

海 事 處

政府船塢
香港九龍深水埗
昂船洲昂船路



MARINE DEPARTMENT

Government Dockyard
Ngong Shung Road,
Stonecutters Island
Sham Shui Po, Kowloon

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來件檔號 Your Ref.: CB4/PAC/R69
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18 January 2018

Public Accounts Committee
Legislative Council
Legislative Council Complex
1 Legislative Council Road
Central
Hong Kong
(Attn : Mr Anthony CHU)

Dear Mr CHU,

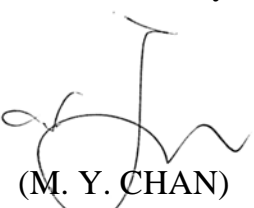
Public Accounts Committee
Consideration of Chapter 2 of the Director of Audit's Report No. 69
Procurement and maintenance of government vessels

Thank you for your letters dated 9 and 16 January 2018 to the Director of Marine, which I am authorized to reply on her behalf.

The replies in seriatim to the questions raised by the Public Accounts Committee are set out in the **Annex** attached.

I should be grateful if you could relay the attached information to Members of the Public Accounts Committee for their reference.

Yours sincerely,



(M. Y. CHAN)
for Director of Marine

Encl.

c.c. Secretary for Transport and Housing (Attn: Ms Louisa YAN)
Secretary for Financial Services and the Treasury (Attn: Miss Pat CHUNG)
Director of Audit (Attn: Mr LEE Sik-yum)

Public Accounts Committee
Consideration of Chapter 2 of the Director of Audit's Report No. 69
Procurement and maintenance of government vessels

- (a) With reference to paragraph 3.6 of the Audit Report, the reasons that a statement that "the downtime for carrying out maintenance and repair both inside and outside the Government Dockyard would be recorded for working out the vessel availability rates" was contained in the Marine Department ("MD")'s quality manual of 2016. Is the statement contained in previous versions of the quality manual;

Reply: The MD has gone through all two versions of the quality manuals issued in 2013 and 2016. Since the first version of the quality manual issued in 2013, there has been no mention that "the downtime for carrying out maintenance and repair both inside and outside the Government Dockyard would be recorded for working out the vessel availability rates". Moreover, there has been no express requirement in any version of the quality manual for the MD staff to record the work performed outside the Government Dockyard for calculating the vessel availability rates. The flowchart at Appendix D of the Audit Report is used to feature the maintenance work processes only.

- (b) The write-off policy for stock items in MD and the number of items and the amount involved for spare parts written off in the past three years, and how these items were disposed of;

Reply: The MD follows the guiding principles set out in the Stores and Procurement Regulations to write off stock items that are unserviceable. According to the relevant guidelines, a Departmental Disposal Committee has been established to process the disposal cases of unserviceable stock items for approval of the appropriate authority. In the past three years, a total of 78 items of spare parts involving a total amount of \$2.6 million have been written off by the MD by means of commercial disposal (auction exercises) in two disposal cases.

- (c) While the provisions of the Dangerous Goods Ordinance (Cap. 295) and the Factories and Industrial Undertakings Ordinance (Cap. 59) do not apply to the Government, but MD is committed to minimizing potential hazards and risks, and ensuring that all its staff and workers work in a safe and healthy environment. In this connection, please advise:
- (i) what is the current understanding of MD in respect of the responsibilities and liabilities of MD and its maintenance contractors in handling dangerous goods (such as diesel and petrol, oxygen and acetylene gas cylinders, and paints and thinner) in the Government Dockyard in accordance with the provisions in the Dangerous Goods Ordinance and the Factories and Industrial Undertakings Ordinance; and

Reply: Although the provisions of the Dangerous Goods Ordinance (Cap. 295) and the Factories and Industrial Undertakings Ordinance (Cap. 59) do not apply to the Government, the MD is committed to ensuring all staff and workers are working in a safe and healthy environment. To this end, the MD inspects the amount of dangerous goods (“DG”) held by the contractors on each working day to ensure that the amount will not exceed the exempted quantity specified in the Dangerous Goods Ordinance. In case the exempted quantity is exceeded, the excessive DG will be stored in the licensed DG stores.

- (ii) details of the work carried out currently by MD to clarify the responsibilities and liabilities of MD and its maintenance contractors in this respect;

Reply: All along the contractors are well informed of the DG store facilities provided by the MD which are made available for their use as and when required. The MD will inspect the amount of DG held by the contractors on each working day to ensure that the amount will not exceed the exempted quantity specified in the Dangerous Goods Ordinance. In case the exempted quantity is exceeded, the excessive DG will be stored in the licensed DG stores.

The MD has engaged a dangerous goods consultant in March 2017 to provide advice on how the Government Dockyard could better manage DG to meet both its operational needs and the requirements of the Dangerous Goods Ordinance / Regulations. The study is in progress and will be completed by the second quarter of 2018. The study will

help clarify further the responsibilities and liabilities of the MD and its maintenance contractors.

- (d) According to paragraph 4.10 of the Audit Report, notwithstanding the system enhancements in 1999 and 2015, some intended benefits of the Government Fleet Information System ("GFIS") could not be realized, such as re-order levels generated by GFIS and the use barcodes for inventory items. In this regard, please provide the measures to enhance the functions of GFIS together with the implementation timetable and the costs involved to address the issues identified in paragraph 4.10. Will MD further consider any other measures to reduce the quantity of maintenance materials, such as adopting the Just-in-time inventory strategy;

Reply: The MD is now working on the enhancements of the GFIS with a view to strengthening its analytical capacity and management reporting functions. Amongst others, the enhancements will include compilation of the re-order levels, and the use of barcodes for inventory management. The enhancements of the GFIS can facilitate the MD in implementing the "Just-in-time" stock strategy to increase efficiency in stock re-ordering, reduce stock level, and minimise the downtime of vessels due to waiting of spare parts.

- (e) According to paragraphs 4.17(a) and 4.18(a) of the Audit Report, the Government Dockyard had to handle large quantity of fuels unloaded from vessels coming for maintenance/repair service. However, there was a long travelling distance for the transfer of fuels from the docking area and the defueling area to the designated dangerous goods stores. Manual handling of petrol and diesel further increased the possibility of accidents. In this regard, the measures taken/to be taken by MD to minimize the safety hazards arising from the fuel transfer;

Reply: Measures taken to minimise safety hazards:

- The MD has updated the guidelines for the unloading and conveyance of diesel and petrol respectively (see **Appendix A** and **Appendix B**) to minimize the safety hazards arising from the fuel transfer.

Measures to be taken to minimise safety hazards:

- The dangerous goods consultant in consultation with the Labour Department and the Fire Services Department will develop a set of safety measures for the better handling and conveyance of fuel suitable for the operation of the Government Dockyard.
- In the fuel store renovation project now underway, the Architectural Services Department and the Electrical and Mechanical Services Department are asked to explore the feasibility of installing piping systems and supporting facilities for fuel transfer at the berths of the fuel store.

(f) With reference to paragraph 4.18(b) and (c) of the Audit Report, and your statement at the public hearing that a Senior Safety Officer was hired recently at the Government Dockyard, please provide:

(i) MD's guidelines in handling of diesel and petrol, storage of oxygen and acetylene cylinders; and storage of paints and thinner;

Reply: The MD's guidelines in handling of diesel and petrol are provided at **Appendices A & B**, the guidelines in storage of oxygen and acetylene cylinders are at **Appendix C**; and the guidelines in issuing and storage of paints and thinner are at **Appendix D**.

These safety guidelines are of paramount importance in alerting the contractors to observe the safe working practices. As such, copies of these safety guidelines are issued to all relevant staff and contractors, and they are required to attend regular seminars on the compliance of the health and safety measures. Besides, regular reminders will be issued to all contractors to refresh their understanding on the safety practices.

(ii) MD's guidelines on the issuing of paints and thinner to meet the contractors' daily operation needs, including the quantity to be issued;

Reply: See reply to (f)(i) above.

(iii) what is the existing monitoring system to ensure that the oxygen and acetylene cylinders and the unused paints/thinner would be returned to the designated dangerous goods stores after daily operation if necessary;

Reply: The MD inspects the amount of DG held by the contractors during and after the daily operation to ensure that the amount will not exceed the exempted quantity specified in the Dangerous Goods Ordinance. In case the amount exceeds the exempted quantity, the excessive DG will be stored in the licensed DG stores. Inspection records are kept for checking. The monitoring mechanism has been revised in the past three years from time to time when updating and consolidation of relevant safety guidelines, manuals and bulletins are required.

- (iv) was the above monitoring mechanism in (iii) above revised in the past three years, if yes, please provide details of and reasons for the changes;

Reply: See reply to (f)(iii) above.

- (v) copies of documentation showing that the quantities of the oxygen and acetylene cylinders and the unused paints/thinner were checked after daily operation; and

Reply: A copy of the documentation showing that the quantities of the oxygen and acetylene cylinders and the unused paints/thinner were checked after the daily operation is provided at **Appendix E**.

- (vi) the measures taken/to be taken to improve the situation;

Reply: Measures taken to improve the situation:

- (a) In 2016, the MD applied for funding for creation of additional posts to upgrade the Industrial Safety Sub-unit to an Industrial Safety Unit. A full-time Industrial Safety Manager has been employed to lead three Industrial Safety Inspectors to step up routine inspections to ensure that maintenance works are in compliance with relevant safety requirements. The Industrial Safety Manager assumed his post in October 2017;
- (b) The Industrial Safety Unit has compiled a “Safety Guidelines for transfer of Diesel between Government Vessel and Oil Barge” and “Safety Procedures for Petrol Unloading/Conveyance/ Loading Within Government Dockyard” and has strengthened its supervision of the fuel disposal and conveyance processes;
- (c) The Industrial Safety Unit keeps records of the quantities of used oxygen and acetylene cylinders and oversees the daily return of oxygen and acetylene cylinders not in use to licensed DG stores; and

- (d) Apart from setting the appropriate quantities of paints and thinner to be issued each time, the Industrial Safety Unit also oversees the return of unused paints and thinner to dangerous goods stores by maintenance contractors at the end of a working day.

Measures to be taken to improve the situation:

A dangerous goods consultant is engaged to look into the current situation and suggest measures to improve the situation. The study will be completed by the second quarter of 2018.

- (g) According to paragraph 4.19 of the Audit Report, MD engaged another consultant to provide advice on how the Government Dockyard could better manage the dangerous goods to meet both its operational needs and the requirements of the Dangerous Goods Ordinance and its Regulations. Please provide the progress of this study and submit a copy of the report to the Committee upon its completion;

Reply: The MD has engaged a dangerous goods consultant to provide advice on how the Government Dockyard could better manage the DG to meet both its operational needs and the requirements of the Dangerous Goods Ordinance / Regulations in March 2017. The study is in progress and will be completed by the second quarter of 2018. A copy of the study report will be submitted to the PAC upon completion.

- (h) With reference to Appendix E of the Audit Report on the approved storage quantities of dangerous goods at the Government Dockyard, please provide:
- (i) the maximum quantity of diesel, petrol, oxygen cylinders, acetylene cylinders, paints, and thinners having stored at the Government Dockyard in the past three years;

Reply: The maximum quantity of diesel, petrol, oxygen cylinders, acetylene cylinders, paints, and thinners stored at the Government Dockyard in the past three years are as follows:

| | Approved quantities of DG stores | Maximum quantities stored at Government Dockyard DG stores | | |
|---------------------|---------------------------------------|--|----------|---------|
| | | 2015 | 2016 | 2017 |
| Diesel | 120,000 litres (L) | 12,130 L | 13,450 L | 8,560 L |
| Petrol | 27,000 L | 2,000 L | 2,640 L | 2,610 L |
| Oxygen Cylinders | 22 cylinders | 4 | 5 | 16 |
| Acetylene Cylinders | 44 cylinders | 2 | 2 | 10 |
| Paints | 30,000 L and 42,083 L ^{Note} | 1,148 L | 1,115 L | 1,414 L |
| Thinners | 2,000 L and 42,083 L ^{Note} | 361 L | 250 L | 318 L |

Note: The approved quantities are for both paints and thinners.

- (ii) the highest number of maintenance contractors working in the Government Dockyard at the same time in the past three years; and

Reply: The highest number of maintenance contractors working in the Government Dockyard at the same time in the past three years are as follows :

| | 2015 | 2016 | 2017 |
|---|------|------|------|
| Highest number of maintenance contractors working in the Government Dockyard at the same time | 13 | 13 | 14 |

- (iii) the measures taken by MD to ensure that the quantities of dangerous goods at the Government Dockyard would not exceed the approved quantities by the Fire Services Department;

Reply: See reply to (f)(iii) above.

- (i) With reference to Appendix F and the fact that there are 22 berths/jetties and 10 boat repair sheds, please advise

- (i) whether repair works will be carried out at the berths/jetties. If yes, what types of repair works will be carried out;

Reply: The berth/jetties are mainly used for berthing of vessels and may sometimes be used for the preparation of docking and sea-trial.

- (ii) the area of the 10 repair sheds; and

Reply: The area of the 10 repair sheds is tabulated below.

| Repair Shed | Area (ft²) |
|--------------------|------------------------------|
| CB1 | 9,940 |
| CB2 | 6,930 |
| CB3 | 6,930 |
| CB4 | 9,680 |
| CB5 | 2,370 |
| CB6 | 2,370 |
| CB7 | 2,370 |
| CB8 | 2,370 |
| CB9 | 2,370 |
| CB10 | 2,370 |

- (iii) apart from the size of the boats, are there any considerations as to which repair sheds will be used to repair a vessel; and

Reply: There is no other consideration apart from the size of the vessels as to which repair shed is used for the repair of a vessel.

- (j) Number of staff in the Industrial Safety Unit of MD and their job duties, and the improvement measures put in place by this unit since its set up in 2017.

Reply: The Industrial Safety Sub-Unit was upgraded to Industrial Safety Unit (ISU) in October 2017 after a dedicated Industrial Safety Manager was created to take lead the Unit. The Unit consists of five technical staff in addition to the Industrial Safety Manager.

The job duties of the ISU will focus on formulating the Government Fleet Division work safety policy, coordinating the planning and implementation of various safety measures, promoting the general safety awareness, and ensuring compliance with various safety-related legislations by all parties in GD. The post incumbent is also required to conduct regular reviews of the safety procedures to ensure effective controls, and organise relevant trainings for the officers and contractors to ensure observance of safe working practices.

See reply to (f)(vi) above for the improvement measures put in place by this unit since its set up in 2017.



效率安全 齊步向前

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政府船塢工業安全分組

安全通訊 2017 / 10

柴油駁運安全指引

因應船塢的油艙停止運作，政府船舶在政府船塢內維修時船上的柴油駁運程序會改變為由政府船上駁運到油船上或由油船駁運到政府船上。

此通訊附上中、英文的《政府船舶與駁油船之間柴油駁運安全指引》，各承辦商在作上述柴油駁運時必須依從指引。

如有疑問，可向技術及安全經理或工業安全分組查詢。



陳 富

技術及安全經理

日期：2017 年 8 月 18 日

| | | | | |
|-----|-------|----------|----------|----------|
| 分發： | AD/GF | SMM | SS/GNC | TA/GD |
| | GMD | SSSM | SSM | 各政府船塢承辦商 |
| | SFM | EO/GF(P) | EO/GF(A) | |

檔案: MDGFGR 5-35/2(1)； GF/GR137/19

網頁: http://www.mardep.gov.hk/en/aboutus/safe_bulletin.html

本文：1 頁

政府船舶與駁油船之間柴油駁運安全指引

1 柴油駁運前

- 1.1 政府船塢承辦商安全督導員必須先從工業安全分組取得「柴油駁運作業安全許可證」。安全督導員必須持有勞工處認可有效安全督導員證書。許可證必須展示在工作地點之當眼處。
- 1.2 柴油駁運過程中，政府船塢承辦商的安全督導員必須全程監察並執行安全措施。
- 1.3 承辦商安全督導員必須對柴油駁運前的火災、爆炸、漏油和人身傷害進行風險評估。
- 1.4 安全督導員應確保和檢查處理駁油船和政府船舶上處理燃油喉管的工人必須持有由認可培訓中心發出有效的《船上貨物處理工程督導員證書》，並在燃油喉管處理過程中，在駁油船和政府船舶上的工程主管至少具有《船上貨物處理工程督導員證書》。
- 1.5 如燃油喉管需要由船舶起重機搬運，起重機操作人員必須持有有效的起重機操作員證書。
- 1.6 參與柴油駁運的人員必須有經驗或曾接受燃油駁運培訓。
- 1.7 必須展示「不准吸煙」及「禁止明火」警告牌。
- 1.8 必須將手機關閉。
- 1.9 現場必須準備滅火筒及沙箱。
- 1.10 現場必須準備一罐化油劑及滅火筒。
- 1.11 將甲板上所有排水孔及油盤中的排油孔封閉。
- 1.12 確保駁油船和政府船舶的繫泊已經穩固。
- 1.13 檢查喉管和連接有否鬆動/不均勻旋緊，及有否損壞。
- 1.14 確保接收柴油油缸的閥門打開。
- 1.15 確保駁油船和政府船舶上的接地良好。
- 1.16 駁油船和政府船舶上必須有足夠數量的人員來處理燃油駁運。
- 1.17 確保政府船舶和駁油船上的人員建立互相理解的通信系統。
- 1.18 為免油渣濺潑，確保喉管放置離缸底大約 200mm。
- 1.19 在完成所有安全措施後，政府船舶人員在進行柴油駁運開始前，必須確認駁油船操作人員亦準備妥當。

2 柴油駁運期間

- 2.1 檢查任何洩漏情況，並在過程中定期檢查。
- 2.2 政府船舶人員與駁油船人員之間必須保持密切聯絡。
- 2.3 政府船舶人員如果發現柴油駁運不再安全；如閃電、風暴或任何超出他控制的事件，可以停止駁運。
- 2.4 在緊急情況下，負責人員必須立即終止柴油駁運操作，並向其上級報

告。

2.5 定期檢查繫泊繩纜並進行適當的調整。

2.6 在進行柴油駁運其間，嚴禁其他船舶靠泊駁油船或政府船舶。

3 完成柴油駁運

3.1 關閉所有用於柴油駁運被開啟的閥門。

3.2 將封閉的排水孔及油盤中的排油孔還原。

***Note by Clerk, PAC: Chinese version only.**



效率安全 齊步向前

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政府船塢工業安全組

安全通訊 2017/19

政府船塢內的電油卸載/運輸/裝載的安全程式

因應船塢的油艙停止運作，政府船舶在政府船塢內維修時，船上的電油駁運程式會改變以便配合實際運作需要。

此通訊附上《政府船塢內的電油卸載/運輸/裝載的安全程式》，各承辦商在作上述電油駁運時必須依從此指引進行。

如就此通訊有任何問題，可聯絡工業安全經理或工業安全組查詢。



麥發安

工業安全經理

日期：2017-12-07

分發：AD/GF
GMD
SFM

SMM
SSSM
EO/GF(P)

SS/GNC
SSM
EO/GF(A)

TA/GD
各政府船塢承辦商
GD staffs

檔案: MDGFGR 5-35/2(1)； GF/GR137/19

網頁: http://www.mardep.gov.hk/en/aboutus/safe_bulletin.html

本文：1 頁 3 張附頁

政府船塢工業安全組

政府船塢內的電油卸載/運輸/裝載的安全程式

I. 從船上卸載電油到電油容器或從容器裝載回到船上

1. 卸載/裝載電油的船隻必須牢固地放置在政府船塢（GD）的指定電油船泊位區內之托架上，電油櫃及相關的位置必須遮蔽，盡量避免陽光直接照射。
2. 開始電油運輸前，承辦商必須首先獲得工業安全組所發出之電油駁運作業許可證表格 F20，方可開始作業。
3. 承辦商必須委任具有資格的安全督導員對整個電油卸載/裝載及運輸過程負責及監察。
4. 獲委任的安全督導員必須持有由勞工署認可之安全督導員證書和曾具有電油運輸的相關經驗。
5. 安全督導員必須對所有可能性危害作出風險評估，特別是火災、爆炸、熱源、汽油漏出和身體傷害等。安全督導員必須確保所有防預設施是完整滿意，方可開始作業。
6. 安全督導員必須確保距離船隻 8 米範圍內沒有熱源，及排除未經授權的人仕進入。
7. 使用搬運之容器必須是由處方批准不超過 200 公升的油桶。承辦商須檢查容器狀態良好。
8. 承辦商必須在作業時提供充足人手。一般來說，一名工作人員在船上油櫃附近和一人必須在可搬運容器旁作緊急支援。另外，一名工作人員須駐守在氣動泵的開關制旁邊。
9. 獲委任的安全督導員必須確保及注意操作整個過程之所有安全。
10. 盛油盤子必須放在搬運容器之下。
11. 保證船隻和容器有效的接地。
12. 可以使用氣動泵或手吸管泵，但泵送速度不能超出每分鐘 37 公升。氣動泵必須為設計適用於電油之類型及使用膠喉連接。使用的油泵必須處於良好工作狀態。不可注滿油桶，應預留最少 5% 空間以備因溫度變化引致的超壓。
13. 必須避免令電油飛濺，排放軟管的末端必須位於容器底部附近，以減少靜電。

政府船塢工業安全組

14. 在卸載/裝載電油工作處，必須放置不少於兩個 9 公升有效的泡沫滅火器。
15. 必須在附近顯示“不准吸煙”、“不准明火”、“關閉手機”、“汽油運輸”等標誌。
16. 操作開始後，立即檢查軟管和連接處有否洩漏。
17. 在電油傳輸期間，定期檢查有沒有洩漏情況發生。
18. 萬一有可能閃電、大雨和惡劣天氣，則停止操作。

II. 容器搬運至/搬離開危險倉

1. 安全督導員必須在搬運前再次檢查盛載電油容器的狀態，以確保在運輸過程中不會發生洩漏和過度裝載。
2. 電油桶運輸必須使用防爆叉車，並檢查叉車之滅火器檢驗日期。
3. 從船塢到危險倉或危險倉到船塢的道路及相關地方，必須由承辦商暫時用道路標誌封閉，直到電油容器運送到燃油庫為止。
4. 承辦商在道路入口處應顯示“不可進入”和“汽油運輸”等道路標誌。
5. 安全督導員必須確保運輸道路上沒有熱源。
6. 在搬運過程期間，機動車輛禁止進出。承辦商的一名工作人員應駐守在入口處停止機動車和未經批准的人仕進入。

***Note by Clerk, PAC:** Chinese version only.



效率安全 齊步向前

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23073648 / 94687975
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政府船塢工業安全組

安全通訊 2018/02

政府船塢內的乙炔, 氧氣瓶及壓縮氣體的管理

根據香港法例第295A章《危險品(適用及豁免)規例》規定, 乙炔及氧氣的豁免量分別為各二瓶。

為妥善監察政府船塢內的乙炔及氧氣使用及存放量, 政府船塢要求各承辦商在各自正在使用或備用的乙炔及氧氣瓶上掛上承辦商的名牌以作識別。若日後發現有上述乙炔或氧氣瓶上沒有任何適當名牌, 將會對該氣瓶的使用的承辦商扣分處理。如當時無法確認該氣瓶屬於哪一間承辦商, 政府船塢將會代為處理並送回氣體供應商。承辦商日後不可對該氣瓶作出追討, 同時政府船塢有權要求該承辦商繳交處理氣瓶的費用。

此外, 在每個工作天需要申報在船塢內的壓縮氣體存放數量, 申報表F19附在此通訊之內。必須申報的壓縮氣體包括乙炔、氧氣、氫氣、氮氣及其他屬第二類氣體瓶。除非有特殊情況, 例如颱風等, 所有在政府船塢內的承辦商, 無論當天有沒有壓縮氣體存放在船塢內, 都必須填寫此申報表, 並於每個工作天的下午四時前交送至政府船塢工業安全組。承辦商必須確保申報內容正確。

此通訊已取代工業安全組的安全通訊 2017/12 及 2017/13號, 並即日生效。如就此通訊有任何問題, 可聯絡工業安全經理或工業安全組查詢。



麥發安
工業安全經理

日期：2018-01-11

分發：AD/GF
GMD
SFM

SMM
SSSM
EO/GF(P)

SS/GNC
SSM
EO/GF(A)

TA/GD
各政府船塢承辦商
GD staffs

檔案: MDGFGR 5-35/2(1); GF/GR137/19

網頁: http://www.mardep.gov.hk/en/aboutus/safe_bulletin.html

本文：1 頁 1 張附頁

政府船塢工業安全組政府船塢承辦商壓縮氣體申報表

ISU 表格 F19

| | | | |
|------|--|-----|--|
| 承辦商： | | 日期： | |
|------|--|-----|--|

| | 1 | | 2 | | 3 | | 4 | | 5 | |
|----|----|----|----|----|----|----|----|----|----|----|
| | 數量 | 位置 | 數量 | 位置 | 數量 | 位置 | 數量 | 位置 | 數量 | 位置 |
| 風 | | | | | | | | | | |
| 煤 | | | | | | | | | | |
| 氫氣 | | | | | | | | | | |
| 氮氣 | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

註：承辦商須於每個工作天的下午四時前交至政府船塢工業安全組

公司蓋章_____



效率安全 齊步向前

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政府船塢工業安全組

安全通訊 2009 / 08 油漆、溶劑儲存的管理

最近工業安全組人員在執行檢查時發現有承辦商在露天船排的儲物屋內外存放着大量油漆、溶劑及雜物。根據《消防條例》及《職業安全健康條例》，工場及工地應時常保持整潔，易燃物品包括油漆及天拿水等不應大量儲存。天拿水及油漆類的儲放上限有明確規定分別為20升及250升。

因此，現呼籲各承辦商，若有過量或未用完的油漆可於每天收工前送回船塢的油漆中途倉暫存。油漆中途倉聯絡人為周恆翔先生；聯絡電話是：2307 3402。而雜物、空罐等則應每天收拾好。

船塢的安全管理是有賴各人的通力合作，請各承辦商遵守配合。



鄧慶江

工業安全主任（署任）

日期：29-4-2009

| | | | | |
|-----|---|-------|--------|-----------|
| 分發： | AD/GF | SMM | SS/GNC | GD staffs |
| | GMD | SSSM | SSM | 各認可承辦商 |
| | SFM | EO/GF | TA/GD | |
| | TMU, Marine Region, HK Police Force (Attn.: Mr. H.S. Lau) | | | |
| | ANM Unit (Attn.: Mr. K.S. Yip) | | | |

檔案: MDGFGR 1-55/20 ; GF/GR137/19

網頁: http://www.mardep.gov.hk/en/aboutus/safe_bulletin.html

本文：1 頁

4.5. 髹漆及噴漆

4.5.1. 一般油漆及溶劑均會產生不同程度的危害使用及貯存時應參閱本章第十二節《一般化學品的使用及貯存》和本章第十三節《常用危險品的使用及貯存》

4.5.2. 在船上或政府船塢範圍內使用油漆及溶劑，應遵照以下守則：

4.5.2.1. 進行油漆或噴漆工序時，不能同時進行熱工作業，亦須確保工作四週範圍內的設備或其他工種不會產生火花或明火。油漆時亦須確保有足夠的通風及要留心風向的變化帶來的影響；

4.5.2.2. 當在船舶內部進行油漆或噴漆工序時或完成油漆工作後，均不應在該地方進行其它工作，直至船舶內部情況被確認為安全；

4.5.2.3. 在狹小的艙室進行噴/髹漆時，要注意通風，防止化學品蒸氣積聚；

4.5.2.4. 使用噴漆機及其輔助設備時，施工的員工須熟悉該機器的運作及安全措施；

4.5.2.5. 當高壓無氣噴漆機停噴時，應將高壓槍保險掣鎖住，噴嘴在任何情況下不可指向自己或他人；

4.5.2.6. 切勿隨意向任何地方噴射以測試噴漆槍；時則須戴上含活性炭吸收劑的口罩及護眼罩；

4.5.2.8 油漆工場及工地現場內要禁絕火源，並要有足夠的滅火設備，場內外亦要有「嚴禁煙火」的明顯警告標誌；

4.5.2.9 密切注意油漆現場內汽化了的天拿水、松節油等有機溶劑的濃度，以防止中毒或引起爆炸；

4.5.3. 在密閉空間內髹漆/噴漆是高危作業，承辦商必須確保：

4.5.3.1 所有密閉空間內的照明及電器設備，均須為防爆型號，電線絕緣良好；

4.5.3.2 風機如非防爆型號，必須放置在密閉空間之外，採用長風管以保證送風至空間死角；

4.5.3.3 密閉空間相對應的內外上下四週鐵板均嚴禁任何明火及熱工作業，而進行油漆作業前，應在四周設置警告標誌，當進行髹漆工序時須派人現場監察。

4.12.一般化學品的使用及貯存

- 4.12.1. 大部份化學品均會損害健康,嚴重的會引起火警或爆炸。其中有些化學品的危害是慢性的,短期接觸未必即時對身體帶來明顯的影響,但長期接觸卻可嚴重危害身體健康。另外一些化學品卻屬烈性的,即是稍加接觸,亦可帶來嚴重後果。根據工廠及工業經營(危險物質)規例,可將危險分為以下 7 類:
 - 4.12.1.1. 爆炸性
 - 4.12.1.2. 助燃
 - 4.12.1.3. 易燃
 - 4.12.1.4. 有毒
 - 4.12.1.5. 有害
 - 4.12.1.6. 腐蝕性
 - 4.12.1.7. 刺激性
- 4.12.2. 有關組別或承建商須列出所使用的化學品,並記錄以下資料:
 - 4.12.2.1. 化學品種類
 - 4.12.2.2. 貯存數量
 - 4.12.2.3. 貯存地點
 - 4.12.2.4. 使用地點
 - 4.12.2.5. 使用數量
- 4.12.3. 有關組別或承辦商須收集每一種化學品的物料安全資料表(MSDS),載明化學品成份、對健康的影響、急救需知、貯存及使用要點等,供所有須接觸有關化學品的員工參閱,而化學品容器應貼上標籤,以清楚地識別所載化學品,以確保使用安全。
- 4.12.4. 有關組別或承辦商須根據物料安全資料表的資料為工作時使用或有可能接觸該化學品的員工提供適合的防護衣物及設備例如提供安全眼罩以防止化學品濺入眼睛,提供半面罩呼吸器以防止吸入煙霧塵埃等。
- 4.12.5. 所有員工必須充分及適當地使用所提供的防護衣物及設備並遵守有關的安全措施、工作程序等。
- 4.12.6. 有關組別或承辦商須定期評估風險以確定現有的安全措施及程序是否足夠。
- 4.12.7. 化學品必須根據其性質而妥善貯存,例如天拿水、松節油、電油等常用有機溶劑,此類化學品必須儲存在小於 35 公升的密封金屬容器內,加上標籤,再放入有門的金屬櫃內,櫃外須標明「易燃物品」並應放在遠離明火或熱源的地方。
- 4.12.8. 如化學品屬危險品,則根據危險品(一般)規例,須將超過無須領取牌照分量的危險品貯存在適當的危險品倉內。
- 4.12.9. 剩餘或過期的化學品不能隨意棄置,要根據有關的法例例如廢物處置(化學廢物)(一般)規例處理,如有疑問可徵詢化學品供應商。

4.13. 危險品的使用及貯存

4.13.1. 根據香港法例第 295 章 - 危險品（一般）規例，危險品共分為以下 10 類：

- 4.13.1.1. 第 1 類 爆炸品
- 4.13.1.2. 第 2 類 壓縮氣體
- 4.13.1.3. 第 3 類 腐蝕性物質
- 4.13.1.4. 第 4 類 有毒物質
- 4.13.1.5. 第 5 類 發出易着火蒸氣的物質
- 4.13.1.6. 第 6 類 與水相互影響會變為危險的物質

4.13.7.4. 在政府船塢範圍內使用油漆等第 5 類危險品時，須遵守以下一般守則：

- 4.13.7.4.1. 盛載漆油的容器在不使用時要緊密地蓋好，空的容器須盡快移走；
- 4.13.7.4.2. 盛載漆油的容器要放置在遠離火花、熱源及猛烈太陽光線的地方；
- 4.13.7.4.3. 處理油漆時，應避免油漆濺落在地面或流入任何地下渠道；
- 4.13.7.4.4. 如有油漆意外地濺落在地面，須立刻清理；
- 4.13.7.4.5. 不超出法例規定的貯存上限的油漆，應儲放在易燃物品儲存櫃內，櫃外應有警告標誌，示明油漆的危險性及數量；
- 4.13.7.4.6. 根據危險品（一般）規例，將超出須領取牌照份量的油漆貯存在第 5 類危險品倉內；
- 4.13.7.4.7. 使用油漆工作，特別是進行噴漆工序，附近不能同時進行熱工作業，確保有足夠的通風，但要小心風向帶來的影響；
- 4.13.7.4.8. 在船舶內部使用油漆進行工作時或完成工作一段時間後，直至情況安全前，均不應在該地方進行其它工作；
- 4.13.7.5. 負責有關第 5 類危險品倉的組別須確保：
 - 4.13.7.5.1. 任何人不得在危險倉內吸煙；
 - 4.13.7.5.2. 任何人不得將任何無遮蓋燈火、火焰或用作燃點易着火物質或蒸氣的東西引進或置於危險倉範圍內；
 - 4.13.7.5.3. 危險倉 6 米範圍內有沒有火或其它熱源；
 - 4.13.7.5.4. 危險倉門外當眼處須展示禁止吸煙和禁止使用無遮蓋燈火的中英文警告；
 - 4.13.7.5.5. 危險品倉內貯存的危險品種類及存放數量應不能超出消防處批准的上限；
 - 4.13.7.5.6. 危險品倉被穩固地鎖上，除獲負責組別的獲授權人准許外，任何人不得進入危險倉。

Daily Checking Procedure of Paint & Thinner

| Item | Description | Document | Action Officer |
|------|---|--|----------------|
| 1 | Assessment for consumption of paint &/or thinner on that day by consulting the painting work manpower of the contractor(s). Send email with GF277 on paint &/or thinner issued on that day to respective inspectors of SSS/MSS respectively, SMM, ISM, SSO, and DO. | GF277 | SSII/SSU |
| 2 | Patrol each vessel under maintenance on boatyard and record total quantity of (i) paint; and (ii) thinner. | | WSI/MS |
| 3 | Report to MS inspector if quantity of any repair shed or any contractor exceeds the exempted quantity (i.e. 250 litres for paint & 20 litres for thinner). | 維修船排油漆存放量紀錄 | WSI/MS |
| 4 | Inspector instructs concerned contractor(s) to transfer the paint or thinner to PK03 if exceeding the exempted quantity. | 副本致：有關承辦商 Email to：SSO、SMM、 MM(H)、MM(E)、ISM、 DO | SI/MS |
| 5 | SSU officer ready for collection of paint/thinner at PK03. | | SSII/SSU |
| 6 | Site safety patrol and proceed Demerit Point System if contractor fails to comply the above. | GFDC 11/2011 Performance Appraisal System for Government Dockyard Maintenance Contractors | ISI/ISU |

維修船排油漆存放量紀錄

日期：

巡查職員：

巡查時間：

由

至

甲部：

| 船排 | 船名 | 承辦商 | 天拿水（升） | 油漆（升） |
|----|----|-----|--------|-------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

註：* 以上存放量為未開封罐的總數量。

乙部：

| 船排 | 船名 | 承辦商 |
|----|----|-----|
| | | |

根據政府船塢安全通訊 2009/08，_____ (Post) 於同日下午_____ 已通知上述承辦商將過量的天拿水及油漆送回政府船塢儲存，並同時知會高級物料供應主任及工業安全組。

副本致：有關承辦商

Email to : SSO、SMM、MM(H)、MM(E)、ISM、DO

***Note by Clerk, PAC: Chinese version only.**

Inspection Record of DG (Oxy-Acetylene, Paint & Thinner) After Work

Date : 2 Jan. 2018Time : 18:00

| 位置 \ 危險品 | 氧氣瓶(樽) | 乙炔瓶(樽) | 油漆(公升) | 天拿水(公升) |
|----------|--------|--------|--------|---------|
| CB1 | 0 | 0 | 0 | 0 |
| CB2 | | | | |
| CB3 | 0 | 0 | 0 | 0 |
| CB4 | 2 | 2 | 0 | 0 |
| CB5 | | | | |
| CB6 | 0 | 0 | 0 | 0 |
| CB7 | | | | |
| CB8 | | | | |
| CB9 | | | | |
| CB10 | | | 200 | |
| Total | 2 | 2 | 200 | 0 |


Checked By : JOE HUI 151/1511

Inspection Record of DG (Oxy-Acetylene, Paint & Thinner) After Work

Date : 3 Jan 2018

Time : 18:00

| 位置 \ 危險品 | 氧氣瓶(樽) | 乙炔瓶(樽) | 油漆(公升) | 天拿水(公升) |
|----------|--------|--------|--------|---------|
| CB1 | 0 | 0 | 0 | 0 |
| CB2 | 0 | 0 | 0 | 0 |
| CB3 | 0 | 0 | 0 | 0 |
| CB4 | 0 | 0 | 0 | 0 |
| CB5 | 0 | 0 | 0 | 0 |
| CB6 | | | | |
| CB7 | | | | |
| CB8 | | | | |
| CB9 | | | | |
| CB10 | 0 | 0 | 200 | 10 |
| Total | 0 | 0 | 200 | 10 |

Checked By : Joe Chan  151/152

Inspection Record of DG (Oxy-Acetylene, Paint & Thinner) After Work

Date : 4 Jan 2018

Time : 18:00

| 位置 \ 危險品 | 氧氣瓶(樽) | 乙炔瓶(樽) | 油漆(公升) | 天拿水(公升) |
|----------|--------|--------|--------|---------|
| CB1 | 0 | 0 | 0 | 0 |
| CB2 | 0 | 0 | 0 | 0 |
| CB3 | 0 | 0 | 0 | 0 |
| CB4 | 0 | 0 | 0 | 0 |
| CB5 | 0 | 0 | 0 | 0 |
| CB6 | | | | |
| CB7 | | | | |
| CB8 | | | | |
| CB9 | | | | |
| CB10 | 0 | 0 | 160 | 0 |
| Total | 0 | 0 | 160 | 0 |

Checked By : Joe Lam 151/152

Inspection Record of DG (Oxy-Acetylene, Paint & Thinner) After Work

Date : J Tan . 2018
 Time : 18:00

| 位置 \ 危險品 | 氧氣瓶(樽) | 乙炔瓶(樽) | 油漆(公升) | 天拿水(公升) |
|----------|--------|--------|--------|---------|
| CB1 | 0 | 0 | 0 | 0 |
| CB2 | 0 | 0 | 0 | 0 |
| CB3 | 0 | 0 | 0 | 0 |
| CB4 | 1 | 1 | 0 | 0 |
| CB5 | 0 | 0 | 0 | 0 |
| CB6 | | | | |
| CB7 | 0 | 0 | 0 | 0 |
| CB8 | 0 | 0 | 0 | 0 |
| CB9 | | | | |
| CB10 | 0 | 0 | 160 | 0 |
| Total | 1 | 1 | 160 | 0 |

Checked By : J Tan 15/1/18