CHAPTER 6

Fire Services Department

Management and maintenance of fire-fighting and rescue vehicles

Audit Commission
Hong Kong
31 March 2004

This audit review has been carried out under a set of guidelines tabled in the Provisional Legislative Council by the Chairman of the Public Accounts Committee on 11 February 1998. The guidelines were agreed between the Public Accounts Committee and the Director of Audit and have been accepted by the Government of the Hong Kong Special Administrative Region.

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MANAGEMENT AND MAINTENANCE OF FIRE-FIGHTING AND RESCUE VEHICLES

Contents

PART 1: INTRODUCTION

1.1 This PART describes the background to the audit on the management and maintenance of fire-fighting and rescue vehicles.

Background

1.2 The primary roles of the Fire Services Department (FSD) are to extinguish fires, to carry out rescue on land, sea and at the airport, to provide an emergency ambulance service for the sick and the injured, and to give advice on the fire protection measures to the public. The FSD is organised into seven commands (i.e. three operational Fire Commands, an Ambulance Command, a Fire Safety Command, a Licensing and Certification Command, and a Headquarters Command).

1.3 Fire-fighting, rescue and other emergency service are provided by the Hong Kong Fire Command, the Kowloon Fire Command and the New Territories Fire Command. In 2002, the three Fire Commands responded to 41,204 fire calls and 20,413 special service calls (Note 1). Each Fire Command is organised into four to five geographical divisions and each division operates four to eight fire stations. To carry out their duties, the Fire Commands operate a fleet of vehicles fitted with fire-fighting and rescue equipment. In October 2003, there were 82 fire stations (i.e. 74 land-based fire stations, 6 fireboat stations/berths and 2 airport stations) located in different areas of the territory.

1.4 Emergency ambulance service for the sick and the injured is provided by the Ambulance Command. It operates a fleet of ambulances, ambulance aid motorcycles and other support vehicles to carry out its duties. In 2002, the Command responded to 559,000 emergency ambulance calls and conveyed 510,000 patients or casualties to hospitals. In October 2003, there were 31 ambulance depots located in different areas of the territory.

Fire-fighting and rescue vehicles

1.5 In October 2003, the FSD operated 819 fire-fighting and rescue vehicles. Details are given in Appendix A. The prices of these vehicles range from $130,000 for an ambulance aid motorcycle to $9 million for a crash fire tender (Note 2). Their estimated useful lives range from 5 to 15 years. In 2002-03, the expenditure incurred for the procurement and replacement of fire-fighting and rescue vehicles, plant and equipment was $113 million.

Note 1: *Special service calls cover a wide range of incidents including industrial accidents, gas leakage, landslides, flooding and house collapse.*

Note 2: *A crash fire tender is equipped with an aspirating monitor capable of producing foam in a dispersed pattern for blanketing purpose, and with an effective range appropriate to the length of the longest aircraft for carrying out fire-fighting at the airport.*

1.6 The Workshops and Transport Division (WTD) of FSD Headquarters Command is responsible for all engineering matters relating to the design, development, procurement, inspection, modification, testing, commissioning, and maintenance of the fire-fighting and rescue vehicles, plant and equipment. In October 2003, the WTD operated three workshops for maintaining 353 fire-fighting and rescue vehicles (see Appendix A).

1.7 Ambulances and other support vehicles are considered as large vans and endorsement of the Government Logistics Department is required for their replacement or addition. In October 2003, a total of 466 ambulances, ambulance aid motorcycles, airport vehicles and other support vehicles were maintained by the Electrical and Mechanical Services Department (EMSD) under the Service Level Agreements (SLAs) signed between the FSD and Electrical and Mechanical Services Trading Fund (EMSTF — see Appendix A).

Audit review

1.8 The Audit Commission (Audit) has recently conducted a review of the management and maintenance of fire-fighting and rescue vehicles. The audit focused on the following areas:

(a) maintenance service provided by the WTD (see PART 2);

(b) maintenance service provided by the EMSD (see PART 3);

(c) stocks of spare parts for fire-fighting and rescue vehicles (see PART 4); and

(d) traffic accidents involving fire-fighting and rescue vehicles (see PART 5).

1.9 In carrying out the audit review, Audit examined the records and interviewed the staff of the FSD and the EMSD. The audit has revealed that there is room for improvement in the management and maintenance of fire-fighting and rescue vehicles. Audit has made a number of recommendations to address the related issues.

General response from the Administration

1.10 The **Secretary for Security** has agreed in general with the audit observations and recommendations. He has also said that he welcomes constructive value for money audit reviews on the use of resources by the departments within his policy portfolio that take into account the nature of work and special operational needs of the departments concerned.

1.11 The **Director of Fire Services** has said that he considers that the audit recommendations are very reasonable and appropriate.

PART 2: MAINTENANCE SERVICE PROVIDED BY THE WORKSHOPS AND TRANSPORT DIVISION

2.1 This PART examines the maintenance service provided by the WTD and suggests measures to improve its cost-effectiveness.

Functions of the Workshops and Transport Division

2.2 The WTD, headed by a Senior Electrical and Mechanical Engineer seconded from the EMSD, is mainly responsible for the procurement and maintenance of fire-fighting and rescue vehicles. It operates three workshops (i.e. the Hong Kong Workshop, the Kowloon Workshop and the New Territories Workshop). Each workshop is mainly manned by disciplined services staff assigned with maintenance duties as carpenters, cobblers, electricians, fitters, hose repairers, metalsmiths, painters, tailors and welders. Details are given in Appendix B. These disciplined services staff belong to the Fireman (Workshop) grade. In October 2003, there were 31 civilian staff and 139 disciplined services staff on the establishment of the WTD. Details are given in Appendix C.

Audit observations

Workload of FSD workshops

2.3 Despite an increase in the number of fire-fighting and rescue vehicles maintained by the WTD by 9% from 307 in 1999-2000 to 336 in 2002-03, the establishment and strength of the WTD had decreased. From 1999-2000 to 2002-03, the establishment of the WTD decreased by 6% from 184 posts to 173 posts. Its strength decreased by 8% from 175 staff to 161 staff. The major repair and maintenance work of FSD workshops included service calls attended by maintenance staff of the WTD for repairing vehicles outside FSD workshops, and regular preventive maintenance jobs carried out in the workshops. According to the FSD, preventive maintenance was comprehensive servicing as opposed to service calls for repairing particular faults. From 1999-2000 to 2002-03, the number of service calls decreased by 16% from 4,839 to 4,046 and the number of preventive maintenance jobs increased by 21% from 2,067 to 2,493. Therefore, during the same period, the total number of repair and maintenance jobs carried out by the workshops decreased by 5% from 6,906 to 6,539.

2.4 Audit noted that the disciplined services staff of the WTD were not required to keep time records of the time available for maintenance jobs and the time charged to maintenance jobs. In the absence of such time records, there was a lack of evidence to substantiate that the disciplined services staff had been gainfully employed during their

working hours. **In Audit's view, for better manpower planning and for the purpose of performance assessment, the disciplined services staff of the WTD need to keep time records of work done during their working hours.**

2.5 In March 2003, to bring about long-term savings to the Government, the second Voluntary Retirement Scheme (VRS) was launched to provide an exit mechanism for identified or anticipated surplus staff to leave the civil service voluntarily. The Fireman (Workshop) grade was one of the designated grades with identified or anticipated surplus staff to retire from the service voluntarily. According to FSD return on the second VRS submitted to the Security Bureau, except for the fitters and electricians, all Fireman (Workshop) grade staff were eligible to participate in the second VRS and the FSD anticipated that there would be 37 surplus staff in 2004-05.

2.6 In response to Audit enquiry, the FSD informed Audit in February 2004 that in fact there was no surplus staff in the WTD. The 37 anticipated surplus staff in 2004-05 mentioned in the return on the second VRS only reflected a scope for outsourcing the maintenance work of Firemen (Workshop) other than the fitters and electricians. The FSD's plan was to replace the Firemen (Workshop) who applied to join the second VRS by contract staff. However, despite the FSD's anticipation that there would be 37 staff to join the second VRS in 2004-05, no Firemen (Workshop) actually applied to join the second VRS. In this connection, Audit noted that since 1996, the FSD had not conducted any establishment review of its WTD. **In Audit's view, the FSD needs to conduct an establishment review of the WTD to ensure that its in-house vehicle maintenance service is cost-effective.**

Targets for vehicle availability and turnaround time

2.7 Performance targets are set for the general availability and turnaround time of vehicles maintained by the EMSD. The EMSD has to achieve 92% of the vehicle availability and 90% of the agreed turnaround time. However, unlike the vehicles maintained by the EMSD, the FSD only set targets for the availability of 252 vehicles (i.e. 235 front-line fire-fighting vehicles and 17 light pumping appliances — see Appendix A). According to the Fire Services Departmental Policy Instructions, the WTD has to achieve an average availability of 90% for these vehicles. For the other 101 vehicles maintained by the workshops, no targets are set for their availability. Audit noted that from 2000 to 2002, the average availability level of all the fire-fighting and rescue vehicles maintained by FSD workshops was 91%. However, the workshops failed to achieve the target monthly availability levels of the 252 vehicles for 36% of the time from 2000 to 2002.

2.8 In response to Audit enquiry in February 2004, the FSD informed Audit that it had set a general availability target of 90% for all the vehicles maintained by its workshops

although the Fire Service Departmental Policy Instructions only laid down the availability targets for 252 vehicles. The availability target was under close monitoring by all the concerned parties including the workshops' officers-in-charge and the Commanders at fire stations. The monitoring of the availability of vehicles was a regular item on the agenda of the Bimonthly Workshop Management Meeting. In addition, the Head of the WTD would review the availability of vehicles biennially. As far as could be ascertained by Audit, there was no relevant record indicating that the failure to achieve the target availability levels of the 252 vehicles had been vigorously followed up by the concerned parties. **In Audit's view, to monitor the operation of the workshops more efficiently and effectively, the FSD needs to lay down in the Departmental Policy Instructions targets for the availability and turnaround time of all the vehicles maintained by its workshops. The FSD also needs to review the procedures for the management to monitor the availability and turnaround time of the vehicles maintained by its workshops and to ensure that follow-up action is taken promptly.**

Justification for employing disciplined services staff for maintenance duties

2.9 ***Civilian maintenance staff of the EMSD.*** FSD vehicles used for providing emergency ambulance service (such as ambulances, ambulance aid motorcycles and other support vehicles) are mostly maintained by the EMSD. The EMSD operates seven servicing stations to provide maintenance service for government departments, including the FSD. All these servicing stations are manned by civilian maintenance staff of the EMSD.

2.10 ***Disciplined services maintenance staff of the FSD.*** Unlike EMSD servicing stations, FSD workshops have been manned by disciplined services maintenance staff since 1947. Except for 11 supervisory staff and 20 supporting staff, the workshops are manned by disciplined services staff. Details are given in Appendix C. The Head of the WTD has explained that the maintenance staff of its workshops are required to attend to the scenes of fire alarms of No. 3 and above to repair front-line fire-fighting vehicles on the spot so as to ensure that the fire-fighting equipment mounted on the vehicles continues to function properly. Civilian staff who are not trained on fire ground procedures cannot meet this duty requirement. Therefore, disciplined services staff who are trained on fire ground procedures have to be employed as maintenance staff. As the workshop supervisory staff are not required to work in the front line of the fire scene, they do not need to be disciplined services staff. Details are given in Appendix D.

2.11 ***FSD justification not applicable to all maintenance staff.*** Audit examination of the duty lists of the maintenance staff of FSD workshops reveals that only the fitters, metalsmiths and welders are required to attend to the scenes of fire alarms of No. 3 and above (see Appendix D). Staff assigned with other maintenance duties are not required to attend to the scene of any fire alarm. Therefore, FSD justification of employing disciplined

services staff is not applicable to the staff with maintenance duties as carpenter, cobbler, electrician, hose repairer, painter and tailor.

2.12 In response to Audit enquiry, the FSD has informed Audit that, in practice, only the fitters and the electricians are required to attend to the scenes of the fire alarms of No. 3 and above. Therefore, FSD justification of employing disciplined services staff is not applicable to the staff other than fitters and electricians. Except for the fitters and electricians, all Fireman (Workshop) grade staff were eligible to participate in the second VRS. The FSD will update the duty lists of the maintenance staff of its workshops. Audit notes that the additional annual staff cost of employing disciplined services staff instead of civilian staff as maintenance staff (other than fitters and electricians) is $1.8 million. **Audit considers that, other than the fitters and electricians, FSD workshops can employ maintenance staff on civilian terms and conditions of service (or on non-civil service contract terms).**

Availability of maintenance service from authorised local agents

2.13 In the 1940s, the fire-fighting and rescue vehicles and the fire-fighting equipment mounted on them were mainly supplied by manufacturers from countries such as Germany, United Kingdom, United States and Japan. However, no local maintenance service was provided by the manufacturers as they considered it not commercially viable to set up a maintenance centre for the small quantity of fire-fighting and rescue vehicles purchased by the FSD. In order that a reasonable operational availability of its fire-fighting vehicles could be maintained, the FSD commenced operating its first workshop in 1947.

2.14 In October 2003, 353 fire-fighting and rescue vehicles were maintained by FSD workshops (see Appendix A). There were 235 front-line fire-fighting vehicles, 103 specialised vehicles and 15 other support vehicles. According to the Head of the WTD:

(a) maintenance service might be available from the manufacturers' authorised local agents for the chassis of all the fire-fighting and rescue vehicles now being maintained by FSD workshops;

(b) maintenance service might also be available from the authorised local agents for some of the fixed and portable fire-fighting equipment mounted on the vehicles;

(c) there might be problems, such as obtaining technical data of chassis, if the maintenance service contractor was not an authorised agent of the manufacturer. This would seriously undermine the feasibility of outsourcing the maintenance work; and

(d) if FSD outsourced the chassis maintenance separately to the respective authorised local agents, it would seriously defeat the purpose of competitive bidding and increase the contract administration workload.

2.15 In response to Audit enquiry, the FSD has informed Audit that the maintenance service for the fire-fighting and rescue vehicles is not readily available from the local agents of the manufacturers. Unlike general motor vehicles, the fire-fighting and rescue vehicles are fitted with auto transmission, integral retarder, and differential lock and power take-off. Special training for maintenance staff of the local agents is required before maintenance service can be provided for the fire-fighting and rescue vehicles.

2.16 The possibility of obtaining maintenance service from local agents provides a good opportunity for the FSD to review the suitability and cost-effectiveness of the present practice of maintaining the fire-fighting and rescue vehicles in-house. Outsourcing the maintenance service of these vehicles can also bring about savings in the capital outlay of keeping the vehicle spare parts, and the notional rent and other operational costs of FSD storehouses. **Audit considers that in the long run, the FSD should negotiate with the local agents and manufacturers with a view to exploring the feasibility of outsourcing the maintenance service of the chassis, and the fixed and portable fire-fighting equipment of its vehicles.**

Audit recommendations

2.17 **Audit has *recommended* that the Director of Fire Services should:**

(a) **maintain time records for the utilisation of the disciplined services staff of the WTD (para. 2.4);**

(b) **promptly conduct an establishment review of the WTD when the time records for the utilisation of the disciplined services staff are available so as to ensure that the WTD is operating cost-effectively (para. 2.6);**

(c) **set targets for the turnaround time of all the fire-fighting and rescue vehicles maintained by the workshops (para. 2.8);**

(d) **establish procedures to ensure that the monthly availability of the vehicles maintained by the FSD, particularly the front-line fire-fighting vehicles, is reviewed periodically (para. 2.8);**

(e) **establish procedures to ensure that follow-up action is taken promptly to address the failure to achieve the target availability level of the vehicles maintained by the FSD (para. 2.8);**

(f) **critically assess the feasibility, and the costs and benefits of employing civilian staff (including non-civil service contract staff) to replace the existing disciplined services staff in the workshops, with the exception of fitters and electricians who are required to attend to scenes of fire alarms of No. 3 and above (para. 2.12);**

(g) **evaluate the total cost of the maintenance service provided by the WTD, taking into account the capital outlay of keeping the vehicle spare parts, and the notional rent and other operational costs of the storehouses (para. 2.15); and**

(h) **explore the feasibility of outsourcing the maintenance service for the chassis, and the fixed and portable fire-fighting equipment of the fire-fighting and rescue vehicles in the long run (paras. 2.15 and 2.16).**

Response from the Administration

2.18 The **Director of Fire Services** has agreed with all the audit recommendations mentioned in paragraph 2.17. He has also said that the FSD:

(a) is devising the time records for the utilisation of the disciplined services staff of the WTD;

(b) will set targets for the turnaround time of all the fire-fighting and rescue vehicles maintained by its workshops;

(c) will review and tighten up the existing practices in monitoring and ensuring the availability of fire-fighting and rescue vehicles, and have them properly documented into written procedures; and

(d) will consider outsourcing the work or employing civilian staff (including non-civil service contract staff) to replace the concerned workshop staff upon the latter leaving the Department.

PART 3: MAINTENANCE SERVICE PROVIDED BY THE ELECTRICAL AND MECHANICAL SERVICES DEPARTMENT

3.1 This PART examines the maintenance service provided by the EMSD and suggests measures to improve its cost-effectiveness.

Fire Services Department free to choose alternative service providers

3.2 The EMSD has operated in the form of a trading fund since 1996. Up to 31 July 1999, government departments were required to use the service of the EMSD. Thereafter, user departments were gradually untied from the service of the EMSD over a three-year period from 2000 to 2002. According to the untying programme, from August 2002, the FSD is free to retain the service of the EMSD or to choose alternative service providers to meet its electrical and mechanical service requirements.

Service Level Agreements

3.3 In October 2001, without recourse to competitive bidding from other service providers, the FSD entered into two SLAs with the EMSTF. One SLA is for the maintenance of ambulances and another SLA is for the maintenance of motor vehicles (including ambulance aid motorcycles and other support vehicles). As at 31 October 2003, 238 ambulances and 228 motor vehicles were maintained by the EMSD. Under the two SLAs, the EMSD provides the following maintenance service for the designated vehicles of the FSD from 2001-02 to 2005-06 (Note 3):

(a) ***Preventive maintenance.*** This is the provision of all routine servicing and inspection in accordance with the vehicle manufacturers' service recommendations;

(b) ***Corrective maintenance.*** This is the provision of repair service due to normal wear and tear;

(c) ***Running maintenance.*** This is the provision of quick repair service for minor mechanical problems of vehicles by deploying EMSD staff to the Airport Fire Contingent and the Ngau Tau Kok Ambulance Depot; and

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Note 3: *Before 2001-02, the FSD and the EMSTF entered into Servicing and Maintenance Agreement annually for each financial year.*

(d) ***Breakdown towing.*** This includes 24-hour breakdown towing, issuing of annual certification of roadworthiness, keeping of maintenance records and supply of batteries and tyres.

3.4 Apart from the above maintenance service, the EMSD also provides other maintenance services (such as modification of vehicles, repair of damage due to misuse or accident, interior cleaning of vehicles, and collection and delivery of vehicles for servicing) at additional charges. From 2000-01 to 2002-03, the total payment for the vehicle maintenance service provided by the EMSD was $93.2 million. Details are given in Appendix E. According to the two SLAs, either the FSD or the EMSTF has the right at any time to terminate or suspend the agreement, if the other party defaults in the performance of any obligation under the agreement, or by giving three-month notice in writing.

Performance targets

3.5 The performance targets for the maintenance service are specified in the SLAs. For normal maintenance work in EMSD servicing stations, the targeted general availability of ambulances and other vehicles is 92%. For preventive maintenance work, the EMSD has to achieve a target of 90% of the agreed turnaround time of each type of vehicles. According to EMSD quarterly reports on its actual performance submitted to the FSD, the EMSD was successful in achieving its performance targets from 2000-01 to 2002-03. Details are shown in Table 1.

Table 1

Performance of the Electrical and Mechanical Services Department from 2000-01 to 2002-03

Financial year	Achievement of performance target					
	Vehicle fleet availability			Vehicle fleet turnaround time		
	Target	Ambulance	Other vehicles	Target	Ambulance	Other vehicles
2000-01	92%	92%	95%	90%	94%	96%
2001-02	92%	94%	97%	90%	93%	93%
2002-03	92%	94%	97%	90%	96%	96%

Source: FSD records

Audit observations

Absence of review on the cost-effectiveness of EMSD maintenance service

3.6 In September 1997, the Director of Fire Services informed the Director of Electrical and Mechanical Services that the FSD would carry out a study into the most efficient and cost-effective means of providing maintenance service for the fire-fighting and rescue vehicles. As ambulances, ambulance aid motorcycles and other support vehicles were maintained by the EMSD, the study would cover EMSD maintenance service. In response, the Director of Electrical and Mechanical Services suggested that, as the EMSTF was newly set up in August 1996, it would be more appropriate to conduct the review in 1999-2000. The Director of Fire Services agreed with the suggestion. However, up to 31 December 2003, the FSD had not conducted any review on the cost-effectiveness of the maintenance service provided by the EMSD.

3.7 According to Financial Circular No. 6/2001, after the promulgation of the untying programme, a Controlling Officer can choose to enter into an SLA with the EMSTF without recourse to competitive bidding if he is satisfied that the trading fund is fully capable of delivering specific service in a cost-effective manner. Without conducting any review on the cost-effectiveness of the maintenance service provided by the EMSD, it is unclear how the FSD has satisfied itself that EMSD maintenance service is cost-effective.

3.8 In response to Audit enquiry about the absence of review on the cost-effectiveness of EMSD maintenance service, the FSD informed Audit in February 2004 that the FSD had decided to enter into the 5-year SLAs with the EMSTF three months before the issue of Financial Circular No. 6/2001. The FSD agreed to retain EMSD maintenance service mainly on the ground of substantial cut in the maintenance service charges and the high reliability of the service provided by the EMSD. Given the requirement of the Financial Circular, the FSD agreed that there was a need to review the cost-effectiveness of the maintenance service provided by the EMSD.

Outsourcing of vehicle maintenance service

3.9 ***Maintenance service available from local agents.*** FSD vehicles maintained by the EMSD are mainly ambulances, ambulance aid motorcycles and other support vehicles. Audit notes that the majority of these vehicles are supplied by vehicle manufacturers with local agents. These agents operate workshops locally for providing repair and maintenance service to the vehicles purchased from them or from the manufacturers. In October 2003, among the 466 vehicles maintained by the EMSD, 448 vehicles (comprising 238 ambulances, 38 ambulance aid motorcycles and 172 other support vehicles) were supplied by 11 manufacturers with local agents which also provided vehicle maintenance service to other government departments.

3.10 ***Other government departments vehicle maintenance service contracts.*** With the promulgation of the untying programme on EMSD maintenance service, Audit noted that in 2002, three government departments had awarded three vehicle maintenance service contracts to private sector service providers after competitive bidding. Audit comparison of the tender evaluation results of these three vehicle maintenance service contracts indicated that the tender prices of the EMSD were 13% to 31% higher than those of the successful tenderers. Audit also noted that prior to 2002, these three government departments had awarded three vehicle maintenance service contracts to the EMSD after competitive bidding. The tender prices of the EMSD were 7% to 17% lower than those of the second lowest tenderers. However, on completion of these three contracts awarded prior to 2002, the EMSD failed to secure two of the three new vehicle maintenance service contracts for the same fleet of vehicles.

3.11 Audit noted that, in two of the three maintenance service contracts awarded in 2002, two government departments had addressed the technical capability of the private sector service providers (Note 4) so as to ensure that the quality of service would not be compromised by their low tender prices. **In view of the availability of maintenance service provided by the private sector service providers, and the tender price differences between the EMSD and the private sector service providers, Audit considers that the FSD needs to award the contract for the maintenance service of the 448 vehicles through competitive bidding.** For the 18 vehicles stationed at the Hong Kong International Airport and maintained by the EMSD, as no maintenance service is provided by local agents, the FSD needs to explore the option of providing the maintenance service in-house when FSD resources are available.

Audit recommendations

3.12 **Audit has *recommended* that the Director of Fire Services should:**

(a) **review the cost-effectiveness of the vehicle maintenance service provided by the EMSD (para. 3.8);**

(b) **for the 448 ambulances and other support vehicles for which maintenance service is available from local agents, consider a phased outsourcing of the maintenance service through competitive bidding by the EMSD and private sector service providers so as to ensure that the fire-fighting and emergency ambulance service of the FSD is not affected (para. 3.11); and**

Note 4: *Quality scores are given to a tenderer according to its workshop facilities and equipment, workshop distribution, provision of workshop with 24-hour maintenance service, provision of vehicle delivery service and provision of towing service.*

(c) **for the 18 vehicles stationed at the Hong Kong International Airport for which no maintenance service is available from local agents, examine the feasibility and cost-effectiveness of providing the maintenance service in-house by FSD workshops when FSD resources are available (para. 3.11).**

Response from the Administration

3.13 The **Director of Fire Services** has agreed with all the audit recommendations mentioned in paragraph 3.12. He has also said that the FSD:

(a) will consider outsourcing the maintenance service through competitive bidding. As the vehicles involved are for the provision of emergency services, a phased approach is considered appropriate; and

(b) will conduct a feasibility and cost-effectiveness study on the provision of the maintenance service to the Airport Fire Contingent vehicles by its workshops.

3.14 The **Director of Electrical and Mechanical Services** has said that:

(a) notwithstanding the signing of the 5-year SLAs, there have been yearly reviews on the charge plan by the FSD and the EMSD to take into account the latter's results of productivity improvement initiatives. Since entering into trading fund operation, the EMSD has made continuous improvement on its provision of maintenance service and returned the benefits to client departments, including the FSD through price reductions while maintaining the compatible or better quality of services. The maintenance charges in 2002-03 are much less than the charges in 2001-02;

(b) the 448 vehicles are mostly special purpose vehicles of high utilisation and 24-hour operations requiring intensive maintenance programme. FSD ambulance requires extensive maintenance to its special equipment (such as special air-conditioning system, special pneumatic suspension system and special automatic gear box) on board. The EMSD has better equipped and trained staff to maintain these vehicles than most of the private sector service providers; and

(c) the extremely low tender prices in the last two years by private sector service providers were driven by poor economic situations and would unlikely be sustainable.

PART 4: STOCKS OF SPARE PARTS FOR FIRE-FIGHTING AND RESCUE VEHICLES

4.1 This PART examines the management of the stocks of spare parts for the fire-fighting and rescue vehicles, and suggests measures for improvement.

Functions of the Stores and Supplies Section

4.2 The Stores and Supplies Section of the FSD, headed by a Senior Divisional Officer, is responsible for the procurement and management of FSD stores. In addition to two storehouses for general/medical equipment and uniform, the Section manages three storehouses for keeping the spare parts for the fire-fighting and rescue vehicles maintained by FSD workshops. In August 2003, 15,145 items of spare parts with a total value of $46 million were kept in the three storehouses. Details are shown in Table 2. From 1998-99 to 2002-03, the average annual procurement cost of spare parts was $12.8 million.

Table 2

Stocks of spare parts for fire-fighting and rescue vehicles (31 August 2003)

Storehouse	Number of stock items	Value of stock items ($ million)
Hong Kong	7,921	25
Kowloon	3,519	9
New Territories	3,705	12
Total	**15,145**	**46**

Source: FSD records

Installation of computerised stock control system

4.3 In 1998, the FSD installed a computerised stock control system "Allocated Store Ledger Posting System" in the Hong Kong Storehouse for controlling and accounting the stocks of spare parts for the fire-fighting and rescue vehicles. This system was used by the Government Logistics Department (i.e. the then Government Supplies Department). In 1999, the same system was also installed in the Kowloon Storehouse and the New Territories Storehouse. The FSD expected that the installation of this computer system

would provide accurate and timely information on stock utilisation and stock level so that the FSD could manage the stocks of spare parts more efficiently and effectively.

Reorganisation of the Stores and Supplies Section

4.4 In 1999, the Government Logistics Department conducted a system survey on the Stores and Supplies Section of the FSD with a view to identifying room for improvement in the supplies system. The survey concluded that, due to insufficient manpower, the operation of the supplies system had the following irregularities and deficiencies:

(a) stock items were not reviewed regularly;

(b) some of the stock items were not stored in a proper condition;

(c) some of the stock items were not replenished in time; and

(d) discrepancies between the stock record balances and the physical stock balances of some stock items were found.

In response to the recommendations made by the Government Logistics Department in January 2003, the FSD reorganised the Stores and Supplies Section and created a new post of Senior Supplies Supervisor to oversee the three storehouses.

Audit observations

Absence of a common inventory database

4.5 Due to system limitation, the information stored in the computer system of individual storehouses was not linked up to form a common inventory database. Each storehouse manages its own stocks (i.e. without reference to the stock record balances of the same stock items in the other two storehouses). The deficiency of the system restricts FSD capability in the management of the spare parts stocks of the fire-fighting and rescue vehicles kept in the storehouses. Without a centralised common inventory database, the storehouses cannot plan and control the stock levels of all the stock items efficiently and effectively.

Stock-out situation

4.6 The main objective of the Stores and Supplies Section is to ensure that sufficient spare parts are kept in hand for the maintenance of the fire-fighting and rescue vehicles. In 2002, the workshops completed about 20,000 repair and maintenance jobs. However,

Audit examination of the records of the repair and maintenance jobs of the workshops revealed that in 2002, 46 repair and maintenance jobs were delayed due to the lack of spare parts. In one job, the delay was 213 days. On average, each of the 46 repair and maintenance jobs was delayed by 26 days.

4.7 ***Stock reorder levels.*** The FSD has set stock reorder levels for individual stock items in order to prevent a stock-out situation. The stock reorder levels are calculated with reference to the consumption pattern of individual spare parts in the preceding three years. The computer system generates Recommended Order Reports for stock items with stock record balances lower than their reorder levels. Audit analysis of the stock record balances revealed that as at 31 August 2003, the balances of 5,898 stock items with a total value of $3.6 million were below their reorder levels. Details are shown in Table 3. Up to the end of September 2003, orders to replenish these stock items were not placed.

Table 3

Stock items with record balances lower than their reorder levels (31 August 2003)

Storehouse	Number of stock items	Value of stock items ($ million)
Hong Kong	3,807	1.9
Kowloon	988	0.8
New Territories	1,103	0.9
Total	**5,898**	**3.6**

Source: FSD records

4.8 In response to Audit enquiry, the FSD informed Audit that the computer system had only used the consumption pattern of the spare parts of the preceding three years to calculate the reorder levels, while in general the useful life of the spare parts was three to ten years. Therefore, in practice, the Recommended Order Reports were not strictly adhered to for determining the replenishment of the stock items. **Audit considers that, if the reordering levels generated by the computer system are considered inadequate, the FSD needs to identify means to revise the system.**

4.9 ***Minimum stock levels.*** The FSD has also set minimum stock levels for individual stock items to prevent a stock-out situation. The minimum stock level for each

stock item is determined by the engineering staff taking into account vehicle manufacturers' recommendations. These minimum stock levels were input into the computers when the computerised stock control systems were installed in 1998 and 1999 and when new types of spare parts were purchased. Audit noted that the computer systems had not generated reports for stock items with stock record balances below the minimum stock levels. Audit analysis of the stock record balances of individual stock items, as shown in Table 4, revealed that as at 31 August 2003:

(a) the stock record balances of 5,592 stock items (representing 36% of the total number of stock items) were below their minimum stock levels; and

(b) the stock record balances of 1,646 out of these 5,592 stock items were below their minimum stock levels for over five years.

Table 4

Analysis of stock items with stock record balances below their minimum stock levels (31 August 2003)

	No. of stock items			
Duration	**Hong Kong Storehouse**	**Kowloon Storehouse**	**New Territories Storehouse**	**Total**
1 year or less	308	198	254	760
Over 1 year to 2 years	1,806	253	91	2,150
Over 2 years to 3 years	172	120	97	389
Over 3 years to 4 years	195	94	58	347
Over 4 years to 5 years	235	37	28	300
Over 5 years	898	282	466	1,646
Total	**3,614**	**984**	**994**	**5,592**

Source: FSD records

4.10 In response to Audit enquiry, the storehouse staff said that they had not solely relied on the minimum stock levels to determine the minimum amount of stocks to be kept for individual stock items. For some items, they used their own experience and judgement to determine the minimum amount of stocks to be kept. **Audit considers that in order to manage its stocks of spare parts efficiently and effectively for all stock items, the FSD needs to update the minimum stock levels. In determining the minimum stock levels, the FSD needs to critically re-examine the requirement to keep the vehicle spare parts which are available from manufacturers' authorised local agents (see para. 2.14).**

Discrepancies between stock record and physical stock balances

4.11 ***Annual stock checks by the FSD.*** According to the Stores and Procurement Regulations (SPRs), a Controlling Officer should appoint officers of his department to inspect and verify annually all stock items held in all stores under his control (Note 5). From 2000-01 to 2002-03, the results of FSD annual stock verifications were reported as satisfactory and no discrepancy between the stock record balances and the physical stock balances was found.

4.12 ***Surprise stock checks by Audit.*** Discrepancies between stock record balances and the physical stock balances were found in the two surprise stock checks conducted by Audit in August and September 2003. Ninety out of the 418 stock items included in Audit stock verification were found to have discrepancies. Among these 90 items, there were 43 surplus stock items with a total value of $40,000 and 47 deficient stock items with a total value of $80,000. The result of Audit stock verification indicated that the stock records had not been kept properly.

4.13 ***Surprise stock checks not carried out within specified intervals.*** The SPRs specify that the Departmental Stores Manager is responsible for carrying out surprise stock and security checks at irregular intervals at least once every three months unless the Director of Government Logistics has authorised otherwise. The findings of these surprise checks have to be recorded in the Surprise Inspection Book. From 2000-01 to 2002-03, the results of FSD surprise inspections were reported as satisfactory and no irregularity was found. However, Audit noted that some of these surprise inspections were carried out at intervals longer than the three-month interval specified in the SPRs.

4.14 ***Loan Register not kept properly.*** According to the SPRs, the issue of stock items on loan to officers within the department must be recorded in a Loan Register and the items must be retrieved within the specified period of loan. Audit examination of the stock

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Note 5: *According to the revised SPRs effective from 30 December 2003, a Controlling Officer should appoint officers of his department to inspect and verify all stock items held in all stores under his control at least once every three years.*

records of the storehouses revealed that the Loan Register of stock items had not been kept properly. Loans of stock items to officers within the FSD were not recorded in the Loan Register. Consequently, the retrieval of the loaned stock items could not be ensured. **Without a proper record of the stock items on loan to officers, the storehouse management could not keep accurate balances of the stocks of spare parts.**

Dormant stocks

4.15 According to the Mechanical Inspector (Project and Management) of the FSD, most of the spare parts have a useful life of three to ten years. Audit analysis of the inventory records of the stocks of spare parts for the fire-fighting and rescue vehicles as at 31 August 2003 revealed that 4,261 stock items with a total value of $3.63 million had been kept in the storehouses for more than 10 years without stock movement. Details are shown in Table 5. Among these dormant stock items, 960 stock items with a total value of $280,000 had not been used for more than 25 years.

Table 5

Ageing analysis of dormant stocks
(31 August 2003)

Dormant period	Hong Kong Storehouse		Kowloon Storehouse		New Territories Storehouse		Total	
	No. of stock items	Value ($ million)	No. of stock items	Value ($ million)	No. of stock items	Value ($ million)	No. of stock items	Value ($ million)
Over 10 to 15 years	709	1.39	655	0.54	505	0.41	**1,869**	**2.34**
Over 15 to 20 years	537	0.51	92	0.13	189	0.10	**818**	**0.74**
Over 20 to 25 years	436	0.20	58	0.02	120	0.05	**614**	**0.27**
Over 25 years	587	0.14	56	0.02	317	0.12	**960**	**0.28**
Total	**2,269**	**2.24**	**861**	**0.71**	**1,131**	**0.68**	**4,261**	**3.63**

Source: FSD records

4.16 In response to Audit enquiry, the FSD advised that two reviews on dormant stock items had been conducted from February 1999 to July 1999 and from June 2000 to April 2002. These dormant stock items not recommended for disposal in these two reviews were mostly metal spare parts such as steel shackle, camshaft and thrust washer. They were considered still serviceable. The latest review initiated in July 2003 was still in progress. According to the FSD, some of the vehicles would have a life span of over 15 years, and many of the spare parts could be commonly used for vehicles of different/new models under the same brand. It was therefore not uncommon to hold stocks of spare parts for a period over 15 years. As such, out of 4,261 dormant stock items, only 237 items with a total value of $115,240 were obsolete and unserviceable for the purpose of maintaining the fire-fighting and rescue vehicles. Details are shown in Table 6. Audit noted that monthly computer reports were generated for stock items which had remained dormant for more than three years. However, these reports were not reviewed by the storehouse management. **Audit considers that the FSD needs to closely monitor the level of dormant stock items in order to manage the stocks of spare parts efficiently and effectively.**

Table 6

Ageing analysis of dormant stocks identified by the Fire Services Department as obsolete and unserviceable (31 August 2003)

Dormant period	Number of stock items	Value ($)
Over 10 to 15 years	52	50,227
Over 15 to 20 years	13	15,915
Over 20 to 25 years	60	23,040
Over 25 years	112	26,058
Total	**237**	**115,240**

Source: FSD records

Monitoring the delivery lead time of individual stock items

4.17 To monitor the lead time for the delivery of stock items, the computerised stock control system enables the user to input the ordering and the delivery dates of individual stock items into the system. However, Audit examination of the records from September 2001 to August 2003 revealed that the ordering and the delivery dates of the

stock items had not been properly recorded. Details, as shown in Table 7, are summarised as follows:

(a) ***Hong Kong Storehouse.*** The delivery dates of 93.5% of the stock items were not recorded in the system;

(b) ***Kowloon Storehouse.*** The delivery dates of 92.4% of the stock items were earlier than the ordering dates; and

(c) ***New Territories Storehouse.*** The delivery dates of 88% of the stock items were the same as the ordering dates.

Table 7

Analysis of order records
from September 2001 to August 2003

Delivery date recorded in computerised system	Order records							
	Hong Kong Storehouse		Kowloon Storehouse		New Territories Storehouse		Total	
	(No.)	(%)	(No.)	(%)	(No.)	(%)	(No.)	(%)
No record	3,842	93.5%	39	2.3%	—	—	3,881	49.4%
Earlier than ordering date	181	4.4%	1,561	92.4%	243	11.8%	1,985	25.2%
Same as ordering date	50	1.2%	87	5.1%	1,817	88.0%	1,954	24.9%
Later than ordering date	36	0.9%	3	0.2%	4	0.2%	43	0.5%
Total	**4,109**	**100%**	**1,690**	**100%**	**2,064**	**100%**	**7,863**	**100%**

Source: FSD records

4.18 **Audit considers that the proper recording of the ordering and the delivery dates, and the monitoring of the delivery lead time of stock items are essential for managing the stocks of spare parts efficiently and effectively.**

Audit recommendations

4.19 **Audit has *recommended* that the Director of Fire Services should:**

(a) **develop a common inventory database under a centralised stock control system to facilitate more efficient and effective planning and control of the stocks of spare parts (para. 4.5);**

(b) **reduce the stocks of spare parts which are available from manufacturers' authorised local agents (para. 4.10);**

(c) **regularly review and revise the stock reorder levels and the minimum stock levels to ensure that the stocks of spare parts are kept at an optimum level (paras. 4.8 and 4.10);**

(d) **promulgate procedures to ensure that computer reports on reorder levels and minimum stock levels are generated and reviewed, and that appropriate follow-up action is taken by the storehouse management (paras. 4.8 and 4.10);**

(e) **investigate the discrepancies between the stock record balances and the physical stock balances and rectify promptly the identified weaknesses or irregularities in the stock recording and control systems (para. 4.12);**

(f) **review the stock checks and loan recording procedures to ensure that surprise stock checks are carried out in accordance with the time interval specified in the SPRs and that the loan register is kept properly (paras. 4.13 and 4.14);**

(g) **promulgate procedures to ensure that management information on dormant stock items is reviewed and that follow-up action is taken by the storehouse management with a view to identifying and disposing of the unserviceable stock items (para. 4.16); and**

(h) **issue guidelines to the staff of the Stores and Supplies Section to ensure that both the ordering and the delivery dates of individual stock items are properly recorded in the computerised stock control system (para. 4.18).**

Response from the Administration

4.20 The **Director of Fire Services** has agreed with all the audit recommendations mentioned in paragraph 4.19. He has also said that the FSD:

(a) is exploring ways to develop a common inventory database for use in all spare parts storehouses;

(b) is reviewing the optimum stock levels with a view to reducing the stocks;

(c) has promulgated guidelines for reviewing and revising the stock reorder levels and the minimum stock levels, including the frequency of review that can be afforded by the existing human resources;

(d) has promulgated procedures to review the computer reports on reorder levels and minimum stock levels, and to take appropriate follow-up action;

(e) had completed the investigation into the discrepancies. The discrepancies had been dealt with in accordance with the SPRs. The FSD will take steps to improve and strengthen the stock recording and control systems;

(f) has revised and promulgated the stock checks and loan recording procedures;

(g) has promulgated procedures to review slow moving/dormant stocks. If surplus stocks are identified, they will be disposed of in accordance with the SPRs; and

(h) has promulgated guidelines to ensure that both the ordering and delivery dates of individual stock items are properly recorded in the computerised stock control system.

4.21 The **Director of Government Logistics** has said that the "Allocated Store Ledger Posting System" was a standard computer system commonly used in store management at that time. The system does not link up the information of the three storehouses. Hence a manual communication system by telephone has been in operation. She supports the recommendation to enhance the computer system to provide a common inventory database in order to increase the cost-effectiveness of the operation. However, the implementation, along with the other recommendations, would require additional resources.

PART 5: TRAFFIC ACCIDENTS INVOLVING FIRE-FIGHTING AND RESCUE VEHICLES

5.1 This PART examines the procedures in handling traffic accidents involving fire-fighting and rescue vehicles, and suggests measures to further improve the handling procedures.

Exemption from speed and traffic lights restrictions when responding to an emergency

5.2 ***FSD user-drivers.*** The Driving Training School of the FSD is responsible for the training, testing and licensing of FSD user-drivers. FSD user-drivers are FSD staff who are required to drive the fire-fighting and rescue vehicles. Same as other Government drivers, the FSD user-drivers who are permitted to drive the fire-fighting and rescue vehicles are required to abide by the Standing Orders for Driving Government Vehicles issued by the Government Logistics Department.

5.3 ***Speed restriction on fire-fighting and rescue vehicles.*** According to the Road Traffic Ordinance (Cap. 374) and the Fire Services Department General Orders (FSDGO), when the FSD user-drivers are responding to emergency calls, they are not legally bound to obey traffic lights and traffic signs nor to observe the speed limit laid down for any road. However, by law the user-drivers are still accountable for any careless driving. Responding to an emergency call will not exonerate the user-driver from a charge of careless driving in any subsequent legal proceedings which may be instituted against him. Under the Road Traffic Ordinance, the exemption of the user-drivers from compliance with the traffic regulations shall not affect any civil claim for injury or damage to a person or to property.

5.4 ***Speed restriction on ambulances.*** The FSDGO have stipulated that ambulances with patients on board should not exceed the speed limit laid down by law for any road. However, these ambulances will be exempted from the speed restriction under the following circumstances:

(a) a doctor has advised that utmost urgency is necessary;

(b) the Ambulance Supervisor considers that the condition of the patient is deteriorating rapidly; or

(c) the patients' most urgent needs can only be addressed by extremely urgent medical aid in the hospitals (e.g. respiratory arrest, cardiac arrest, massive haemorrhage, acute poisoning or very extensive burns).

Like other fire-fighting and rescue vehicles, the exemption from speed restriction cannot be used as an excuse for careless driving.

Investigation procedures of traffic accidents

5.5 According to the administrative procedures laid down in the FSDGO for the investigation of traffic accidents involving fire-fighting and rescue vehicles (see Appendix F), any traffic accident has to be reported to the Director of Fire Services within 72 hours of the accident. The Head of the WTD will advise the Divisional Commander of the same division of the FSD user-driver involved in the traffic accident whether a Traffic Accident Inquiry Board (TAIB) should be set up to investigate the accident.

5.6 The objectives of the TAIB are to ascertain the cause of the accident, to establish whether it is attributable to negligence on the part of the FSD user-driver and to identify the person, if any, responsible for the damage of FSD vehicle. On completion of the investigation, the TAIB will recommend whether surcharge should be levied on, or disciplinary action be instituted against, the user-driver. The TAIB report together with its recommendations will be submitted to the Director of Fire Services for approval.

5.7 If an investigation by a TAIB is considered unnecessary, the Divisional Commander will investigate the traffic accident in line with the terms of reference of a TAIB. On completion of his investigation, the Divisional Commander will forward a Vehicle Accident Report together with his recommendations to the Director of Fire Services for approval.

Surcharge and disciplinary action

5.8 According to the FSDGO, a surcharge may be levied on a staff for damage caused to any departmental vehicle or property. The amount of the surcharge is limited to one-month salary of the staff concerned. In addition to the surcharge, if there has been a contravention of orders or instructions distinct in nature from any traffic offence, disciplinary action may be instituted against the staff whether or not he will be or has been charged in court. According to the Fire Services Ordinance (Cap. 95) and the FSDGO,

the punishment for any offences against discipline (Note 6) may be in the form of a fine, reduction in rank, deferment of increment, reprimand or extra duties. The fine is limited to one-month salary of the staff concerned.

Injury and damage caused by traffic accidents

5.9 Traffic accidents cause injuries and casualties to FSD staff and other road users. The FSD is keen to promote safe driving and to lower the rate of traffic accident involving fire-fighting and rescue vehicles. Besides, the FSD will incur cost for repairing the damaged fire-fighting and rescue vehicles and compensating the loss of the other parties involved in the traffic accidents. From 2000 to 2002, 134 casualties were reported in 709 traffic accidents involving fire-fighting and rescue vehicles. Details are shown in Table 8. The total repair cost of the damaged fire-fighting and rescue vehicles was $6.8 million and the total compensation paid to the other parties was $0.6 million.

Table 8

Analysis of traffic accidents from 2000 to 2002

Year	No. of accidents	No. of casualties (Note 1)	Compensation paid to the other parties (Note 2)	Repair cost of damaged fire-fighting and rescue vehicles
			($)	($)
2000	229	41	210,580	1,731,455
2001	246	55	358,517	3,050,605
2002	234	38	32,050	2,040,340
Total	**709**	**134**	**601,147**	**6,822,400**

Source: FSD records

Note 1: There was no readily available breakdown on the number of injuries and deaths in these cases.

Note 2: Up to January 2004, the processing of the other parties' claims for compensation in 33 cases was in progress.

Note 6: *The offences against discipline (such as knowingly making any false statement in connection with his duty or failing to carry out any lawful order) are specified in the First Schedule of the Fire Services Ordinance.*

5.10 Nine damaged fire-fighting and rescue vehicles were scrapped before the end of their useful life as a result of the traffic accidents from 2000 to 2002. The estimated total replacement cost of these fire-fighting and rescue vehicles was $14.98 million as shown in Table 9. Four of the nine vehicles, with an estimated total replacement cost of $1.78 million, were scrapped as a result of traffic accidents which occurred when the FSD user-drivers were not responding to emergency calls.

Table 9

Damaged fire-fighting and rescue vehicles scrapped as a result of traffic accidents from 2000 to 2002

		Estimated replacement cost of vehicles ($ million)
Responding to emergency calls		
Hydraulic platform		4.00
Diving tender		2.20
Turntable ladder		5.50
Ambulance		0.75
Ambulance		0.75
	Subtotal	**13.20**
Not responding to emergency calls		
Multi-purpose van		0.14
Multi-purpose van		0.14
Ambulance		0.75
Ambulance		0.75
	Subtotal	**1.78**
	Total	**14.98**

Source: FSD records

Audit observations

Inadequate technical evidence to support the conclusions of the TAIB

5.11 From 2000 to 2002, six TAIBs were set up to investigate six traffic accidents involving fire-fighting and rescue vehicles. Audit examination of these six traffic accident cases revealed that a turntable ladder with an estimated replacement cost of $5.5 million was scrapped as a result of a traffic accident in 2001. The TAIB responsible for the investigation of the traffic accident found that the FSD user-driver should be held responsible for the damage of the turntable ladder because he did not switch on the retarder (Note 7) and did not check the speed regularly on the speedometer during the course of his driving. The TAIB recommended that a surcharge should be levied on the user-driver who was considered at fault. However, the TAIB concluded that disciplinary action should not be instituted against the user-driver due to the lack of forensic report from the Government Laboratory and substantial evidence to prove that he was speeding. **In Audit's view, advice from experts on technical issues of the traffic accident should have been sought. This would have enabled the TAIB to take into account expert evidence and advice before arriving at its conclusions.**

Independence of the TAIB

5.12 According to the FSDGO, a TAIB should comprise four members. Two members are selected by the Divisional Commander of the same division of the FSD user-driver involved in the traffic accident, and the other two members are a Driving Instructor of the FSD Headquarters Command and a Workshop Officer. Audit noted that for all the six TAIBs set up from 2000 to 2002 for investigating the traffic accidents, two members of each TAIB (other than the Driving Instructor and the Workshop Officer) had been selected from the senior officers of the same divisions or even the same fire stations of the user-drivers involved in the accidents. **In order to enhance the independence of the TAIB, Audit considers that other than the Driving Instructor and the Workshop Officer, the other two members of the TAIB should be selected from senior officers of other divisions of the FSD, instead of from the division of the FSD user-driver involved in the traffic accident.**

Surcharge of user-drivers involved in traffic accidents

5.13 ***Blameworthiness of user-drivers.*** From 2000 to 2002, the FSD levied surcharge on 277 FSD user-drivers involved in traffic accidents as shown in Table 10. However, only 54 of these 277 user-drivers were classified as blameworthy. The remaining 223 user-drivers were classified as blameless. Audit also noted that six FSD user-drivers

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Note 7: *A retarder is a braking system used for controlling speed of the vehicle without using the wheel-mounted brake.*

were classified as blameworthy but no surcharge was levied on them, as shown in Table 10. Three out of these six user-drivers were convicted of careless driving and the other three were not prosecuted by the Hong Kong Police Force. Audit examination of FSD internal investigation results of these traffic accidents revealed that the main reason for not surcharging these six user-drivers was that they were not considered at fault by their respective Divisional Commanders. Nevertheless, they were classified as blameworthy.

Table 10

Analysis of the Fire Services Department's user-drivers involved in traffic accidents from 2000 to 2002

	Number of cases	Number of user-drivers classified as blameworthy	Number of user-drivers with disciplinary action
With surcharge levied by the FSD			
Convicted of careless driving	134	35	1
Prosecution not contemplated	143	19	2
Subtotal	**277**	**54**	**3**
Without surcharge			
Convicted of careless driving	12	3	1
Discharged in court	5	–	–
Prosecution not contemplated	415	3	–
Subtotal	**432**	**6**	**1**
Total	**709**	**60**	**4**

Source: FSD records

5.14 In response to Audit enquiry about the criteria used to determine the levy of surcharge on the FSD user-drivers, the FSD explained that these user-drivers should share part of the fault, although very minor. Having taken account of the other factors (e.g. the damage being very slight, no repair cost was involved as the vehicle was due for disposal by the Board of Survey, the driving being an extra duty and the driver already fined by court), the FSD was of the view that levying surcharge on these user-drivers was demoralising under the circumstances and would incur disproportionate administrative costs. As such, the six user-drivers were not surcharged by the FSD.

5.15 According to the FSDGO, the degree of blame is the prime factor in determining the levy of surcharge. Therefore, not surcharging the FSD user-drivers who are classified as blameworthy appears to be inconsistent with the FSDGO. In addition, as the classification of blameworthiness of a user-driver involved in a traffic accident is recorded in the Accident Record of the user-driver for assessing whether the user-driver is suitable for carrying out driving duty in future, inappropriate classification of the blame will impede FSD assessment of a user-driver's suitability for carrying out driving duty.

5.16 ***User-drivers convicted of careless driving.*** From 2000 to 2002, 432 FSD user-drivers involved in traffic accidents were not surcharged by the FSD as shown in Table 10 in paragraph 5.13. Out of these 432 user-drivers, 12 user-drivers were convicted of careless driving. According to FSD Vehicle Accident Reports, the main reason for not levying surcharge on these 12 user-drivers was that the damage to the vehicles was minor. With the exception of 6 cases for which no repair cost was assessed, the repair cost of each of the 6 damaged vehicles was in the range of $447 to $9,138. However, Audit noted that a user-driver was convicted of careless driving because he hit a taxi when he was driving a hydraulic platform in December 2001. The FSD levied a surcharge on him although the repair cost of the damaged vehicle was only $937 (i.e. within the range of $447 to $9,138).

5.17 **In Audit's view, if convicted of careless driving, it is highly likely that evidence which substantiates that the FSD user-driver is responsible for the traffic accident exists. Therefore, to ensure that the surcharge is levied consistently, Audit considers that user-drivers convicted of careless driving, caused damages to government vehicles and classified as blameworthy should be surcharged by the FSD. This would also create a deterrent effect on careless driving.**

5.18 In response to Audit enquiry about the criteria used to determine the FSD user-driver's blameworthiness and the levy of surcharge on the user-driver, the FSD informed Audit in February 2004 that the inconsistency mentioned in paragraph 5.16 was caused by misunderstanding in the classification of blameworthiness. With effect from December 2002, after receiving the advice of the Government Logistics Department, user-drivers surcharged by the FSD had also been classified as blameworthy. Usually, the

FSD surcharged user-drivers who were at fault unless there were other mitigating factors such as poor environmental conditions (e.g. inclement weather and poor visibility) and urgency (e.g. responding to emergency calls). In determining whether a surcharge should be levied on a user-driver involved in traffic accidents, the FSD would consider factors such as the degree of damage of the vehicle concerned, the extent of fault and responsibility of the user-driver. **Audit considers that the FSD needs to issue clear guidelines for determining the blameworthiness and levying of surcharge on user-drivers to ensure that surcharge is consistently levied on user-drivers.**

The need to provide remedial driving training and refresher driving training to user-drivers involved in traffic accidents

5.19 ***Remedial driving training.*** From 2000 to 2002, 89 FSD user-drivers were involved in more than one traffic accident as shown in Table 11. Thirteen user-drivers were involved in three or more traffic accidents. One user-driver was involved in five traffic accidents in three consecutive years. Audit examination of these 89 traffic accident case files revealed that 18 user-drivers involved were classified as blameworthy. However, only one user-driver was required to attend remedial driving training and was classified by the FSD as not suitable for carrying out driving duty.

Table 11

Analysis of the Fire Services Department's user-drivers repeatedly involved in traffic accidents from 2000 to 2002

Number of traffic accidents involved	Number of user-drivers	
5	1	
4	2	
3	10	89
2	76	
1	514	
Total	**603**	

Source: FSD records

5.20 By way of comparison, Audit notes that according to the Procedural Manual of the Hong Kong Police Force, if the initial investigation reveals that there may have been a fault on the part of the user-driver, the user-driver has to undergo remedial driving training. He will also be assessed for suitability for carrying out driving duty. **To promote driving safety, Audit considers that the FSD should provide remedial driving training to more FSD user-drivers involved in traffic accidents for improving their driving skills and driving manner. If a user-driver is involved in traffic accidents again and the investigation indicates that he is at fault, the FSD should consider suspending him from carrying out driving duty.**

5.21 ***Revalidation test.*** Currently, the Hong Kong Police Force requires all police drivers to pass a revalidation test once in every five years. The police drivers who fail to pass the revalidation test will be retrained for their driving skill and retested until they achieve the required driving standard. **In Audit's view, the FSD should consider adopting a similar practice to require its user-drivers to pass a revalidation test so as to maintain their driving standard.**

Review of management information on traffic accidents

5.22 The General Registry of the FSD maintains a database for traffic accidents involving fire-fighting and rescue vehicles. However, the database did not contain sufficient data of the traffic accident to provide useful management information. Information such as the total repair cost of damaged vehicles incurred by the department or the number of casualties reported in the traffic accidents involving fire-fighting and rescue vehicles was not produced periodically for review by the management of the FSD. Without such management information, it is difficult for the management of the FSD to monitor the rate of traffic accidents, the injury and the damage caused by the accidents, and to ensure that appropriate follow-up actions have been taken on the FSD user-drivers.

Audit recommendations

5.23 **Audit has *recommended* that the Director of Fire Services should:**

(a) **issue guidelines to the TAIB on the circumstances under which expert evidence and advice on technical issues should be sought to assist the investigation of traffic accidents (para. 5.11);**

(b) **select members of the TAIB, other than the two standing members (a Driving Instructor and a Workshop Officer), from senior officers of other FSD divisions (i.e. not from the division of the FSD user-driver involved in the traffic accident) so as to enhance the independence of the TAIB (para. 5.12);**

(c) **issue clear guidelines for determining the blameworthiness and levying of surcharge on the FSD user-drivers involved in traffic accidents (paras. 5.17 and 5.18);**

(d) **require the FSD user-drivers who are responsible for the traffic accidents to attend remedial driving training to improve their driving skills (para. 5.20);**

(e) **suspend the FSD user-drivers who are repeatedly involved in traffic accidents from carrying out driving duty (para. 5.20);**

(f) **require all FSD user-drivers to pass a revalidation test once in every five years in order to upkeep their driving standard (para. 5.21); and**

(g) **set up procedures to provide the management of the FSD with appropriate management information (e.g. repair costs and number of casualties) on traffic accidents involving fire-fighting and rescue vehicles (para. 5.22).**

Response from the Administration

5.24 The **Director of Fire Services** has agreed with all the audit recommendations mentioned in paragraph 5.23. He has also said that the FSD will:

(a) make a provision in the FSDGO on the circumstances under which expert evidence and advice on the technical issues should be sought to assist the investigation of traffic accidents;

(b) make a provision in the FSDGO for selecting members of the TAIB only from divisions other than the division of the user-drivers involved in the traffic accidents;

(c) make provisions in the FSDGO for determining the blameworthiness and levying of surcharge on user-drivers involved in traffic accidents;

(d) formulate procedures to require user-drivers involved in a traffic accident and confirmed to be at fault to undergo remedial driving training; and

(e) draw up the criteria of suspending user-drivers repeatedly involved in traffic accidents from carrying out driving duty and make a provision in the FSDGO accordingly.

Appendix A
(paras. 1.5 to 1.7, 2.7 and 2.14 refer)

Fire-fighting and rescue vehicles of the Fire Services Department
(31 October 2003)

Type of vehicle	Maintained by EMSD	Maintained by FSD	Total
	(a)	**(b)**	**(c) = (a) + (b)**
	(Number)	**(Number)**	**(Number)**
Front-line fire-fighting vehicle (Note 1)	–	235	235
Ambulance (Note 2)	276	7 (Note 5)	283
Specialised vehicle:			
Hose layer	–	11	
Light pumping appliance	–	17	
Lighting tender	–	7	
Reserve heavy pump	–	9	
Others	–	59	
		103	103
Airport vehicle (Note 3)	24	–	24
Other support vehicle (Note 4)	166	8	174
Total	**466**	**353**	**819**

Source: FSD records

Note 1: This category includes mainly the hydraulic platforms, light rescue units, major pumps and turntable ladders. They are the first batch of fire-fighting vehicles deployed to respond to a fire call.

Note 2: This category includes mainly the ambulances and ambulance aid motorcycles.

Note 3: This category includes mainly the crash fire tenders, hose foam carriers and rapid intervention vehicles.

Note 4: This category includes mainly the general purpose lorries, saloons and trucks.

Note 5: These vehicles include three mobile casualty treatment centres which serve as temporary casualties treatment centres in the event of major casualties and four village ambulances which are deployed on off-shore islands where geographical topography restricts the use of standard ambulances.

Appendix B
(para. 2.2 refers)

Main duties of the Firemen (Workshop) of the Workshops and Transport Division

Firemen (Workshop)	Main duties
Carpenter	To manufacture and repair wooden fittings and fixtures on fire-fighting equipment.
Cobbler	To carry out inspection and repair of shoes and other related items.
Electrician	To carry out servicing, repair and overhaul of the vehicle electrics, lighting, air-conditioning system, electronic and control systems of fire-fighting equipment, generators and converters, equipment and tools powered by city mains.
Fitter	To carry out servicing, repair and overhaul of fire-fighting equipment, and to be a member of duty fitter team to support the operation at scene of incidents.
Hose repairer	To bind new hoses and to carry out the repair and modifications of hoses.
Metalsmith	To carry out the servicing, repair, and overhaul of body, frame and chassis of fire-fighting vehicles.
Painter	To carry out painting on the fire-fighting equipment, accessories and fittings.
Tailor	To manufacture and repair trimming, upholstery, canvas covers and bags.
Welder	To carry out the servicing, welding repair, and overhaul of body, frame and chassis of fire-fighting vehicle.

Source: FSD records

Appendix C
(paras. 2.2
and 2.10 refer)

Establishment of the Workshops and Transport Division as at 31 October 2003

Civilian staff		**Number**
Supervisory staff		
Senior Electrical and Mechanical Engineer		1
Electrical and Mechanical Engineer		1
Chief Technical Officer		1
Senior Mechanical Inspector		3
Mechanical Inspector		5
Supporting staff		
Craft Apprentice and Workman		20
	Subtotal	**31**
Disciplined services staff		
Assistant Divisional Officer (Note 1)		1
Senior Station Officer (Note 2)		1
Carpenter		7
Cobbler		1
Electrician		14
Fitter		86
Hose repairer		3
Metalsmith		11
Painter		9
Tailor		3
Welder		3
	Subtotal	**139**
	Total	**170**

Source: FSD records

Note 1: The Assistant Divisional Officer is mainly responsible for the overall management of the disciplined services staff of the division, and the management of fire-fighting and rescue vehicles.

Note 2: The Senior Station Officer is mainly responsible for assisting the Assistant Divisional Officer in the management of the fire-fighting and rescue vehicles to ensure regular servicing of the vehicle fleet.

Appendix D
(paras. 2.10
and 2.11 refer)

Workshops and Transport Division staff required to attend fire alarms of No. 3 and above

	Required to attend fire alarm	
	Yes	**No**
Civilian staff		
Supervisory staff (Note)	✓	
Disciplined services staff		
Assistant Divisional Officer		✓
Senior Station Officer		✓
Carpenter		✓
Cobbler		✓
Electrician		✓
Fitter	✓	
Hose repairer		✓
Metalsmith	✓	
Painter		✓
Tailor		✓
Welder	✓	
Supporting staff (including Craft Apprentice and Workman)		✓

Source: FSD records

Note: The supervisory staff are required to attend to the fire scenes of fire alarms of No. 3 and above but not required to work in the front line of the fire scene.

Appendix E
(para. 3.4 refers)

Payment for vehicle maintenance service provided by the Electrical and Mechanical Services Department (2000-01 to 2002-03)

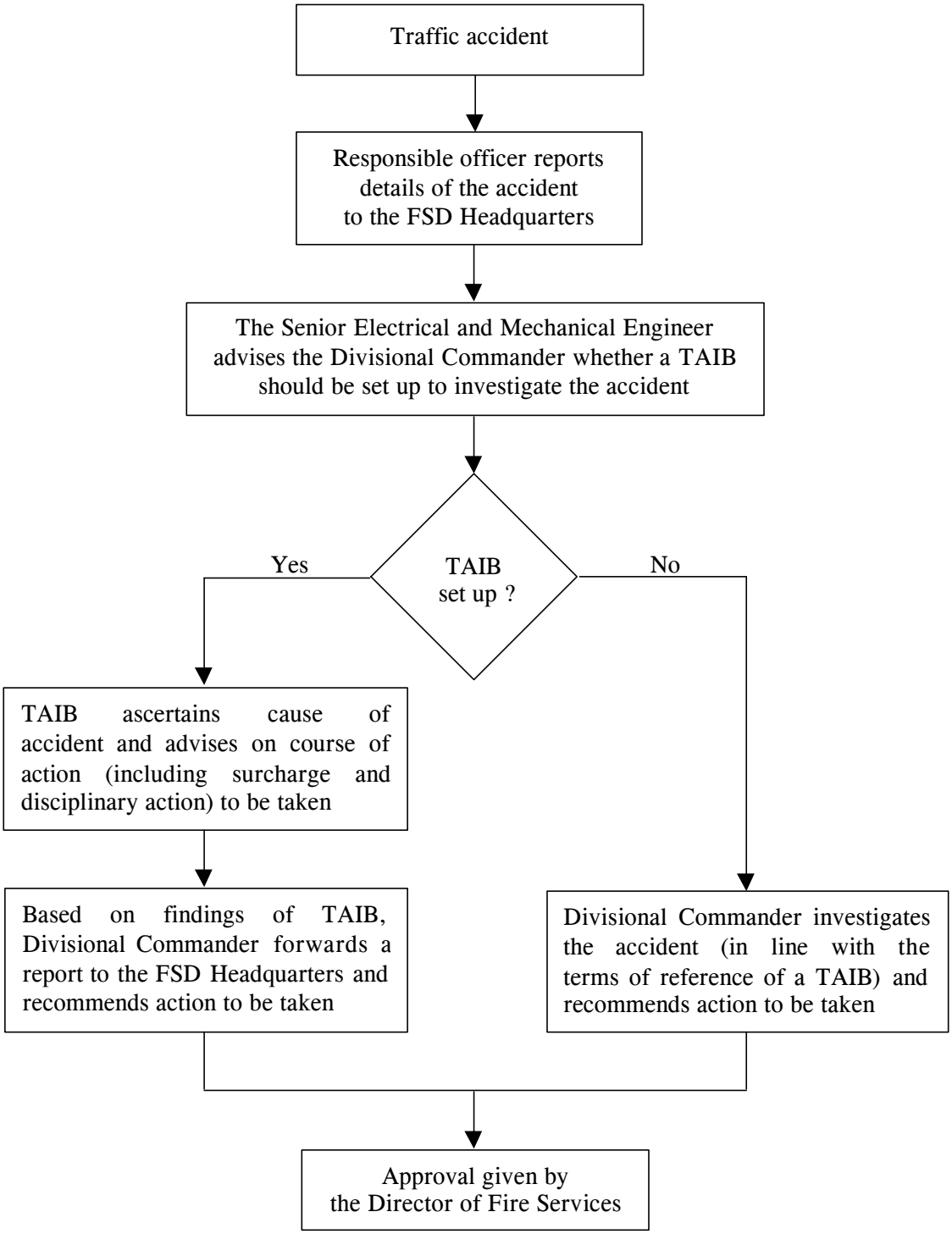
Financial year	Ambulance		Motor vehicle other than ambulance		Total
	Maintenance service	Other service (Note)	Maintenance service	Other service (Note)	
	($ million)	($ million)	($ million)	($ million)	($ million)
2000-01	20.4	1.3	7.2	6.1	35.0
2001-02	19.9	1.8	7.4	3.4	32.5
2002-03	16.6	1.2	6.8	1.1	25.7
	56.9	**4.3**	**21.4**	**10.6**	**93.2**

Source: FSD records

Note: Other service include repair to vehicles damaged in traffic accidents and replacement of all items of glass. Such service was provided at an additional charge upon FSD request. The significant amount of payment for other service in 2000-01 and 2001-02 was mainly due to the increase in repair cost of vehicles damaged in traffic accidents.

Appendix F
(para. 5.5 refers)

Administrative procedures for the investigation of traffic accident involving fire-fighting and rescue vehicles



Source: FSDGO

Acronyms and abbreviations

Audit	Audit Commission
EMSD	Electrical and Mechanical Services Department
EMSTF	Electrical and Mechanical Services Trading Fund
FSD	Fire Services Department
FSDGO	Fire Services Department General Orders
SLAs	Service Level Agreements
SPRs	Stores and Procurement Regulations
TAIB	Traffic Accident Inquiry Board
VRS	Voluntary Retirement Scheme
WTD	Workshops and Transport Division