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SECRETARY FOR FINANCIAL SERVICES AND THE TREASURY

Central Government Offices,
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28 February 2009

Our ref. : FIN 37/7/2 Pt. 2
Your Ref.: CB(3)/PAC/R51
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URGENT BY FAX

Ms Miranda HON
Clerk, Public Accounts Committee
Legislative Council
Legislative Council Building
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Hong Kong

Dear Ms Hon,

The Director of Audit's Report on the results of value for money audits (Report No. 51)

Emergency ambulance service (Chapter 4)

Thank you for your letter of 16 January 2009 requesting further information on the captioned subject.

2. We have consulted relevant parties including the Security Bureau (SB), the Fire Services Department (FSD), the Government Logistics Department (GLD) and the Electrical and Mechanical Services Department (EMSD) on information relevant to them. The requested information is set out below.

I. Resource Allocation Exercise (RAE) Process

3. Normally, the Financial Services and the Treasury Bureau (FSTB) will invite bids from bureaux/departments for additional resources each year. A policy bureau will be required to vet all the bids submitted by departments under its purview, and indicate the extent of its support for individual bids. When considering the bids, Directors of Bureaux (DoBs) will normally take into account factors such as the amount of initial envelope allocation for individual departments, scope of redeployment of existing resources in the departments, and the reasonableness and cost-effectiveness of the bids.

4. FSTB will then assess the bids from DoBs and make recommendations on the bids to be supported to a central committee for consideration, taking into account factors such as the fiscal position, scope of redeployment of existing resources within policy areas, effectiveness in the use of existing resources, demands for new and improved services as a whole, the size of the civil service, the priorities among different initiatives, etc.

5. As there are a lot of competitive RAE bids each year but the resources available for allocation can seldom meet all the proposed requirements in full, it is inevitable that both FSTB and the policy bureaux will need to scrutinise the bids received by them critically at their respective level to make sure that public resources can be efficiently and effectively allocated. In this sense, RAEs are not only about the allocation of new resources, but also about review of the effective use of existing resources.

6. Regarding the request for providing copies of FSD's submissions in the RAEs, Members may wish to note that the submission of a Controlling Officer, and eventually that of the DoB, normally covers a basket of initiatives under planning. To disclose the submissions in their original form will reveal confidential information on measures still under planning and on other non-related matters. To facilitate Members' understanding of the case in question, we have provided responses in the following sections based on facts relevant to the case as carried in record.

On Ambulances

<u>2005 RAE</u>

7. In the 2005 RAE, FSD submitted a bid for replacing 21 Town Ambulances (TAs) and three Village Ambulances (VAs), and for procuring nine additional TAs, with justifications as follows –

- ✧ 21 replacement TAs : 19 TAs were due for replacement as recommended by the Economic Life Model (ELM); another two TAs had already been disposed owing to their bad condition after traffic accidents and had to be replaced.

- ✧ 3 replacement VAs : one VA had reached and two were approaching the end of their normal serviceable life [Note 1].

- ✧ 9 additional TAs : to keep the maintenance reserve ratio at 13% [Note 2] of the ambulance fleet. As the basic ambulance requirement was 231 and the ambulance strength at that time was 252, nine additional TAs were sought [9 TAs = 231 TAs x 1.13 less 252 TAs].

8. Of the ambulances proposed for replacement, SB supported nine TAs and one VA, including seven TAs with a relatively low availability rate (i.e. available for service for less than 90% of the time, with the rest of the time undergoing maintenance), two TAs already disposed of and the VA that was said to have reached the end of its normal serviceable life. As for the bid for additional ambulances, SB supported two TAs based on the advice of GLD that the maintenance reserve ratio should be at 10% instead of 13% [Note 3] [2 TAs = 231 TAs x 1.1 less 252 TAs].

9. FSTB processed SB's recommendations and approved funding for all of the nine replacement TAs recommended by SB. We had not approved funding for the replacement VA as it was serving a small outlying island supported by two VAs, one of which would be replaced before long. We also noted that the VA supported by SB had a relatively high availability rate at the time of the application (98% in 2002 and 2003, and 92% with no fault calls in 2004). As for the two additional TAs, after consulting GLD, FSTB decided to reject the funding required. The major considerations were that a number of existing ambulances were unmanned; about 40 new TAs which were put into service in late 2004 would begin to operate in full capacity after resolution of initial technical problems; and four new TAs would be delivered in end 2005.

Note 1 Due to the small fleet size of VAs in FSD (only four VAs in total), the ELM, which requires a large fleet size for meaningful data analysis, is not adopted to assess when VAs should be replaced.

Note 2 The maintenance reserve ratio of 13% for TAs was derived from the downtime rate agreed in 1988.

Note 3 After examining the downtime rate of TAs in the preceding three financial years, GLD noted that the average downtime rate of TAs dropped from 13% to 9.7% (say 10%), and adjusted the maintenance reserve ratio from 13% to 10% in 2003.

2006 RAE

10. In the 2006 RAE, FSD submitted a bid for replacing 36 TAs and three VAs and for procuring 19 additional TAs, with justifications as follows –

- 36 replacement TAs : 32 TAs were due for replacement as recommended by the ELM and four TAs were disposed of owing to their bad condition after traffic accidents.

- 3 replacement VAs : three VAs had reached the end of their normal serviceable life.

- 19 additional TAs : 17 TAs for meeting growing demand as the projected number of ambulance calls would reach 579 000 in 2007 and 368 ambulance shifts were required with reference to the recommendations in the Final Report of the Consultancy Study on Paramedic Ambulance Service in Hong Kong conducted by the Crow Maunsell Management Consultants Ltd. (Maunsell Report) in 2001. As the number of ambulance shifts that could be operated at that time was 345 and the planned distribution of 23 additional ambulance shifts (368 less 345) was 2 : 1 for the day and night shifts respectively, 17 TAs were required [23 shifts x 2/3 x 1.1 (for maintenance reserve)].

  : two TAs to keep the maintenance reserve ratio at 10% of the ambulance fleet. As the basic ambulance requirement was 231 and the ambulance strength at that time was 252, two TAs were required [2 TAs = 231 TAs x 1.1 less 252 TAs].

11. Of the ambulances proposed for replacement, SB supported 26 TAs and three VAs. SB did not support the remaining ten replacement TAs in FSD's bid. It was observed that ten out of the 36 replacement TAs had a relatively high availability rate of around 90% at the time of the application and that FSD had joined the Minimum Cost Refurbishment Programme in April 2006 for the refurbishment of a total of ten TAs. SB was content that with 26 TAs replaced, FSD would be able to maintain its effective delivery of ambulance service. As for the bid for additional ambulances, SB did not support it in the light of the advice provided by GLD. GLD advised that the ambulance fleet of FSD at that time should have sufficient capacity to cope with the projected number of ambulance calls in 2007. GLD also did not support the additional TAs for maintenance reserve as not all TAs were shown to be fully utilised by FSD.

12. FSTB then processed SB's recommendation, approving funding for all the 26 TAs sought and one VA. FSTB did not approve the other two VAs supported, noting that the vehicles had a relatively high availability rate (98%, 99% and 96% for one VA and 98%, 92% and 96% for the other in 2003, 2004 and 2005 respectively).

2007 RAE

13. In the 2007 RAE, FSD submitted a bid for replacing 120 TAs and two VAs and for procuring 26 additional TAs, with justifications as follows –

- 120 replacement TAs : 61 TAs were due for replacement as recommended by the ELM, 56 TAs were recommended for replacement by EMSD after inspections and three TAs were disposed of owing to their bad condition after traffic/fire accidents.

- 2 replacement VAs : two VAs had reached the end of their normal serviceable life.

- 26 additional TAs : 24 TAs for meeting growing demand as the projected number of ambulance calls would reach 624 000 in 2008 and 384 ambulance shifts were required with reference to the recommendations in the Maunsell Report. As the number of ambulance shifts that could be operated at that time was 352 and the planned distribution of 32 ambulance shifts (384 less 352) was 2 : 1 for the day and night shifts respectively, 24 TAs were required [32 shifts x 2/3 x 1.1 (for maintenance reserve)].

  : two TAs to keep the maintenance reserve ratio at 10% of the ambulance fleet. As the basic ambulance requirement was 231 and the ambulance strength at that time was 252, two TAs were required [2 TAs = 231 TAs x 1.1 less 252 TAs].

14. Of the ambulances proposed for replacement, SB supported 97 TAs and two VAs. The 97 TAs included 70 TAs with a relatively low availability rate (below 90%), 24 TAs over seven years old and with high mileage records (those run more than 3 000 kilometres per month) and three TAs disposed of due to their bad condition after traffic/fire accidents. As for the bid for additional ambulances, SB did not support it in the light of the advice provided by GLD (which was basically the same as the advice given in the 2006 RAE).

15. FSTB then processed SB's recommendation. For that year, we noted that nearly half of the TAs under request were outside the list of vehicles recommended by the ELM and the total number of replacement TAs requested was unusually large, amounting to more than one-third of the TA fleet. In the circumstances, FSTB saw a case for cross-checking and testing the strength of SB's bid by making reference to the availability rate as an additional reference in the vetting process. With this assessment, FSTB approved 85 TAs (on top of the three TAs already disposed of) with downtime record exceeding 10%. The total number of replacement ambulances approved (i.e. 88 TAs) is more than the recommendation by the ELM (i.e. 61 TAs), amounting to about one-third of the TA fleet in FSD. In addition, we also approved two VAs for replacement purposes.

16. Though not raised by Members, Members may wish to know that in the 2008 RAE, FSD made a bid for 73 replacement and 44 additional TAs. SB supported all the replacements and 21 of the additional TAs having regard to GLD's advice on maintenance reserve and additional ambulance shifts approved in the 2008 Recurrent RAE. FSTB approved SB's recommendations in their entirety.

17. We wish to point out that the reference to availability rate serves as a reference for FSTB in the vetting process. It is not an absolute standard for examining bids for replacement ambulances. In general, a vehicle with a high downtime record should be less fit for emergency purpose as its tendency of breakdown would likely be on the high side. Ultimately, a bid is assessed with reference to multiple factors as evidenced from the different RAEs set out above. For instance, in the 2007 and 2008 RAEs, SB had recommended for replacement some ambulances whose availability rate was above 90%. FSTB had also approved funding for replacement vehicles which would not have been recommended had it referred to the same benchmark on availability rate as applied in previous years.

On Manpower Resources

2005 RAE

18. In the 2005 RAE, FSD submitted a bid for 231 posts (i.e. 38 shifts [Note 4]) to meet the increase in demand for the emergency ambulance service (EAS). According to FSD, the number of ambulances that could be utilised for the provision of EAS at that time was 213.

Note 4 38 shifts = 231 posts / 6.067 posts (number of ambulancemen required for operating one shift)

However, the daily ambulance availability for the period of January to June 2005 was on average 182 and 99 ambulances for day and night shifts respectively. As FSD was not able to meet the response time performance (RTP) of attending 92.5% of the emergency calls within 12 minutes in 2004 (91.1%), to meet the demand for EAS and to enable full utilisation of the operational ambulances, FSD requested 38 additional ambulance shifts so that they could run on average 213 day and 114 night shifts. The additional ambulance shifts under request had taken into account the number of ambulancemen under recruitment training, after which eight more ambulance shifts could be operated.

19. The bid was partially supported by SB. In assessing the bid, SB noted that the RTP achieved in 2004 was below the target of 92.5% (91.1% in 2004). SB agreed that additional resources were required. Having considered the competing bids by other departments under SB, SB supported the creation of 115 posts to provide 19 additional ambulance shifts, and considered that with effective use of resources, FSD should be able to improve the RTP. Approval was eventually given for FSD to create not more than 110 posts for the improvement of EAS. Inherent in the approval were the concern that ambulance services appeared to have been abused and the requirement for SB to critically examine how the new resources should best be deployed and explore possible measures to reduce the alleged abuse of EAS. SB therefore explored a number of management options with FSD, which included strengthening public education and consideration of a medical priority dispatch system (MPDS). Whilst the consultancy study on the feasibility to introduce the MPDS in Hong Kong was in active progress at that time, FSD launched a publicity campaign to encourage the proper use of EAS in late 2005.

20. 28 additional posts were eventually created in 2006-07 for operating four additional ambulance shifts, using the resources approved in the 2005 RAE. Decision on the use of the remaining resources was deferred until the effects of the publicity campaign were known and the way forward on the introduction of the MPDS was clearer.

21. In 2006, with increased public education, the number of ambulance calls dropped by 1.6% to 575 666. Coupled with the effect of the 28 additional posts provided, FSD was able to improve the RTP to 92.7% and meet its performance pledge in 2006.

2006 RAE

22. In the 2006 RAE, FSD submitted a bid for 140 posts (i.e. 23 shifts). FSD projected that the number of ambulance calls would reach 579 000 in 2007 and 368 ambulance shifts were required with reference to the recommendations in the Maunsell Report. Discounting the ambulance shifts that could be operated at that time and having regard to the fact that the RTP could not be met in 2001 to 2005 (with the exception of 2003), FSD asked for 23 additional shifts.

23. The bid was not recommended by SB because the resources approved in the 2005 RAE had yet to be fully utilised and the proposed introduction of MPDS in Hong Kong was still being considered. Specifically, using resources approved in the 2005 RAE, SB had allocated to FSD provisions for creating 28 additional posts to operate four additional ambulance shifts in 2006-07. SB was already planning to provide another 47 additional posts, using the resources approved in the 2005 RAE, for FSD to operate seven additional ambulance shifts in 2007-08. SB considered that the 75 (28 + 47) additional posts should be sufficient for FSD to meet demand in 2007-08, having regard to the fact that the RTP in the first six months of 2006 was above the performance pledge (an average of 92.9% from January to June 2006). It also appeared at that time that there was scope for FSD to better manage demand in view of an ongoing publicity campaign against abuse of EAS. The number of calls dropped by 7.4% in the first half of 2006 when compared with that of 2005.

24. In 2007, with the additional posts provided in 2007-08, FSD was able to handle 611 707 ambulance calls and improve the RTP to 92.8%.

2007 RAE

25. In the 2007 RAE, FSD submitted a bid for 194 posts (i.e. 32 shifts). FSD projected that the number of ambulance calls would reach 624 000 in 2008 and 384 ambulance shifts were required with reference to the recommendations of the Maunsell Report. Discounting the ambulance shifts that could be operated at that time and having regard to the fact that the RTP could not be met in 2001 to 2005 (with the exception of 2003), FSD asked for 32 additional shifts.

26. The bid was not recommended by SB, as SB was already planning to provide another 30 additional posts for FSD to operate five additional ambulance shifts in 2008-09, using resources approved in the 2005 RAE. Together with the posts provided in 2006-07 and 2007-08, an

accumulative total of 105 additional posts were provided by 2008-09 for FSD to operate a total of 16 additional ambulance shifts. SB considered that this provision should be sufficient for FSD to meet the demand for its ambulance service, having regard to the RTP in 2006 (92.7%) and the RTP in the first six months of 2007 (92.9%).

27. In 2008, FSD handled a total of 643 611 ambulance calls and achieved a RTP of 92.2%. The performance pledge could not be met as there was an exceptional increase of calls in February 2008 (an increase of 21.9% in one single month as compared with that of 2007) due to the unusual cold spell that month.

2008 RAE

28. Members may wish to know that taking into account the increase of ambulance calls in the first half of 2008 (6.7% when compared with the number of calls in the same period of 2007), SB recommended creation of 130 additional posts, and 121 additional posts were eventually approved for 2009-10.

II. Economic life model

Exchanges between FSD and FSTB in 2005

29. The two memoranda mentioned by FSD at the hearing on 8 January 2009 were part of a series of exchanges between FSD and FSTB in late 2005 regarding the allocation of non-recurrent funding in 2006-07 for various purposes, including the procurement of ambulances. Since the exchanges covered internal discussions on other subjects which are not relevant to ambulance services, we will give an account for those parts of the exchanges which relate to ambulance services.

30. In the first memorandum, after being informed that funding had been approved for the replacement of nine TAs (see section in 2005 RAE under Ambulances above), the Director of Fire Services (DFS) requested additional allocation in 2006-07 for him to pursue the original plan to replace a total of 21 replacement TAs. To substantiate this request, DFS said that "If they (the vehicles) are not replaced in time, their condition will deteriorate rapidly which will adversely affect our standard of service, not to mention the risk of breakdowns during fire fighting/rescue operation and the serious consequences that will bring to public safety and the safety of our staff". He added that "According to the Director of Government Logistics (DGL)'s recommendation based upon the Economic Life Model for motor

vehicles, 19 ambulances are due for replacement in 2006-07 and two ambulances were disposed of in 2004. All 21 vehicles require to be replaced in order to maintain the present level of service". FSD also requested additional allocation for the replacement of two VAs, after being informed that its original funding application to replace three VAs was unsuccessful (see section in 2005 RAE under Ambulances above). FSD justified this request by stating that the serviceable lifespan of a VA was seven years, and that by 2006-07 all four VAs serving outlying islands would have been in service for 7 – 8 years and would require replacement. It added that the request for replacing 21 TAs and two VAs was supported by GLD.

31. On receipt of this memorandum, FSTB invited FSD to provide some quantifiable data to substantiate the appeal, including the number of breakdown for each vehicle in the original bid, as well as the maintenance and repair costs incurred for each vehicle. Having further considered the case, FSTB wrote to FSD confirming that the earlier decisions on allocation for 2006-07 were upheld. We explained that when examining the appeal, we had taken into account the downtime record of individual vehicles (i.e. whether the downtime record exceeded 10%) and the absence of further data to substantiate the appeal.

32. Thereafter, DFS wrote a memorandum to FSTB (the second memorandum mentioned at the hearing) expressing his concern over the use of downtime record or "90% availability" as a "benchmark for determining the necessity for replacement of emergency vehicles". He added that the department could "not take the availability of an emergency vehicle as an indicator of its condition". He also stated that "the vehicles we are seeking to replace are not general purpose vehicles" and cautioned that Government "may end up paying a huge price in due course" from public safety angle if ageing vehicles were not replaced in time.

33. We support the Director of Audit's recommendation in his latest report about the need to review the methodology of determining the number of ambulances to be replaced, taking into account all relevant factors. Indeed, following up the concern expressed by DFS in late 2005, we have been exploring with FSD since mid-2006 the use of other indicators as additional reference points. We have also clarified that the downtime record is not an absolute yardstick and that we are prepared to consider cases on their individual merits. Looking forward, we will work with FSD, SB, GLD and EMSD in reviewing the existing methodology, with a view to developing comprehensive indicators to guide management decisions on the replacement of ambulances.

Comparison of maintenance cost, age, etc. between different types of vehicles

34. The ELM is a statistical model which recommends the need for replacement of a vehicle after taking into account the accumulated maintenance cost, vehicle age, mileage run and replacement cost. It applies to all general purpose vehicles and some types of specialised vehicles, including TAs, if those types of specialised vehicles comprise a sufficiently large pool to render the application of the ELM statistically meaningful.

35. As at 30 June 2006, for those cars used by the Principal Officials (PO), their age ranged between 8.50 – 9.08 years; accumulated mileage ranged between 154 068 – 263 935 km; accumulated maintenance cost ranged between $371,710 – $588,244; and their average replacement cost was $357,000 each. For the ten TAs mentioned in paragraph 6.6 of the Audit Report, their age ranged between 7.83 – 9.00 years; accumulated mileage ranged between 173 807 – 282 539 km; accumulated maintenance cost ranged between $635,254 – $1,008,672; and their estimated replacement cost was $962,000 each. For all the PO cars, their accumulated maintenance cost as at 30 June 2006 exceeded the replacement cost. However, for the ten ambulances in question, only one of them had its accumulated maintenance cost higher than the estimated replacement cost.

36. The ELM supported the replacement of all the PO cars. It also recommended the replacement of the ten TAs in question. Accordingly, DGL and DFS had respectively included the PO cars and the ten TAs when they bidded funding for the relevant block votes for the year in question. In the case of FSD, the provision required for replacing the ten TAs had not been included in the final allocation – the sequence of events has been set out in the earlier section accounting for the 2006 RAE (paragraph 11 above).

Applicability of the ELM in the assessment of ambulances due for replacement

37. According to FSD, the normal serviceable life of an ambulance should be six to seven years, after which an ambulance should be replaced. We, however, remain of the view that it is not appropriate to base the replacement decision solely on the age of a vehicle, as an ambulance in poor condition may need replacement even if it has been in use for less than six to seven years, while it will be a waste of public resources if we were to dispose of an ambulance in good serviceable condition only because it turns six to seven years old. In this connection, the Director of Audit also pointed out in paragraph 41 of Chapter 11 of his Report No. 30 issued in

June 1998 that vehicle replacement (with no exception for ambulances) should be based on the economic life and the cumulative maintenance costs rather than the age of a vehicle. In fact, the ELM was introduced in pursuance of the recommendation in this particular chapter (paragraph 42) of the Audit Report which stated that "*Audit has recommended that the Government Land Transport Administrator should, in conjunction with the Director of Electrical and Mechanical Services … replace vehicles and prepare the provisional annual replacement list of vehicles on the basis of the economic life of each type of vehicle.*" The adoption of the ELM was subsequently reported to the Legislative Council via the Government Minute in response to the Public Accounts Committee Report No. 33 issued in February 2000.

38. We note that there are several references to "design serviceable life" in Audit Report No. 51, including paragraphs 5.3, 5.16, 5.19(h), 5.20(h), 6.3 and Note 2 of Appendix H, which seems to imply that an ambulance is designed for a serviceable life of seven years only and hence there would be a higher inherent risk of using it after seven years. We have sought the advice of the supply contractor of the ambulances and have been given to understand that there does not exist any serviceable life determined during the design process. In fact, according to the supply contractor, the serviceable life of a vehicle depends on the frequency of usage, road condition, climate, services and maintenance. In this regard, EMSD has also advised that although ambulances may need more maintenance service after they have been in use for around seven years, the service level required for individual ambulances may differ.

39. We would like to stress that under the established procedures for identifying ambulances to be replaced, the ELM is only a step in the process and a tool to help identify ambulances due for replacement. As set out in Appendix H of this Audit Report, there are other procedures involving input by different parties. As the ELM can help identify ambulances due for replacement, we see merit in continuing to make reference to it in our assessment work among other factors. We support the Audit recommendation that there should be a review of the methodology of determining the number of ambulances to be replaced, taking into account all relevant factors such as the risk of breakdown on rescue operation as suggested in the Audit Report. We will continue to work with SB, FSD, GLD and EMSD in this regard.

III. Final remarks

40. We hope that the above information will demonstrate to Members how the bids for ambulances and manpower put in by FSD over the years had been processed by SB and FSTB with reference to relevant factors and information available at the time, and how the process had ensured cost-effective uses of resources on the one hand and the effective delivery of ambulance service to the public on the other. On replacement of ambulances, we will work with SB and the relevant departments in reviewing the existing methodology, as recommended in the Audit report.

Yours sincerely,

Bernadette Linn

(Ms Bernadette Linn)
for Secretary for Financial Services
and the Treasury

c.c. Director of Audit
Secretary for Security
Director of Fire Services
Director of Government Logistics
Director of Electrical and Mechanical Services