicle Durability Testing Methods and Procedures", in two hours of accumulated mileage for the durability test, the time needed for the catalytic converter's temperature raise between the temperature intervals that defined in 3.6.7.2, is less than 3% of 2 hours or 60 seconds (select the higher one), unless it is in the more higher temperature interval and the time needed will be less accordingly.

3.6.7.2 The temperature intervals are 601°C~ 650°C, 651°C~ 700°C, 701°C~ 750°C, and 751°C~ 800°C (in this range, other temperature intervals are applicable but the 60 second tolerance applies only to 50°C intervals). If the maximum temperature exceeds 800°C, the maximum temperature increase shall not over 2%, and the time needed for temperature increase is within 2% of 2 hours or 30sec (select the higher one).

3.6.7.3 The testing shall be performed on the original durability test vehicle model; if not available, using the test vehicle model with the greatest sales volume.

3.6.7.4 The installation location of the temperature measurement thermocouples should be appropriate and avoid to be installed on the exhaust tailpipe or in the path of secondary air injection. The manufacturer shall describe the location of thermocouple in the catalytic converter for temperature measurement.

Appendix 5 Gasoline vehicle Conformity of Production Related Provisions

1. Applicants apply for engine family emissions certification shall implement the conformity of production measures in accordance with provisions in this appendix to ensure the emissions control system of production vehicles comply with the applicable emission standards during the emissions control system's useful life warranty period.
2. New vehicle quality control measures
 - 2.1 Conformity of Production (COP) inspection and testing items

The minimum testing items shall include driving cycle exhaust emissions testing, idle emissions testing and OBD electrical circuit continuity testing.
 - 2.2 New vehicle COP testing sampling ratio.
 - 2.2.1 Application filed by vehicle manufacturer or manufacturer designated agent, for each engine family, one vehicle per 200 manufactured or imported vehicles shall be selected for the COP testing.
 - 2.2.2 Applications file by association of vehicle importers and distributors, for each engine family, one vehicle per 100 imported vehicles shall be selected for the COP testing.
3. In-use vehicle quality control measures
 - 3.1 Vehicle manufactured or imported by manufacturer or manufacturer designated agent and comply with the emission standards effective on September 1, 2019 ("2019 emission standards"), during the period between 18th month and 24th month after being sold, the applicant shall provide the in-use vehicle quality control testing report. For sold mass-production or imported vehicle comply with the "2019 emission standards" before September 1, 2020, the applicant may start to implement in-use vehicle quality control testing during the period between 18th month and 24th month right after September 1, 2020.
 - 3.2 Inspection and testing items
 - 3.2.1 Maintenance and Warranty information.

The gasoline vehicle manufacturer or importer shall collect and record the vehicle emissions control system's service information (such as: customer complain issues, repairs, OBD malfunction records etc) during system's useful life and warranty periods. The records shall be preserved at least 2 years for future reference. The central competent authority may audit the implementation status by conducting random sampling check.
 - 3.2.2 OBD In-Use Performance Ratio (IUPR).

For the OBD family with annual sales over 200 vehicles, the gasoline vehicle manufacturer or manufacturer designated agent shall inspect and record the domestic sold vehicle's IUPR status in accordance with the related provisions stipulated in EU directive (EC) No 715/2007. The

records shall be preserved for 2 years for future reference. The central competent authority may audit the implementation status by conducting random sampling check.

3.2.3 Driving cycle exhaust emissions test.

For each engine family with sales over 1,000 vehicles, the gasoline vehicle manufacturer or manufacturer designated agent shall select testing vehicles in accordance with related provisions in EU directive (EC) No 715/2007 to conduct tests (include driving cycle exhaust emissions test, idle emissions test and OBD electrical circuit continuity test). The vehicles selection shall be implemented during period between 18th month and 24th month after vehicle's sales have reached over 1,000 units. The sampling ratio shall be in accordance with the provisions stipulated in paragraph 3.2 of this Appendix.

3.3 Sampling ratio

3.3.1 IUPR test sampling ratio.

For each OBD family with annual vehicle sales between over 200 units and 5,000 units, at least 6 vehicles shall be conducted the IUPR testing and recorded within the period between sales have reached lower limit and upper limit; for vehicle sales over 5,000 units, at least 15 vehicles shall be conducted and recorded the IUPR testing within the prescribed period.

3.3.2 Driving cycle exhaust emissions test sampling ratio.

For each engine family with vehicle sales between over 1,000 units and 5,000 units, at least one vehicle shall be conducted testing within the period between sales have reached lower limit and upper limit; for vehicle sales between over 5,000 units and 25,000 units, at least one additional vehicle shall be conducted testing within the period between sales have reached lower limit and upper limit; for vehicle sales over 25,000 units, at least one additional vehicle shall be conducted testing within each every increment of 25,000 units. The vehicle testing shall be conducted within the period between sales have reached lower limit and upper limit.

Appendix 6: New Gasoline Vehicle Selective Testing and In-Service Vehicle Recall and Correction Testing Provisions

1. The purpose of selective testing for new certified vehicle is to ensure the conformity of production which shall be performed by the central competent authority to check its compliance with the applicable emissions standards and other relevant regulations. The selective testing must be performed on the same engine family or vehicle model at least once per year.
2. The new vehicle selective testing related matters such as: vehicles selection schedule, selective testing types shall be described in details by the central competent authority when giving the test notice. The applicant who has obtained the vehicle's Certificate of Conformity shall respond immediately to cooperate with the central competent authority for the related testing activities. After receiving the notice, if the applicant is not respond within 5 days, the central competent authority may suspend the certificate registration process of that selective testing required engine family or vehicle model.
3. Vehicle Selection:
 - 3.1 The Engine families and vehicle models for the selective testing shall be designated by the central competent authority. The test vehicles being selected randomly and representative to the in market and in-service vehicles.
 - 3.2 The applicant shall provide designated numbers of mass production vehicles for the central competent authority to select.
 - 3.3 Locations for sample test vehicles' selection:
 - 3.3.1 Storage area for the vehicles that have completed the conformity of production test.
 - 3.3.2 Applicant's designated domestic agent, distributor or dealer's vehicle storage locations.
 - 3.3.3 Storage Warehouse of Republic of China Customs
 - 3.4 Sampling ratio and testing types:
 - 3.4.1 For vehicle driving cycle test and idle test, if the sales of the same engine family exceed 10,000 units, 10 vehicles shall be tested. If the sales below 10,000 units, tests shall be conducted one per every 1,000 vehicles sold. For vehicle sales below 1,000 units, one vehicle shall be tested.
 - 3.4.2 As to the gas tank and carburetor HC leakage evaporative emissions test, one vehicle for each engine family shall be selected to conduct the test.
 - 3.4.3 As to the OBD test, one vehicle for each engine family shall be selected to conduct the test.
4. Test schedule and location:

After the selection of test vehicles, the applicant shall prepare the test vehicles within four weeks. The applicant may request for extra days for the OBD test if

deemed necessary, send the vehicles to the test laboratory designated by the central competent authority according to the designated schedule. Testing shall be conducted in accordance with the “Gasoline Vehicle Exhaust Emissions Testing Methods and Procedures”, test and transportation fees shall be paid by the applicant. If approved by the central competent authority, testing may be designated and conducted by the applicant self-established test laboratory.

5. Vehicle Preparation

- 5.1 If necessary, the applicant may run-in the test vehicles to the required minimum mileage, to ensure stable emission test results for the test.
- 5.2 The unleaded gasoline test fuel designated by the central competent or purchased from domestic gas stations shall be used for the mileage accumulation.
- 5.3 Being approved in advance and monitored by the central competent authority, the applicant may using instruments, equipment, or tools with the same functionalities as the service stations that owned by dealers to perform the following maintenance, inspection or adjustments:
 - 5.3.1 Spark plug replacement.
 - 5.3.2 Battery replacement or recharge.
 - 5.3.3 Wiring Harness safety check.
 - 5.3.4 Oil or Filter change.
 - 5.3.5 EVAP Canister (carbon canister) replacement.
 - 5.3.6 Preparation procedures prior to the vehicle delivery must be consistent to those specified in the related documents.
 - 5.3.7 If the selected test vehicle is already being sold, the maintenance items listed in the owner's manual may be performed.
 - 5.3.8 Re-set the adjustable parameters that already been within the tolerance range that stated in the certificate or owner’s manual is prohibited.
- 5.4 The applicant shall not perform adjustments, maintenance or test the selected testing vehicles without being approved by the central competent authority.
- 5.5 Special instruments or equipment required for testing shall be prepared by the applicant. Unable to provide such instruments or equipment shall not be an excuse to claim invalidation of the test results.
- 5.6 Any objections or unable to perform the test due to vehicle accident, the applicant should provide the central competent authority with an explanation prior to the test. The central competent authority may authorize to conduct adjustments or repairs to restore the vehicle back to the normal operation condition and suitable for the test. The central competent authority may disqualify that vehicle if being deemed no longer representative for the test, and select other vehicles as replacement. The number of replacement vehicle is determined by the central competent authority according to the test sampling

ratio.

6. Determination and handling of test results

6.1 If the test results of the entire selective test types comply with the related emissions standards, the test shall be deemed pass.

6.2 If a sample test vehicle is deemed non-compliant, the applicant may request one repeat test, or directly request non-compliant determination for the preliminary test.

6.2.1 Vehicle repeat test must be requested prior to its removal from the test laboratory.

6.2.2 Any repairs, adjustments to the vehicle are prohibited for the repeat test.

6.2.3 The repeat test results shall be treated as the final result, if comply with the related emissions standards, the test shall be deemed pass.

6.3 When the preliminary test is determined as non-compliance, within 15 days from the day of receipt notice from the central competent authority, the applicant may submit a written request for repeat testing, or accept the non-compliance determination and in accordance with the provisions to propose a Recall and Correction plan to the central competent authority.

6.3.1 The applicant may determine the sample numbers for the repeat test; however, the number must greater than twice the number of non-compliance vehicles of the preliminary test.

6.3.2 The selection, preparation, and test method are the same as the preliminary test.

6.3.3 For vehicles failed the repeat test, applicants may request one additional test prior to remove the vehicle from test laboratory. The additional test results shall be deemed as the final results. Any vehicle repairs, adjustments before the additional test is prohibited.

6.3.4 If the arithmetic mean of the separate emissions values for the preliminary and repeat test vehicles are all less than the related emissions standards, then the test shall be deemed pass, otherwise the test shall be deemed fail. If the above mentioned tests are OBD tests, the number of vehicles that failed the preliminary test (number 1) plus the number of vehicles that failed the repeat test (number 2), then divided by the sum of number 1 and the number of vehicles taking the repeat test (number 3), if the calculated value is less than 0.4 and the sum of total failed vehicles (number 1 plus number 2) is less than 4, then the test shall be deemed as pass, the formulas for pass/fail determination are as follows:

Formula 1 → (number of vehicles failed the preliminary test + number of vehicles failed the repeat test) ÷ (number of vehicles failed the preliminary test + number of vehicles taking the repeat test) <

0.4.

Formula 2 → (number of vehicles failed the preliminary test + number of vehicles failed the repeat test) < 4.

- 6.3.5 Although the engine family vehicle model is determined as in compliance, but for vehicles that failed the preliminary or repeat test, the applicant still need to provide the failure cause explanations, remedy measures, and after improvement every vehicle is in compliance with the emission standards to the central competent authority for future examination.
- 6.4 For the engine family vehicle which failed the new vehicle selective testing and its Certificate of Conformity is revoked by the central competent authority, within 30 days upon receiving the notification, the applicant shall submit a recall and correction plan for the unsold and sold engine family vehicles, being reviewed and approved by the central competent authority. The applicant shall complete the implementation of the 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 30 days of receiving the approval letter, the applicant shall submit a specific improvement plan to apply for an extension to the central competent authority. Basis on actual conditions, the central competent authority may approve the extended deadline, and the maximum extension may not exceed one year. The central competent authority may immediately terminate the extension of deadline if the improvement plan implementation is being investigated and confirmed not in accordance with the approved plan.
- 6.5 The contents of the Recall and Correction plan include:
- 6.5.1 Engineering cause analysis for each vehicle that non-compliance with the applicable emissions standards.
 - 6.5.2 An influence assessment for the cause of non-compliance.
 - 6.5.3 The make, engine family, vehicle model, vehicle model year, and number of affected vehicles to be recalled and corrected, and other relevant information.
 - 6.5.4 The projected ratio between the implemented recall vehicle numbers to the sales of the vehicle.
 - 6.5.5 Remedy measures to be implemented on a recalled motor vehicle, such as component replacement, repair, inspection, calibration, adjustment and other necessary changes in technical information summaries that are sufficient to ensure in compliance with the applicable Standards after implementation of the remedy measures.
 - 6.5.6 The acquiring method for 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 confine the owner by any maintenance, operation guideline or using conditions; such as prohibit motor vehicle owners using non OEM components or being serviced by non-authorized workshops
- 6.5.8 The implementation process for the recall shall include notifying the owner and provide the designated start and finish dates, location, and duration for the repairs.
 - 6.5.9 The proof of technical capability and facilities for the organization and technicians that responsible for the implementation of the recall and correction plan.
 - 6.5.10 Send notices to the recall vehicle owners.
 - 6.5.11 Provide replacement components appropriate supply system during recall and correction period.
 - 6.5.12 The necessary guidance for the technicians that involved in the recall and repairs plan.
 - 6.5.13 If the implementation of recall and correction plan would affect the vehicle's fuel consumption, noise, or other performance functionalities, the manufacturer should provide appropriate explanations.
 - 6.5.14 Applicant may provide other technical data and test reports to proof the effectiveness of the recall and correction plan to the competent authority for evaluation.
- 6.6 The central competent authority shall perform verification test for each remedy measure of the recall and correction plan implemented by the applicant.
 - 6.7 Within 15 days upon complete the implementation of recall and correction plan, the applicant shall submit a recall and correction implementation 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 also be notified simultaneously.
 - 6.9 For those unsold vehicles with revoked Certificate of Conformity, once the applicant has completed the implementation of recall and correction plan, being reviewed and approved by the central competent authority, the applicant may re-apply for the Certificate of Conformity of the engine family in accordance with these provisions.

Appendix 7: Required Documents for Certificate of Conformity Application after Vehicle's Fuel System being Converted into Operable on Both Gasoline and Clean Alternative fuels

1. The following documents shall be provided for application:
 - 1.1 Application form.
 - 1.2 Draft of the gasoline vehicle model emissions Certificate of Conformity.
 - 1.3 Proof of compliance for the conversion kits issued by the Ministry of Economic Affairs or other designated professional test organization
 - 1.4 Guarantee of compliance with related emissions standards
 - 1.5 General data (see Table A).
 - 1.6 Authorization documents provided by foreign vehicle manufacturer to the designated domestic agent. The authorization documents shall endow the domestic agent with full authority to represent the manufacturer, take full responsibility as the manufacturer.
 - 1.7 Schematic drawing of the clean alternative fuel system.
 - 1.8 Configuration and function descriptions of the clean alternative fuel system components.
 - 1.9 Installation locations of the clean alternative fuel system components.
 - 1.10 Photographic explanations for the clean alternative fuel system.
 - 1.11 List of component identification number for the emission related components of the clean alternative fuel system.
 - 1.12 Adjustments to the clean alternative fuel system.
 - 1.13 Inspections and repairs to the clean alternative fuel system.
 - 1.14 The clean alternative fuel system maintenance.
 - 1.15 Full test report and test results for the exhaust emissions testing
 - 1.15.1 The vehicle exhaust emission testing shall be conducted according to these provisions. The central competent authority shall conduct vehicle model certification tests in accordance with these provisions.
 - 1.15.2 If the vehicle uses more than one fuel type, the fuels shall be handled in accordance with the provisions of related regulations.
 - 1.15.3 The Assigned deterioration factors shall be used.
 - 1.15.4 Pursuant to Article 3 and Article 4 of the emissions Standards.
 - 1.16 Vehicle owner's manual
 - 1.17 Warranty for useful life emission standards compliance
2. For the converted vehicles with Certificate of Conformity, if deemed necessary, the central competent authority may issue the extension or carry-over of the model year Certificate of Conformity, and carry out new vehicle conformity of production selective testing and in-service vehicle Recall and Correction program to verify the compliance with these regulations.