

立法會
Legislative Council

LC Paper No. CB(4)1344/14-15(02)

Ref. : CB4/PL/TP

Panel on Transport
Special Meeting on 22 July 2015

**Information note on regulation of workshops carrying out
repair and maintenance of liquefied petroleum gas vehicles**

Background

In an attempt to reduce emissions from vehicles, the then Chief Executive announced in the 1999 Policy Address the provision of incentives for taxi and light bus owners to replace their diesel vehicles with liquefied petroleum gas ("LPG") vehicles¹. As a result of the incentive schemes, nearly all taxis and a majority of light buses have switched to LPG vehicles. According to the Administration, by the end of April 2015, there are a total of about 22 000 registered LPG vehicles in Hong Kong, including about 18 000 LPG taxis and 3 700 LPG light buses.

Repair and maintenance of LPG vehicles

2. General repair and maintenance of LPG vehicles not involving LPG fuel systems may be carried out by general vehicle mechanics. However, for any work on or in relation to a gas pipe, including works on the fuel tank or other associated components, the Gas Safety Ordinance (Cap. 51) ("GSO") stipulates that such work should be carried out by a competent person or under the supervision of a competent person approved by the Electrical and Mechanical Services Department ("EMSD")². At present, there are over 1 100 Competent

¹ Incentive schemes for the replacement of diesel taxis and diesel light buses were launched in 2000 and 2002 to offer taxi and light bus owners a one-off grant of \$40,000 and \$60,000 respectively for switching to LPG vehicles. Details of the incentive schemes can be found in the papers submitted to the Finance Committee: FCR (2000-01)31 and FCR(2002-03)33.

² For work that involves the repair, maintenance or replacement of LPG vehicle fuel systems or associated components and replacement of LPG fuel tanks, they are required to be carried out by a Competent Person (Class 6) or a person under his/her supervision. As for maintenance work involving the structure of an LPG fuel tank or components within an LPG fuel tank, they should be carried out by a Competent Person (Class 1) approved by EMSD or a person under his/her supervision and in an LPG fuel tank workshop approved by EMSD.

Persons (Class 6) who have completed the LPG Vehicle Servicing Programme provided by the Vocational Training Council and possess practical experience and are qualified for repairing the fuel system of LPG vehicles.

3. In respect of LPG storage and installation, GSO stipulates that any containers with the aggregated nominal water capacity of more than 130 litres of LPG are classified as notifiable gas installations, the construction and use of which would require the approval of EMSD. According to the Administration, there are 571 approved notifiable gas installations in Hong Kong, including 29 vehicle maintenance workshops that have been approved by EMSD for storing LPG fuel tanks of more than 130 litres³. In considering whether approval should be granted to vehicle maintenance workshop for storing fuel tanks of more than 130 litres, EMSD will consider whether the vehicle maintenance workshops comply with the safety requirements in respect of design, construction and location, including good ventilation, restricted from locations for occupation, and the installation of gas detection system, mechanical ventilation system and fire prevention system, etc.

4. For the purpose of enforcing GSO, the Gas Safety Inspectors of EMSD conduct regular and random surprise inspections to the approved LPG notifiable gas installations as well as the 29 vehicle maintenance workshops to ensure that they have not contravened the requirements under GSO⁴.

Storage of dangerous goods

5. Pursuant to the Dangerous Goods Ordinance (Cap. 295) ("DGO"), except under and in accordance with a license granted under DGO, no person shall manufacture, store, convey or use any dangerous goods. For storage of dangerous goods in excess of the exempted volumes, a dangerous goods license should be obtained from the Fire Services Department ("FSD"). FSD will require the applicant of a dangerous goods license to comply with the relevant fire safety requirements, including the installation of additional fire service installations and equipment, as and when necessary.

³ EMSD has maintained a register of vehicle maintenance workshops with approved notifiable gas installations on their website. Please refer to http://www.emsd.gov.hk/emsd/eng/sgi/gas_reg_lpg.shtml for details.

⁴ The inspections ensure that vehicle maintenance workshops have not stored more than 130 litres of LPG without the approval of EMSD, and that replacement of the fuel tank or other associated components is carried out by a Competent Person (Class 6) or under the supervision of a Competent Person (Class 6).

Measures to enhance the standard of the vehicle maintenance trade

6. For effective governance of the vehicle maintenance trade and to ensure safety and enhance servicing standard, the Administration introduced the Voluntary Registration Scheme for Vehicle Mechanics in January 2007 ("the Scheme"). The Scheme sets out recognized qualification for registration, renewal requirements, performance monitoring, continual professional development and code of conduct for registered vehicle mechanics⁵. As at the end of April 2015, 6 380 vehicle mechanics (about 70% out of a total of 9 000 vehicle mechanics) in Hong Kong have registered under the Scheme.

7. To pave the way for the roll-out of the Voluntary Registration Scheme for Vehicle Maintenance Workshops in mid-2015, the Administration launched the Vehicle Maintenance Workshops Charter Scheme ("the Charter Scheme") in January 2013. By subscribing to the Charter Scheme, vehicle maintenance workshops pledge to abide by a set of practice guidelines that stipulate service requirements in safety, technical, environmental, training, service and documentation aspects, and undertake to operate their workshops at a level of quality not lower than that as specified in the guidelines. A copy of the guidelines (Chinese version only) is in **Appendix I**. According to the Administration, some 400 workshops have subscribed to the Charter Scheme. Taking into consideration the results of the two voluntary registration schemes as well as the cost-benefit analysis of a mandatory scheme, the Administration will consult the trade in deciding the introduction of a mandatory registration scheme for vehicle maintenance workshops.

Discussion by the Panel on Environmental Affairs

8. Following the explosion incident occurred on 26 April 2015 in a vehicle maintenance workshop in Tsz Wan Shan, members of the Panel on Environmental Affairs ("EA Panel") expressed concern about the safety and maintenance of LPG vehicles at the meeting on 27 April 2015. EA Panel requested the Administration to provide a written response on the repair and maintenance of LPG vehicles, the statutory requirements and safety standards for a LPG vehicle workshop and a LPG filling station, the conduct of regular inspections of LPG vehicles and facilities, the safety handling of LPG cylinders and other types of dangerous goods, as well as the berthing of vessels carrying dangerous goods in the vicinity of residential areas. The response from the Administration is still awaited.

⁵ See the Administration's paper on "Voluntary Registration Scheme for Vehicle Mechanics" (LC Paper No. CB(1)809/06-07(01)).

Relevant questions raised at Council meetings

9. Four written questions were raised at the Council meetings of 13 May and 10 June 2015 respectively relating to the regulation of vehicle maintenance workshops. Issues covered in these questions include training provided to mechanics carrying out repair work for LPG vehicles, relevant guidelines, code of practice or safety requirements relating to the repair of LPG vehicles, enforcement of GSO and DGO, inspections conducted by respective law enforcement entities to vehicle maintenance workshops, and the introduction of a licensing regime for regulating these workshops. Press releases of the questions with the Administration's replies are in **Appendices II to V**.

Latest position

10. The Administration will brief the Panel on Transport regarding the regulation of workshops carrying out repair and maintenance of LPG vehicles at the meeting on 22 July 2015.

Council Business Division 4
Legislative Council Secretariat
17 July 2015

車輛維修工場 實務指引

車輛維修技術諮詢委員會

Vehicle Maintenance Technical Advisory Committee

2015年2月版

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附錄 B 車輛維修工場建議裝備及設施一覽表

1. 引言

- 1.1 本指引是為本地的車輛維修工場編製，旨在鼓勵這些工場按指引自行規管，以助提高本地車輛維修行業的服務水平。
- 1.2 本指引載列一般維修工場營運及工作方法的基本準則。本地車輛維修工場仍須遵守所有現行相關法例的規定。

2. 釋義

在本指引中：

顧客	是指接受下文所述任何「維修服務」的人士，或查詢有關維修服務的人士，包括其代理人。
化學廢物	是指《廢物處置（化學廢物）（一般）規例》第3條所述的化學廢物。
危險品	是指《危險品條例》（第295章）第2條所載列的物質。
物料安全資料表	是指詳細列出每一種化學品或其他物質的危險性及如何安全使用該等化學品或物質的資料。
個人防護裝備	是指用作隔離工作環境中的化學品、熱力、爆炸或其他危險的防護衣物或裝備。
註冊車輛維修技工	是指經由車輛維修註冊辦事處檢定符合資格可從事車輛維修服務的人士。

維修服務 是指下列任何一項或多項就汽車或其組件、系統或汽車部分進行的活動，但不包括急修¹服務：

- (a) 檢查或評估車輛的情況、廢氣排放或性能；
- (b) 故障分析 / 檢測；
- (c) 修理；
- (d) 拆除或組裝；
- (e) 維修或保養；
- (f) 更換 / 安裝；
- (g) 調校；
- (h) 修改；
- (i) 車身修理；
- (j) 車身製造；
- (k) 車身油漆；
- (l) 裝設；
- (m) 測試及核證；
- (n) 校準；
- (o) 試驗駕駛；
- (p) 就上述任何機械、電工或車身修理工作提供意見。

廢物收集者 是指任何根據《廢物處置條例》(第354章)第21條而領有牌照，因而獲准提供化學廢物收集或移除服務的人士，包括任何以該人的名義進行收集或移除工作的人士。

石油氣車輛 是指《道路交通條例》(第374章)所述以石油氣為燃料的汽車。

東主 是指任何車輛維修工場的東主。

工場負責人 是指由東主指定，負責工場日常運作的人士。

工場 是指進行車輛維修服務的任何有牢固上蓋的地點。重型車維修工場的上蓋不能小於五十平方米；輕型車、私家車和電單車維修工場的上蓋則不能小於二十平方米(寫字樓、貨倉、休息室等地方均不計算在內)。

¹ 「急修」為「緊急救援」，指因突發性意外或事件引致必須在道路上為車輛進行的技術程序，以令該車輛可於最短時間內恢復基本運作(包括安全及法例上的要求)或可被移離道路。例如：(a)汽車因所裝配的電池缺電而必須透過外界供電以協助運轉及起動發動機，並於必要時更換該電池；(b)輪胎、擋風玻璃、刮水器、或車牌損壞或嚴重損耗而必須更換及/或作出矯正；(c)空氣制動系統損壞引致鎖死而必須進行的工序，以將制動系統解鎖；或 (d)因發動機不能正常運作而必須調校至「安全模式」以容許該車輛駛離現場等情況。

3. 營運準則

工場負責人須遵守及確保車輛維修工場符合以下的營運準則：

3.1 通則

- (a) 保持工場安全、清潔、整齊及舒適，並遵守所有相關的本地法例，其中包括（但不限於）各項有關公共安全及職業安全、消防及建築物安全、健康及環境保護的規例。請參閱附錄A開列的主要相關法例。
- (b) 向僱員提供或安排充分及合適的培訓，使能妥善履行職責。
- (c) 確保僱員及所有可能受其工作影響的人士的健康及安全。
- (d) 確保各項維修服務均達到市場水平及法例要求。除符合該項服務的目的外，亦須以適當的方式和良好的技術進行。
- (e) 制定合適的工作記錄卡及品質控制程序。
- (f) 僱用註冊車輛維修技工進行維修工作，詳見本指引第4.6段。
- (g) 任何由非註冊車輛維修技工（如學徒、見習維修技工等）進行的工作，應由適當級別的註冊車輛維修技工給予足夠的督導。
- (h) 提供適當的裝備及設施。請參閱附錄B的建議裝備及設施一覽表。
- (i) 採取有效措施，務使僱員在工作時注意安全。
- (j) 所有廣告、章則、合約或說明，均不可含有任何不公平或不合理的條款致令顧客應享有的權利、擔保或保證被取消或削減。
- (k) 廣告、章則、合約或說明均不應存在任何有意或無意的誤導性聲稱或註解。
- (l) 即時或盡快採取積極有效的行動以解決任何投訴。如有需要，願意接受由投訴或上訴機制作出處理，務求讓顧客及車主都得到公平合理的仲裁機會。

3.2 維修前

- (a) 核對車輛底盤號碼是否符合行車證及牌簿的記錄。
- (b) 維修服務所需的全部人力和物料成本，均須清晰開列於估價或報價單上；並在得到顧客確認同意後才進行相關的維修工作。但如顧客同意，也可以口頭報價代替。

- (c) 為估價或報價而需進行的拆除 / 安裝工作成本，必須預先並明確知會顧客，包括在顧客不接受該份估價或報價的情況下，顧客是否仍需支付該拆除 / 安裝工作的費用。
- (d) 在接受一項工作前，須先與顧客確認付款方式。
- (e) 清楚記錄車身外殼及內部配置所有現存的損壞，並與顧客確認，以免日後發生爭議。
- (f) 在顧客的車輛暫時交由工場保管期間，採取適當措施保護該車輛。在開始工作前建議顧客先拿走任何與該車輛無關的貴重物品，以免日後發生爭議。
- (g) 必須以保護物料覆蓋車輛外殼及內部的有關位置，以免弄污或損毀。若有弄污或損毀，須免費為顧客修妥。

3.3 維修時

- (a) 禁止任何人在維修區內吸煙。
- (b) 防止有人在工場範圍或附近嬉戲、玩耍或遊蕩。
- (c) 未經准許人士不可進入工場內，工場負責人必須負責獲准進入人士的安全。
- (d) 如在工作進行時發現有關成本會大幅超出估價，須盡快知會顧客，在取得其許可後才繼續進行維修工作。
- (e) 為車輛維修技工提供合適的維修設備，及與車輛生產商一致或匹配的維修資料，以助進行顧客要求的工作。車輛維修技工完成工作後，須在工作記錄卡適當的位置填上註冊車輛維修技工號碼及簽署。
- (f) 採取有效措施，確保所有工作均按照與車輛生產商一致或匹配的建議規格及程序進行。
- (g) 提供充足的自然通風或抽風裝置，以免廢氣或易燃氣體積聚。如工場亦維修石油氣車輛，請參考《香港石油氣車輛維修工場指引》設計工場的通風系統。
- (h) 進行維修工作時，應使用狀況良好的車軸承托支架，在正確位置把車輛穩固承托，不能只用千斤頂（如手動積或飛機積）承托車輛。沒有升起的車輪也須穩固地楔妥。
- (i) 使用動力升降台時要注意四周環境及情況，當升或降至工作位置時須上鎖，以防下滑。

- (j) 確保員工安全使用電力。
- (k) 進行維修工作時，提醒及指導員工注意輔助抑制系統 (Supplementary Restraint System (SRS))，以免系統因意外啟動導致有人受傷。
- (l) 使用低電壓的輔助照明。

3.4 維修後

- (a) 完成維修後，註冊車輛維修技工或其主管應按照預定的品質控制程序進行覆核，以確保工作達標。註冊車輛維修技工或其主管應在工作記錄卡上適當的位置填上註冊車輛維修技工號碼，以確認品質達標。
- (b) 告知顧客會為所有因技術、錯誤判斷或所提供物料欠佳而導致的維修服務缺失，提供一定合理里數或時限的保用承諾，並在發票上註明。
- (c) 主動向顧客展示被更換的零配件及由顧客決定如何處理，顧客有權取回在維修時被更換的零配件 (保用索償或於報價時註明以件換件等服務除外)。
- (d) 在顧客的發票上，清楚註明所有工作及物料的描述及費用，並在有需要時列出詳細資料，及註明日期和車輛已行駛的里數。
- (e) 對所進行的保修工作和更換的零配件作出詳細記錄，並最少保存三年或車輛保用期所需的時間，以較長者為準。

4. 工作準則

工場負責人須遵守或確保車輛維修工場符合以下的工作準則：

4.1 工場整理

- (a) 所有緊急出口都有清楚的標識，並經常保持暢通無阻。
- (b) 地面平坦，不可有油脂或其他令人容易滑倒的危險。工作時所產生的廢物(包括金屬廢物、化學廢物及一般垃圾) 應予適當分類，並經常清理。應設有廢油回收儲存設施及保存廢油回收記錄，並領有廢物產生者牌照。
- (c) 提供良好照明，並在進行有潛在危險工序的範圍內設置額外的局部照明設施，以減少眼睛勞累及提高警覺。

- (d) 參閱《最低限度之消防裝置及設備與裝置及設備之檢查、測試及保養》以設置滅火裝置及設備，並妥善保養。
- (e) 備有妥善的急救設備。
- (f) 適當地張貼「禁止吸煙」標誌及工業安全海報。
- (g) 提供例如手套等適當的皮膚防護裝備，以供有機會接觸具潛在危險物料或工序的工作人員使用，並提供衛生設施以讓工作人員在工作後清潔身體的有關部分。
- (h) 遵照適用的規例 / 指引，以提供有效的個人防護裝備，例如護眼罩。
- (i) 防止所有電掣室及電錶房受到不必要的干擾。
- (j) 使用噪音較低的機器設施或工作方法，並確保從事有噪音工作或在噪音區工作的人員佩戴適當護耳罩。

4.2 有潛在危險的物品和有毒物質的處理

- (a) 各種具潛在危險的物品均須按法例處理。
- (b) 保持工場通風良好。
- (c) 禁止產生明火(車身燒焊及打磨工作除外)。
- (d) 盛載油漆和溶劑的容器必須蓋好和密封，以免氣體外洩。如有溢漏，用吸收物料吸走溢出的油漆和溶劑。
- (e) 電油必須儲存在合規格的容器內並蓋好和密封。
- (f) 避免讓員工直接接觸舊機油及電解液，並按需要要求員工穿戴個人防護裝備，以避免導致皮膚病。

4.3 設備和工具的保養

- (a) 提供所有與車輛維修工場相關的裝備和設施 (見附錄B)，並保持該等裝備和設施恆常處於良好工作狀況。
- (b) 清楚劃分存放設備和工具的地方。
- (c) 妥善規劃手作工具的放置，所有尖利的部分向下擺放或收納於保護套內，以免構成危險。
- (d) 起重裝備、氣動工具和裝置均應妥善存放及保養。

- (e) 所有分析設備和測試儀器，均應按照製造商的說明指示進行保養及校準。
- (f) 有二十個或以上工人的工場應設有「工場設施及安全督導員」，以協助工場負責人保障工人安全，及執行裝備和設施的例行保養與調校。

4.4 文件記錄

- (a) 妥善保存及更新所有工場設備和顧客車輛的保修所需參考文件及維修記錄，讓相關員工方便查閱。
- (b) 顧客提出的所有投訴及其處理方法，應盡快予以記錄及更新。
- (c) 員工按既定機制向管理層反映的所有意見及其處理方法，應盡快予以記錄及更新。

4.5 員工培訓

- (a) 所有車輛維修技工均已清楚其工作及涉及的風險，掌握專業知識和技能以及相關的安全措施。
- (b) 提供緊急應變程序的培訓，例如火警演習。
- (c) 鼓勵及安排員工接受適當的持續專業進修及培訓，並就有關進修 / 培訓提供正式記錄。

4.6 聘用註冊車輛維修技工及勝任人士

- (a) 就每項為顧客提供的服務類別僱用合理數目的員工及最少一名已就有關服務類別註冊的車輛維修技工。若該註冊車輛維修技工在多於一項服務類別註冊，應在合理範圍內才容許他同時負責超過一項已註冊服務類別的工作。
- (b) 如維修石油氣車輛的燃料系統，有關的車輛維修技工必須同時是《香港石油氣車輛維修工場指引》內所列的第6類能勝任人士。
- (c) 上述要求亦適用於外判維修服務承辦商。

機電工程署

2015 年 2 月

附錄A

主要相關法例

安全健康

工廠及工業經營條例 (第59章)
電力條例 (第406章)
職業安全及健康條例 (第509章)
僱員補償條例 (第282章)
消防條例 (第95章)
危險品條例 (第295章)

空氣

空氣污染管制條例 (第311章)
保護臭氧層條例 (第403章)

噪音

噪音管制條例 (第400章)

廢物

廢物處置條例 (第354章)
公眾衛生及市政條例 (第132章)

水質

水污染管制條例 (第358章)

車輛性能

道路交通條例 (第374章)

氣體安全

氣體安全條例 (第51章)

附錄B

車輛維修工場建議裝備及設施#一覽表

機械服務

完整工具套裝	量度轉速儀器
化學廢物收集設施	各款力矩扳手(磅呎)
減速儀(固定或可攜的制動力量度設備)*	風壓機(風泵)
傳動器起重機	車輛用液壓千斤頂(手動積)
四種氣體分析儀*	車輛用安全承托設備(如支架、枕木)
雪種補充 / 回收 / 更換機*	車輛維修升降台或坑道*
車輪幾何角度測試儀*	長臂液壓起重機
車輪平衡機(商用車工場除外) *	通風及排氣系統

維修石油氣車輛的工場必須符合《香港石油氣車輛維修工場指引》的要求。

* 若工場缺乏此設施，可透過外判提供有關服務，但工場負責人必須確保外判服務提供者是註冊技工並能滿足第 3.3(d)-(e)段及 4.6 段的要求，維修後的品質保證由工場負責人直接負責。所述設施因此屬建議性質，工場負責人可按實際情況決定是否管理及操作此設施。

續 附錄B

電工服務

電池充電器
電池維修 / 充電區 (附有抽氣設施)
傳動帶拉力計
放電計
電子分析儀 (例如：示波器、溫度計) *
量度轉速儀器
電壓 / 電流 / 電阻錶 (萬用錶)

車身修理

車身調校架或同等設施
傳動器起重機
氧氣 / 乙炔氣焊接裝備
鎢極惰性氣體保護焊接工具
金屬惰性氣體焊接工具
一般電弧焊接機
長臂液壓起重機
車輛用液壓千斤頂
通風及排氣系統

車身噴漆

油漆混合設備*
噴槍
噴漆間或同等設備*
(附有空氣過濾及加熱設施)
噴槍清洗機*
車輛用液壓千斤頂
通風及排氣系統

電單車維修

完整工具套裝
電單車工作支架
裝拆胎機*
車輪平衡機*
電單車前支架調校壓床*

輪胎工作

完整工具套裝
手套
車輛用液壓千斤頂
車輛用安全承托設備 (如支架、枕木)
各款力矩扳手 (磅呎)
風壓機 (風泵)
氣動工具 (風炮)
裝拆胎機*
車輪平衡機*
廢胎回收、儲存設施及記錄

電池工作

完整工具套裝
電池工作保護衣物
手套及護眼罩
(供調校 / 入電池水工作用)
電池充電器
電池維修 / 充電區 (附有抽氣設施)
放電計
電壓 / 電流 / 電阻錶 (萬用錶)
廢電池回收、儲存設施及記錄
化學品警告標誌及警告須知

續 附錄B

更換機油工作

完整工具套裝
量度機油容器 / 工具
工作保護衣服及手套
廢油回收、儲存設施及記錄
廢油格回收、儲存設施及記錄
迫力油水分測試器*

車輛配件工作

完整工具套裝
工作需要的適當工具
(視乎實際情況而定)

空調工作

完整工具套裝
工作保護衣服及手套
雪種補充 / 回收 / 抽真空 / 更換機
雪種高低壓力錶
雪種試漏感應器
出風口溫度探針
溫度計
濕度計
啤喉機*

車身裝嵌工作

完整工具套裝
工作保護衣服及手套
摺床 / 積床 / 剪床*
車身固定支架
氧氣 / 乙炔氣焊接裝備
鎢極惰性氣體保護焊接工具
金屬惰性氣體焊接工具
一般電弧焊接機
長臂液壓起重機
車輛用液壓千斤頂
通風及排氣系統

-完-

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LCQ2: Regulation of vehicle repair workshops

Following is a question by the Hon Paul Tse and a written reply by the Secretary for the Environment, Mr Wong Kam-sing, in the Legislative Council today (May 13):

Question:

On the 26th of last month, an explosion and fire occurred in a vehicle repair workshop located on the ground floor of a residential building in Tsz Wan Shan, resulting in a number of casualties. Afterwards, many people residing on the floors above the workshop and in the vicinity called me to enquire about the regulation of vehicle repair workshops (especially those alleged to have engaged in illegal repair of liquefied petroleum gas (LPG) vehicles) and the safety of their premises. Besides, some taxi drivers pointed out at a radio interview that even though they knew that certain vehicle repair workshops were not workshops approved for repairing the fuel system of LPG vehicles (approved workshops), they still must patronise them as instructed by vehicle owners in order to keep their means of living. In this connection, will the Government inform this Council:

(1) of the number of vehicle repair workshops in Wong Tai Sin District, and among them, the number of workshops located on the ground floor of residential buildings;

(2) among the 29 approved workshops in Hong Kong, of the number of those located in Wong Tai Sin District;

(3) whether the authorities have immediately inspected the workshops in Wong Tai Sin District after the occurrence of the aforesaid incident to check if they have contravened the Fire Safety (Buildings) Ordinance (Cap 572) and the Gas Safety Ordinance (Cap 51); if so, of the details, including whether cases of repair of LPG vehicles without approval have been found; if not, whether they can conduct inspections immediately; and

(4) what policies and measures are in place to impose regulation on taxi, minibus companies and vehicle owners who, for the purpose of saving repair costs, have the fuel systems of their vehicles repaired by workshops which they know are not approved workshops?

Reply:

President,

The Government would like to explain the regime of the Gas Safety Ordinance as it is applicable to the control of storage and use of liquefied petroleum gas (LPG).

The Gas Safety Ordinance regulates gas safety matters, with a view to ensuring the safety of importation, manufacture, storage, transport, supply and use of town gas, LPG and natural gas. In respect of LPG storage and installation, any containers with the aggregated nominal water capacity of more than 130 litres of LPG are "notifiable gas installations". The construction and use of "notifiable gas installations" requires the approval of the Electrical and Mechanical Services Department (EMSD). At present, there are 571 approved LPG "notifiable gas installations" including 29 vehicle maintenance workshops that have been approved for storing LPG fuel tanks of more than 130 litres. In considering whether approval should be granted to vehicle maintenance workshops for storing LPG fuel tanks of more than 130 litres, the EMSD will consider if the vehicle maintenance workshops comply with the safety requirements in respect of the design, construction and location, including good ventilation, restricted from locations for occupation, and the

installation of gas detection system, mechanical ventilation systems and fire prevention systems, etc.

For the purpose of enforcing the Gas Safety Ordinance, the Gas Safety Inspectors of the EMSD conducted in each of the past three years over 1 300 inspections to the approved LPG "notifiable gas installations". These inspections included inspections at least once a year of the 29 vehicle maintenance workshops that have been approved for storing LPG fuel tanks of more than 130 litres, as well as random surprise inspections.

For maintenance and repair of LPG vehicles not involving LPG fuel systems, the work may be carried out in general vehicle maintenance workshops. As for any work on or in relation to a gas pipe, including work on the fuel tank or other associated components, the Gas Safety Ordinance stipulates that such work should be carried out by a competent person or under the supervision of a person who is competent. Any replacement of LPG fuel tanks or any maintenance, repair or replacement work for other associated components are required to be carried out by a Competent Person (Class 6) or a person under the supervision of a Competent Person (Class 6). Competent Persons (Class 6) approved by the EMSD are required to complete the LPG Vehicle Servicing Programme provided by the Vocational Training Council and possess practical experience. At present, there are over 1 100 Competent Persons (Class 6) in Hong Kong, and they may replace LPG fuel tanks or carry out any maintenance, repair or replacement work for other associated components in any vehicle maintenance workshops.

(1) According to the EMSD's record, there are 67 vehicle maintenance workshops located in Wong Tai Sin District, among which 49 are located on the ground floor of residential buildings.

(2) and (3) There are 29 vehicle maintenance workshops that have been approved by the EMSD for storing LPG fuel tanks of more than 130 litres. None of them is located in the Wong Tai Sin District.

Since the explosion and fire incident in late April this year, the EMSD has conducted 350 additional inspections to vehicle maintenance workshops (including all vehicle maintenance workshops in Wong Tai Sin District) to ensure that the vehicle maintenance workshops have not contravened the requirements under the Gas Safety Ordinance. This involved ensuring that the vehicle maintenance shops have not stored more than 130 litres of LPG without approval, and that replacement of the fuel tank or other associated components is carried out by a Competent Person (Class 6) or under the supervision of a person who is a Competent Person (Class 6). During the inspections, the EMSD identified two cases involving vehicle maintenance workshops with over-storage of LPG and investigation is in progress. The EMSD is also planning to inspect all 2 700 vehicle maintenance workshops in Hong Kong in the next few weeks.

In addition, following the explosion and fire incident on April 26, the Fire Services Department (FSD) has immediately conducted inspections of all vehicle maintenance workshops in the Wong Tai Sin District. The FSD commenced a territory-wide inspection on April 29, and expects to complete the territory-wide inspection of about 2 700 vehicle maintenance workshops in Hong Kong by the end of July.

As at May 7, the FSD has inspected 558 vehicle maintenance workshops. During the inspections, four cases of suspected over-storage of dangerous goods in breach of the Dangerous Goods Ordinance (Cap 295) have been identified. The FSD has taken enforcement action against the relevant responsible persons. If other suspected irregularities are identified during inspections, the FSD will make referrals to the relevant departments for follow-up.


(4) For maintenance and repair of LPG vehicles not involving LPG fuel systems, the work may be carried out in general vehicle maintenance workshops. As for the replacement of LPG fuel tank or any maintenance, repair or replacement work for other associated

components, the Gas Safety Ordinance requires that such work be carried out by a Competent Person (Class 6) who has completed the LPG Vehicle Servicing Programme provided by the Vocational Training Council and possess practical experience, or by a person under the supervision of a person who is a Competent Person (Class 6). At present, there are more than 1 100 Competent Persons (Class 6) in Hong Kong, and they may replace LPG fuel tanks or carry out any maintenance, repair or replacement work for other associated components in any vehicle maintenance workshops.

The Transport Department has all along reminded the taxi trade that any repair work of LPG fuel system should be carried out under the supervision of a competent person approved by the EMSD.

Ends/Wednesday, May 13, 2015
Issued at HKT 15:19

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LCQ4: Vehicle maintenance

Following is a question by the Hon Chan Hak-kan and a written reply by the Secretary for Transport and Housing, Professor Anthony Cheung Bing-leung, in the Legislative Council today (May 13):

Question:

In connection with the safety of vehicle repair work and training for vehicle mechanics, will the Government inform this Council:

- (1) of the current number of liquefied petroleum gas (LPG) vehicles in Hong Kong, and the respective numbers of taxis and light buses among them;
- (2) of the current number of mechanics qualified for repairing the fuel systems of LPG vehicles; whether it knows the number of them who are currently engaged in vehicle repair work;
- (3) whether it knows the contents of the 19 training courses on motor vehicle repair currently provided by the Vocational Training Council;
- (4) of the current number of mechanics registered under the Voluntary Registration Scheme for Vehicle Mechanics; whether it knows (i) the number of them who are currently engaged in vehicle repair work, and (ii) the percentage of them in the total number of vehicle mechanics;
- (5) of the current number of workshops registered under the Voluntary Registration Scheme for Vehicle Maintenance Workshops, and the percentage of them in the total number of vehicle repair workshops in Hong Kong;
- (6) whether it has assessed if the implementation progress of the two schemes mentioned in (4) and (5) is satisfactory; if the assessment result is in the affirmative, whether the authorities will strengthen the regulatory measures (such as mandating all mechanics and workshops to be registered); if they will, of the implementation timetable;
- (7) whether the Government has regularly organised safety seminars for mechanics in respect of high-risk vehicle repair work; and
- (8) of the number of vehicle repair workshops inspected by the Electrical and Mechanical Services Department (EMSD), and whether EMSD took enforcement actions against contraventions of the Gas Safety Ordinance (Cap. 51), in each of the past three years; if so, of the details?

Reply:

President,

Having consulted the Environment Bureau (ENB), the Government's consolidated reply to various parts of Hon Chan Hak-kan's question is as follows:

- (1) As at end April 2015, there are a total of about 22 000 registered liquefied petroleum gas (LPG) vehicles in Hong Kong, including about 18 000 LPG taxis and about 3 700 LPG light buses.
- (2) As pointed out by the ENB, general maintenance and repair of LPG vehicles may be carried out by general vehicle mechanics. As for any work on or in relation to a gas pipe, including works on the fuel tank or other associated components, the Gas Safety Ordinance (Cap. 51) stipulates that such work should be carried

out by a competent person or under the supervision of a competent person. The Electrical and Mechanical Services Department (EMSD) is responsible for the enforcement of the Gas Safety Ordinance, and requires that any replacement of LPG fuel tanks or any maintenance, repair or replacement work for other associated components are required to be carried out by a Competent Person (Class 6) or a person under the supervision of a Competent Person (Class 6). There are currently over 1 100 Competent Persons (Class 6) in Hong Kong. They have completed the LPG Vehicle Servicing Programme provided by the Vocational Training Council and possess practical experience and are qualified for repairing the fuel system of LPG vehicles.

(3) Pro-Act Training and Development Centre (Automobile) of the Vocational Training Council currently offers a total of 19 in-service training courses on vehicle repair for automotive mechanics to enhance their service standards. These 19 courses cover the basic operations, maintenance and inspection, calibration, fault diagnostic and repair skills for vehicle parts and systems of a wide range of vehicles (including LPG vehicles), as well as the spraying techniques for vehicle body, welding, automobile vehicle testing and the use of measuring tools/equipment, etc.

(4) As at end April 2015, there are about 9 000 vehicle mechanics in Hong Kong, of which 6 380 (i.e. about 70%) vehicle mechanics already registered under the Voluntary Registration Scheme for Vehicle Mechanics. The registration and renewal of registration are valid for three years. One of the conditions for renewal of the registration is that an applicant has to be engaged in vehicle repair work in past three years prior to his application. According to EMSD's understanding, most of the registered mechanics under the Voluntary Registration Scheme are presently engaged in vehicle repair work.

(5) To pave way for the Voluntary Registration Scheme for Vehicle Maintenance Workshops, EMSD launched the Vehicle Maintenance Workshops Charter Scheme in January 2013. Some 400 workshops have already subscribed to the Charter Scheme. Although the initial subscription rate is not high, having reviewed the implementation of the Charter Scheme and discussed with the trade, EMSD decided to roll out the Voluntary Registration Scheme for Vehicle Maintenance Workshops in 2015, publicity activities of which will kick off in mid-2015.

(6) As pointed out in parts (4) and (5) of the reply, about 70% of the total number of vehicle mechanics in Hong Kong already registered under the Voluntary Registration Scheme for Vehicle Mechanics as at end April 2015. The Voluntary Registration Scheme for Vehicle Maintenance Workshops will also be rolled out in mid-2015. EMSD will consult the trade in due course, and take into account the results of the two voluntary registration schemes, as well as the cost benefit analysis of a mandatory scheme, when considering the introduction of a mandatory registration scheme for vehicle maintenance workshops.

(7) The Labour Department from time to time organises regular safety talks for vehicle repair and maintenance companies and their employees, related organisations and other members of the industry. The safety talks mainly cover occupational safety and health related legislation and general safety measures relating to vehicle repair and maintenance work. Where necessary, thematic safety seminars (e.g. safety seminars on repair and maintenance work of heavy machineries and vehicles of the container handling industry) will also be held to meet the needs of the industry. In addition, the Occupational Safety and Health Council has organised the "Motor Car Repairing Safety Supervisor Training Course" for the car repairing industry.

(8) According to ENB, EMSD currently has 39 Gas Safety Inspectors. In the past three years, EMSD conducted on average over 1 300 inspections on 571 approved LPG "notifiable gas installations" under the Gas Safety Ordinance every year. These inspections included inspections at least once a year of the 29 vehicle maintenance workshops with storage of more than one LPG fuel tanks (i.e. storage of more than 130 litres of LPG), as well


as random surprise inspections. The existing 29 vehicle maintenance workshops that are LPG "notifiable gas installations" approved by EMSD may store more than one LPG fuel tank (i.e. LPG storage with more than 130 litres), and may carry out replacement work on the fuel tank or other associated components of more than one LPG vehicle in parallel by Competent Persons (Class 6) or by persons under the supervision of Competent Persons (Class 6). Vehicle maintenance workshops that are LPG "notifiable gas installations" are required to comply with EMSD's safety requirements in respect of the design, construction and location, including good ventilation, excluded from locations for occupation, and the installation of gas detection system, mechanical ventilation systems and fire prevention systems, etc.

Since the explosion and fire incident at the end of April this year, EMSD has conducted 350 additional inspections to vehicle maintenance workshops (including all vehicle maintenance workshops in Wong Tai Sin District) to ensure that the vehicle maintenance workshops have not contravened the requirements under the Ordinance. The inspections ensured that the vehicle maintenance shops have not stored more than 130 litres of LPG without approval, and replacement of the fuel tank or other associated components is carried out by a competent person or under the supervision of a competent person. During the inspection period, EMSD found that two vehicle repair workshops have over-storage of LPG and is now conducting investigation. EMSD is also planning to inspect all 2 700 vehicle maintenance workshops in Hong Kong in the next few weeks.

In the past three years, EMSD has prosecuted one unqualified person for conducting repair work on the fuel system of LPG vehicles. EMSD has also prosecuted the owner of a container for using that container as LPG container on a taxi without approval. In addition, EMSD is conducting investigation on two cases involving vehicle maintenance workshops with over-storage of LPG.

Ends/Wednesday, May 13, 2015
Issued at HKT 14:15

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LCQ6: Regulation of gas safety and vehicle repair workshops

Following is a question by Dr the Hon Elizabeth Quat and a written reply by the Secretary for the Environment, Mr Wong Kam-sing, in the Legislative Council today (May 13):

Question:

Last month, an explosion and fire accident occurred in a vehicle repair workshop located on the ground floor of a residential building, resulting in a number of casualties. As a liquefied petroleum gas (LPG) taxi under repair was found at the scene, the authorities are investigating if the accident was caused by LPG leakage from the taxi. Some members of the public are concerned whether there are loopholes in the mechanisms for regulating vehicle repair workshops and gas safety, and whether the authorities have strictly enforced the Fire Safety (Buildings) Ordinance (Cap 572) and the Gas Safety Ordinance (Cap 51). In this connection, will the Government inform this Council:

(1) of the current number of gas safety inspectors in Hong Kong; in the past three years, the number of vehicle repair workshops inspected by them and the number of improvement notices issued by them;

(2) in the past three years, of the number of vehicle repair workshops inspected by the Fire Services Department and the number of fire safety directions issued to those workshops which had contravened the requirements;

(3) whether the authorities will step up inspections on high-risk spots, such as vehicle repair workshops, so as to ensure that gases and inflammable substances are properly disposed of; whether they will conduct a comprehensive review on whether there are loopholes in the existing regulatory systems for gases and dangerous goods;

(4) whether it has assessed if the existing 29 workshops approved for repairing the fuel systems of LPG vehicles in Hong Kong can meet the demand of about 20 000 LPG taxis for repair services;

(5) given that some members of the public have pointed out that some taxi drivers, for the sake of convenience, have their LPG taxis repaired by vehicle repair workshops nearby, without regard to whether these workshops are approved for repairing the fuel systems of LPG vehicles, what measures the authorities have in place to eradicate these practices; and

(6) of the current number of vehicle repair workshops located on the ground floor of residential buildings; given that some members of the public have pointed out that a large number of inflammable substances are generally stored in these workshops, in case of explosion, the residential areas in the vicinity may be affected, what measures the authorities have in place to make these workshops move out of residential areas; whether they will consider introducing a licensing regime for vehicle repair workshops in order to regulate them?

Reply:

President,

The Government would like to explain the regime of the Gas Safety Ordinance as it is applicable to the control of storage and use of liquefied petroleum gas (LPG).

The Gas Safety Ordinance regulates gas safety matters, with a view to ensuring the safety of importation, manufacture, storage, transport, supply and use of town gas, LPG and natural gas. In respect of LPG storage and installation, any containers

with the aggregated nominal water capacity of more than 130 litres of LPG are "notifiable gas installations". The construction and use of "notifiable gas installations" requires the approval of the Electrical and Mechanical Services Department (EMSD). At present, there are 571 approved LPG "notifiable gas installations" including 29 vehicle maintenance workshops that have been approved for storing LPG fuel tanks of more than 130 litres. In considering whether approval should be granted to vehicle maintenance workshops for storing LPG fuel tanks of more than 130 litres, the EMSD will consider if the vehicle maintenance workshops comply with the safety requirements in respect of the design, construction and location, including good ventilation, restricted from locations for occupation, and the installation of gas detection system, mechanical ventilation systems and fire prevention systems, etc.

For the purpose of enforcing the Gas Safety Ordinance, the Gas Safety Inspectors of the EMSD conducted in each of the past three years over 1 300 inspections to the approved LPG "notifiable gas installations". These inspections included inspections at least once a year of the 29 vehicle maintenance workshops that have been approved for storing LPG fuel tanks of more than 130 litres, as well as random surprise inspections.

For maintenance and repair of LPG vehicles not involving LPG fuel systems, the work may be carried out in general vehicle maintenance workshops. As for any work on or in relation to a gas pipe, including work on the fuel tank or other associated components, the Gas Safety Ordinance stipulates that such work should be carried out by a competent person or under the supervision of a person who is competent. Any replacement of LPG fuel tanks or any maintenance, repair or replacement work for other associated components are required to be carried out by a Competent Person (Class 6) or a person under the supervision of a Competent Person (Class 6). Competent Persons (Class 6) approved by the EMSD are required to complete the LPG Vehicle Servicing Programme provided by the Vocational Training Council and possess practical experience. At present, there are over 1 100 Competent Persons (Class 6) in Hong Kong, and they may replace LPG fuel tanks or carry out any maintenance, repair or replacement work for other associated components in any vehicle maintenance workshops.

(1) The 39 EMSD Gas Safety Inspectors have conducted an average of over 1 300 inspections each year to the 571 LPG "notifiable gas installations" in the past three years. These inspections included inspections at least once a year of the 29 vehicle maintenance workshops that have been approved for storing LPG fuel tanks of more than 130 litres, as well as random surprise inspections.

In the past three years, the EMSD has prosecuted one unqualified person for conducting repair work on the fuel system of LPG vehicles. The EMSD has also prosecuted the owner of a container for using that container as LPG container on a taxi without approval. In addition, the EMSD is conducting investigation on two cases involving vehicle maintenance workshops with over-storage of LPG.

(2) The Fire Services Department (FSD) did not keep separate statistics of the inspections made to or the number of fire safety directions issued to vehicle maintenance workshops in the past.

(3) Since the explosion and fire incident in late April this year, the EMSD has conducted 350 additional inspections to vehicle maintenance workshops (including all vehicle maintenance workshops in Wong Tai Sin District) to ensure that the vehicle maintenance workshops have not contravened the requirements under the Gas Safety Ordinance. This involved ensuring that the vehicle maintenance shops have not stored more than 130 litres of LPG without approval, and that replacement of the fuel tank or other associated components is carried out by a Competent Person (Class 6) or under the supervision of a Competent Person (Class 6). During the inspections, the EMSD identified two cases involving vehicle maintenance workshops with over-storage of LPG and

investigation is in progress. The EMSD is also planning to inspect all 2 700 vehicle maintenance workshops in Hong Kong in the next few weeks.

In addition, following the explosion and fire on April 26, the FSD immediately conducted inspections of all vehicle maintenance workshops in the Wong Tai Sin District. The FSD has commenced a territory-wide inspection on April 29, and expects to complete the territory-wide inspection of around 2 700 vehicle maintenance workshops in Hong Kong by the end of July.

As at May 7, the FSD has inspected 558 vehicle maintenance workshops. During the inspections, four cases of over-storage of dangerous goods in breach of the Dangerous Goods Ordinance (DGO, Cap 295) have been identified. The FSD has taken enforcement action against the relevant responsible persons.

As regards the regulatory control on dangerous goods, pursuant to section 6(1) of the DGO, except under and in accordance with a licence granted under the DGO, no person shall manufacture, store, convey or use any dangerous goods. For storage of dangerous goods in excess of the exempted volumes, a Dangerous Goods Licence should be obtained from the FSD. The FSD will continue to enforce the DGO with a view to ensuring a proper and appropriate regulation over dangerous goods.

In response to the explosion incident in Tsz Wan Shan, relevant departments will review the existing policy and consider appropriate follow-up action.

(4) and (5) For maintenance and repair of LPG vehicles not involving LPG fuel systems, the work may be carried out in general vehicle maintenance workshops. Any replacement of LPG fuel tanks or any maintenance, repair or replacement work for other associated components are required to be carried out by a Competent Person (Class 6) or a person under the supervision of a Competent Person (Class 6). Competent Persons (Class 6) are required to complete the LPG Vehicle Servicing Programme provided by the Vocational Training Council and possess practical experience. At present, there are more than 1 100 Competent Persons (Class 6) in Hong Kong, and they may replace LPG fuel tanks or carry out any maintenance, repair or replacement work for other associated components in any vehicle maintenance workshops.

The Transport Department has all along reminded the taxi trade that any repair work of LPG fuel system should be carried out under the supervision of a competent person approved by the EMSD.

(6) According to the site visit conducted by the EMSD in 2014, there are 2 700 vehicle maintenance workshops in Hong Kong, among which 1 300 are located on the ground floor of residential buildings.

None of the 29 vehicle maintenance workshops that have been approved by the EMSD are located on the ground floor of residential buildings.

As regards the regulatory control on dangerous goods, pursuant to section 6(1) of the DGO, except under and in accordance with a licence granted under the DGO, no person shall manufacture, store, convey or use any dangerous goods. For storage of dangerous goods in excess of the exempted volumes, a Dangerous Goods Licence should be obtained from the FSD. The FSD will continue to enforce the DGO with a view to ensuring a proper and appropriate regulation over dangerous goods.

In response to the explosion incident in Tsz Wan Shan, relevant departments will review the existing policy and consider appropriate follow-up action.

Ends/Wednesday, May 13, 2015
Issued at HKT 18:19

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Appendix V

Press Releases

LCQ21: Regulation of vehicle repair workshops

Following is a question by the Hon Tang Ka-piu and a written reply by the Acting Secretary for the Environment, Ms Christine Loh, in the Legislative Council today (June 10):

Question:

On April 26 this year, a fatal explosion accident occurred at a vehicle repair workshop (workshop) in Tsz Wan Shan. It has been reported that as the accident might have been caused by the leakage of liquefied petroleum gas (LPG) from an LPG taxi under repair at the scene, the public and the transport sector are concerned about the safety of LPG workshops and the adequacy of the authorities' regulation of workshops. In this connection, will the Government inform this Council:

(1) of the details (including titles of the instruments, abstracts, dates of publication and gazettal, dates of updating/amendments, and the penalties for non-compliance) of the relevant guidelines, directions and regulations or codes of practice on issues relating to repair of LPG vehicles formulated under the Gas Safety Ordinance (Cap 51) by the authorities in the past five years; of the mechanism for ensuring compliance with such instruments by relevant personnel;

(2) regarding the existing Guideline for Revalidation of LPG Fuel Tanks for LPG Vehicles, the Code of Practice for Servicing and Maintenance of LPG Vehicle Fuel System, the Guideline for LPG Fuelled Vehicles Workshop in Hong Kong and the Guideline for Disposal of LPG Vehicle Fuel Tanks issued by the Electrical and Mechanical Services Department (EMSD), of (i) their dates of publication, updating/amendments, and (ii) the details of amendments made; whether such code of practice/guidelines have been gazetted, whether they have any legal effect, and the penalties for non-compliance;

(3) of the safety requirements (including choices of location, facilities for fire prevention, ventilation, discharge of pollutants and storage of dangerous goods, as well as the safety equipment that repair mechanics are required to be equipped with) for compliance, under the existing legislation, by workshops engaged in the general maintenance and repair of vehicles (general workshops); whether there are additional and more stringent requirements, under the existing legislation, for workshops which may carry out the repair and maintenance of LPG vehicle fuel systems (i.e. those which have hired Competent Persons (Class 6) who are qualified for supervising and carrying out the relevant repair work) (qualified workshops); if there are, of the specific requirements; if not, whether it will review the relevant requirements;

(4) whether relevant government departments conducted, in the past three years, regular inspections of qualified and general workshops for compliance with the safety requirements; if they did, of the respective average numbers of inspections for such workshops; of the date on which the authorities last inspected the workshop in which the explosion occurred;

(5) of the numbers of workshops inspected by the EMSD in the past three years and, among them, the number of those which: (a) were approved for storing LPG fuel tanks of more than 130 litres i.e. LPG "notifiable gas installations" workshops, (b) hired Competent Persons (Class 6) to carry out repair work for the fuel systems of LPG vehicles, and (c) were general workshops; the number of workshop owners prosecuted by the EMSD in the past three years for (i) unauthorized storage of LPG fuel tanks of more than 130 litres, and (ii) carrying out replacement of LPG fuel tanks or the maintenance, repair or replacement of related parts without the supervision of Competent Persons (Class 6);

(6) of the number and age distribution of Competent Persons (Class 6) and their percentage in the total number of vehicle repair mechanics in each of the past five years; among them, of the ratio of those who worked in qualified workshops to those who worked in general workshops;

(7) as the Register of Competent Persons (Class 6) published on the web site of the EMSD only contains the names of such persons and information about the relevant vehicle servicing courses they have completed, whether the authorities will consider publishing, for public inspection, more information, such as the addresses of the workshops they work for or means of contact;

(8) as it has been reported that the workshop in which the explosion accident occurred was merely a general workshop but not a qualified one, and it did not hire any Competent Persons (Class 6) to supervise and carry out relevant repair work for LPG vehicles, whether the authorities have reviewed if the EMSD's regulation of general workshops carrying out repair work for LPG vehicles is inadequate; and

(9) whether it has plans to amend the relevant legislation or formulate statutory guidelines to enhance the regulation of the safety of all workshops carrying out repair work for the fuel systems of LPG vehicles?

Reply:

President,

Since the liquefied petroleum gas (LPG) vehicle scheme was introduced to Hong Kong in 1998, the Government has adopted a stringent and prudent approach to handle matters on the maintenance and repair of LPG vehicles in order to ensure public safety. The Gas Safety Ordinance regulates gas safety matters, with a view to ensuring the safety of importation, manufacture, storage, transport, supply and use of town gas, LPG and natural gas. In respect of LPG storage and installation, any containers with the aggregated nominal water capacity of more than 130 litres of LPG are "notifiable gas installations". The construction and use of such installations require the approval of the Electrical and Mechanical Services Department (EMSD). At present, there are 571 approved LPG notifiable gas installations, including 29 vehicle maintenance workshops that have been approved for storing LPG fuel tanks of more than 130 litres, as well as five "LPG fuel tank workshops".

For work that involves the maintenance, repair or replacement of LPG vehicle fuel systems or associated components and replacement of LPG fuel tanks, they are required to be carried out by a Competent Person (Class 6) or a person under the supervision of a Competent Person (Class 6). As for general

maintenance and repair of vehicles not involving the procedures mentioned above, the work can be carried out in all vehicle maintenance workshops.

Competent Persons (Class 6) approved by the EMSD are required to complete the LPG Vehicle Servicing Programme provided by the Vocational Training Council and possess practical experience. At present, there are over 1 100 Competent Persons (Class 6) in Hong Kong. As for maintenance work involving the structure of an LPG fuel tank or components within an LPG fuel tank (including the purging procedures, replacement of the fuel pump within an LPG fuel tank and the conduct of the five-year revalidation test of LPG fuel tanks), they should be carried out by a Competent Person (Class 1) approved by the EMSD or a person under the supervision of a Competent Person (Class 1) and in an "LPG fuel tank workshop" approved by the EMSD. Competent Persons (Class 1) must be a member of a relevant professional association of engineers with at least one year relevant work experience and has passed the EMSD's interview assessments.

(1) and (2) To enhance the standard of LPG vehicle maintenance, promote occupational safety and improve the mode of operation, the EMSD has promulgated guidelines relevant to LPG vehicles as set out below:

(a) The "Guideline for LPG Fuelled Vehicles Workshop in Hong Kong" was drawn up in 2001 and updated in 2011. The Guideline explains the statutory requirements for the construction and use of LPG vehicle maintenance workshops under Gas Safety Ordinance (Cap 51) and their subsidiary regulations. It also provides guidance to LPG vehicle maintenance workshops on other safety requirements including the design, construction and location (such as ventilation, fire prevention, etc.) as well as maintenance of fuel systems of LPG vehicles. Granting of approval to vehicle maintenance workshops for storing LPG fuel tanks of more than 130 litres would depend on whether the vehicle maintenance workshops could fulfil the relevant statutory requirements as explained in the Guideline. Any vehicle maintenance workshops storing more than 130 litres of LPG without approval, the responsible persons for the workshops would contravene Regulation 3(1) of the Gas Safety (Gas Supply) Regulation (Cap 51B) and are liable to a fine of \$25000 and to imprisonment for six months.

(b) The "Guideline for Revalidation of LPG Fuel Tanks for LPG Vehicles" was drawn up in 2004 and updated in 2011. It aims to provide general guidance on the revalidation test and examination of LPG fuel tanks. It sets out the key safety measures and statutory requirements for LPG vehicle fuel tanks, including the requirements for owners of LPG fuel cylinders (such as owners of LPG vehicles) to employ a competent person to carry out test and examination of the LPG cylinders (including fuel tanks of LPG vehicles) at least once every five years. Revalidation test and examination for LPG fuel tanks should be carried out by a Competent Person (Class 1) or a person under the supervision of a Competent Person (Class 1). The competent person should ensure that the inspection and testing of LPG fuel tanks are carried out in accordance with the requirements, and should issue certificates to the LPG fuel tanks that comply with the required standards. Owners of LPG cylinders (such as owners of LPG vehicles) who use LPG cylinders that have not been tested and examined to store LPG would contravene the requirements under Regulation 8(2) of the Gas Safety (Gas Supply) Regulation (Cap 51B) and such persons are liable to a fine of \$10,000. If the

test and examination of an LPG cylinder is not carried by a competent person or a person under the supervision of a competent person, it contravenes the requirements under Regulation 16 of the Gas Safety (Gas Supply) Regulation (Cap 51B) and is liable to a fine of \$5,000.

(c) The "Guideline for Disposal of LPG Vehicle Fuel Tanks" was drawn up in 2007 and updated in 2011. The Guideline was formulated by the LPG vehicle sector under the coordination of the EMSD, and outlines how LPG vehicle owners, motor trading companies, maintenance workshops, recycling companies and "LPG fuel tank workshops" should dispose LPG fuel tanks. The Guideline stipulates that the removal of LPG fuel tanks should be carried out by a Competent Person (Class 6) or a person under the supervision of a Competent Person (Class 6), and that the purging procedures should be carried out by a Competent Person (Class 1) or a person under the supervision of a Competent Person (Class 1). Competent Persons (Class 1) should ensure that the purging procedures are conducted according to the safety requirements, including protecting any persons working in the vicinity and members of the public from any danger when purging is carried out. Competent Persons (Class 1) should also issue a certificate to certify that LPG fuel tanks have completed the purging procedures. If the removal of LPG fuel tanks or the implementation of purging procedures is not carried out by a competent person or a person under the supervision of a competent person, such person would contravene the requirements under Regulation 16 of the Gas Safety (Gas Supply) Regulation (Cap 51B) and is liable to a fine of \$5,000. Any person who failed to carry out the purging procedures in accordance with the statutory safety requirements would contravene Regulation 23 of the Gas Safety (Gas Supply) Regulation (Cap 51B) and is liable to a fine of \$5,000.

(d) The "Code of Practice for Servicing and Maintenance of LPG Vehicle Fuel System" was prepared by a technical group comprising members from the LPG vehicle trade in December 2010 for reference by the trade. It outlines the requirement for importers of LPG vehicles, vehicle maintenance workshops and associated trades that any maintenance, repair or replacement work of LPG fuel systems or associated components and replacement of LPG fuel tanks must be carried out by a Competent Person (Class 6) or a person under the supervision of a Competent Person (Class 6). As for tests and examinations of LPG vehicle fuel tanks (including replacement of the fuel pump within an LPG fuel tank), they should be carried by a Competent Person (Class 1) or under the supervision of a Competent Person (Class 1) in order to ensure the safe operation of the relevant trades, occupational health and safety of the practitioners and the public at large. If the relevant work is carried out by a person who is not a competent person or not under the supervision of a competent person, he or she would contravene Regulation 16 of the Gas Safety (Gas Supply) Regulation (Cap 51B) and is liable to a fine of \$5,000.

The Guidelines are not statutory documents. They are issued and implemented by administrative means to explain in more specific terms the relevant statutory requirements and recommend technical measures for meeting such requirements to facilitate the industry's compliance. The updated version of 2011 of the Guidelines under items (a), (b) and (c) above mainly included the provision of annotations of the relevant statutory requirements of the Gas Safety Ordinance (Cap51) and its subsidiary regulations, and textual amendments to improve the clarify and consistency of the measures covered by these Guidelines. In

response to the explosion incident in Tsz Wan Shan, relevant departments will review the existing policy and consider appropriate follow-up action. The EMSD will follow up by updating the Guidelines related to the LPG vehicles as appropriate.

The EMSD has been promoting the above Guidelines to the industry through various channels, such as issuing letters to owners and drivers of LPG vehicles, owners of vehicle maintenance workshops and relevant trade associations of the transport industry to impress upon them the need to operate in accordance with the relevant Guidelines from the perspectives of protecting the public safety and enhancing the maintenance standard of LPG vehicles. The EMSD has also conducted sample inspections to vehicle maintenance workshops and reminded their responsible persons of the need to ensure safety and to comply with legislative requirements. Apart from complying with the relevant statutory requirements, they should refrain from storing LPG tanks with aggregated nominal water capacity of more than 130 litres and ensure that any repair and maintenance work of LPG vehicle fuel systems (including the removal of LPG fuel tanks) are carried out by competent persons or under their supervision. The EMSD has also attended meetings held by the LPG vehicle maintenance sector to explain and promote issues relating to the revalidation of LPG vehicle fuel tanks.

(3) Generally speaking, while the location of vehicle maintenance workshops are bound by relevant statutory plans and land lease conditions, the Buildings Department (BD) may take follow-up actions pursuant to relevant statutory regulations if the workshops are located in any building used or designed for domestic purposes or intended for habitation, and are used for paint spraying.

As for fire safety, different types of buildings should be equipped with relevant fire service installations and equipment in accordance with the requirements of the Code of Practice for Minimum Fire Service Installations and Equipment. As regards the control on the storage of dangerous goods, pursuant to section 6 (1) of the Dangerous Goods Ordinance (Cap 295), except under and in accordance with a licence granted under the Cap 295, no person shall manufacture, store, convey or use any dangerous goods. For storage of dangerous goods in excess of the exempted volumes, a Dangerous Goods Licence should be obtained from the Fire Services Department (FSD). The FSD will require the applicant for a Dangerous Goods Licence to comply with the relevant fire safety requirements, including the installation of additional fire service installations and equipment, etc.

The operation of a typical vehicle maintenance workshop may also give rise to environmental issues such as air emission, wastewater discharge and disposal of waste. If the air pollutants (such as odour from paint spraying) emitted from a vehicle maintenance workshop cause nuisance or air pollution to the surrounding environment, the Environmental Protection Department (EPD) will issue an Air Pollution Abatement Notice to the owner of the premises under the Air Pollution Control Ordinance (Cap 311). The concerned owner is required to abate the air pollution before the deadline specified in the notice. The person-in-charge of any vehicle maintenance workshops should obtain a discharge licence from the EPD according to the Water Pollution Control Ordinance (Cap 358) if there is wastewater discharge, and ensure that the discharge complies with the licence conditions. For any vehicle

maintenance workshop which produces chemical waste such as waste lube oil, the vehicle maintenance workshop is required to register as a "chemical waste producer" and comply with the requirements under the Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C).

Regarding the safety and health of employees at work, under the Factories and Industrial Undertakings Ordinance (Cap 59), the Occupational Safety and Health Ordinance (Cap 509) and their subsidiary regulations, the employers of vehicle maintenance workshops shall, so far as reasonably practicable, ensure the safety and health of their employees at work, including the formulation and implementation of a safe system of work and the provision and maintenance of safe plant. Duty holders contravening the above requirements are liable to a maximum fine of \$500,000 and to imprisonment for 12 months.

At present, any maintenance, repair or replacement work related to LPG fuel systems (not involving the structure of LPG fuel tank) or associated components can be carried out in all vehicle maintenance workshops that have Competent Persons (Class 6) working in accordance with the training received.

(4) and (5) The EMSD conducted in each of the past three years over 1 300 inspections to the 571 approved LPG "notifiable gas installations" in Hong Kong. These inspections included inspections at least once a year of the 29 vehicle maintenance workshops that have been approved for storing LPG fuel tanks of more than 130 litres, as well as random surprise inspections. The EMSD also visits other vehicle maintenance workshops for random inspections and promotional activities. According to the EMSD's records, no Competent Person (Class 6) has been employed by the vehicle maintenance workshop involved in the explosion-cum-fire incident in late April this year, and thus is not a workshop at which the fuel systems of LPG vehicles can be handled. The EMSD has not visited that vehicle maintenance workshop for issues related to the maintenance of LPG vehicles.

Since the explosion-cum-fire incident in late April this year, the EMSD has conducted about 2 000 additional inspections of vehicle maintenance workshops (including all vehicle maintenance workshops in the Wong Tai Sin District) to ensure that they have not contravened the requirements under the Gas Safety Ordinance (Cap 51). This involved ensuring that the vehicle maintenance shops have not stored more than 130 litres of LPG without approval, and that any maintenance, repair or replacement of LPG fuel systems or associated components and replacement of LPG fuel tanks is carried out by a Competent Person (Class 6) or under the supervision of a Competent Person (Class 6). Inspections by the EMSD of all 2 700 vehicle maintenance workshops in Hong Kong are underway and are expected to complete by the end of June.

In the past three years, the EMSD has prosecuted one person who is not a competent person for conducting repair work on the fuel system of LPG vehicles. The EMSD has also prosecuted the owner of a container for using that container as LPG container on a taxi without approval. In addition, the EMSD is conducting investigation of two cases involving vehicle maintenance workshops with excessive storage of LPG.

In 2012-2014, the EPD also conducted 3 228 inspections (1 203, 1 056 and 969 respectively) of vehicle maintenance workshops and have prosecuted four vehicle maintenance workshops for

violating legislation on environmental protection.

The FSD did not keep separate statistics of the inspections made to or the number of fire safety directions issued to vehicle maintenance workshops in the past. However, following the explosion-cum-fire incident on April 26, the FSD immediately conducted inspections of all vehicle maintenance workshops in the Wong Tai Sin District. The FSD expects to complete the territory-wide inspection of around 2 700 vehicle maintenance workshops in Hong Kong by the end of July. As at May 31, the FSD has inspected 1 511 vehicle maintenance workshops. During the inspections, four cases of excessive storage of dangerous goods and 12 cases of over-storage of rubber tires in breach of Cap 295 have been identified. The FSD has taken enforcement action against the relevant responsible persons.

In the past three years, officers of the Labour Department conducted over 4 100 surprise enforcement inspections targeting at the work safety of vehicle maintenance workshops, and initiated a total of 15 prosecutions. A breakdown of the prosecutions by relevant legislation is set out in Annex.

(6) At present, there are about 1 100 Competent Persons (Class 6) in Hong Kong, including the 73 Competent Persons (Class 6) that registered in or after 2011. The number of vehicle mechanics in Hong Kong is about 9 000. The ratio is approximately 1:8. The age distribution of Competent Persons (Class 6) ranges from 25 to 75 years old. According to the site inspections conducted by the EMSD in 2014, there are about 2 700 vehicle maintenance workshops in Hong Kong and about 10 per cent of which provides maintenance and repair services to LPG vehicles. If such vehicle maintenance workshops have employed Competent Persons (Class 6), they may also provide services that involve the maintenance, repair or replacement of LPG fuel systems or associated components and the replacement of LPG fuel tanks.

(7) The EMSD issued certificates to some 1 100 Competent Persons (Class 6) in Hong Kong in late May this year and encouraged such persons to display their certificates at conspicuous places at the vehicle maintenance workshops that they are working at so that the responsible persons for and drivers of LPG vehicles (taxis and public light buses) can identify if any Competent Persons (Class 6) are employed at the vehicle maintenance workshops.

(8) The EMSD conducts random inspections of general vehicle maintenance workshops. The EMSD will conduct investigation, issue improvement notice and take prosecution actions if such workshops contravene the requirements under the Gas Safety Ordinance has been found such as storing excessive LPG, maintain, repair or replace LPG fuel systems or associated components or replace LPG fuel tanks without a Competent Person (Class 6) or the supervision of such person.

(9) In response to the explosion-cum-fire incident in Tsz Wan Shan, relevant government departments will review the established policies and consider appropriate follow-up actions.

Ends/Wednesday, June 10, 2015
Issued at HKT 20:18

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Annex to LCQ 21

In the past three years, officers of the Labour Department conducted over 4 100 surprise enforcement inspections targeting at the work safety of vehicle maintenance workshops, and initiated a total of 15 prosecutions. A breakdown of the prosecutions by relevant legislation is set out below:

Relevant Legislation	2012	2013	2014	Total
Factories and Industrial Undertakings Ordinance (Cap. 59) (failed to provide a safe system of work, as well as necessary information, instruction, training and supervision for maintenance of vehicles.)	2	2	6	10
Factories and Industrial Undertakings (Loadshifting Machinery) Regulation (Cap. 59AG) (failed to ensure that the operators fork-lift truck were in possession of valid certificate)	0	0	1	1
Occupational Safety and Health Ordinance (Cap. 509) (failed to provide a safe system of work for maintenance of vehicles)	1	0	0	1
Occupational Safety and Health Regulation (Cap. 509A) (failed to maintain properly equipment for vehicle maintenance and failed to take adequate fire safety measures)	3	0	0	3
Total	6	2	7	15