

SERVICES PROVIDED BY THE GOVERNMENT LABORATORY

Executive Summary

1. The Government Laboratory (GL) provides a broad range of analytical, advisory and forensic services to enable government bureaux and departments (B/Ds) to meet their responsibilities. In 2014-15, the financial provision of the GL is \$436 million. As at 31 March 2014, the GL had about 460 professional, technical and supporting staff. Headed by the Government Chemist, the GL is organised into three Divisions, namely the Analytical and Advisory Services Division (AASD), the Forensic Science Division (FSD), and the Administration Division. The former two Divisions are further divided into 27 Sections. The AASD performs statutory testing as the referee analyst under a number of ordinances and regulations. It also provides a wide range of chemical testing and advisory services to B/Ds and public institutions. The FSD provides forensic science services to the criminal justice system. The Audit Commission (Audit) has recently conducted a review of the services provided by the GL.

Provision of laboratory services to user bureaux and departments

2. *Turnaround time of services.* Many requests for laboratory tests need to be performed in a timely manner. The work performance of the GL is published in its Controlling Officer's Report (COR). The GL sets performance targets expressed primarily as a compliance rate, i.e. the percentage of completion of case submissions from its user B/Ds within a specified turnaround time for each type of testing service. Audit found that the practices used for counting the actual turnaround time were not uniformly adopted by individual Sections of the GL and the actual turnaround times of some types of testing had been excluded from the calculation of work performance. Audit also found that the target turnaround times of the sub-categories of services managed by individual Sections of the GL were

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well above their actual turnaround times, thus accounting for the high compliance rates achieved. In spite of the high compliance rates of turnaround times, results of Audit's survey of July 2014 on 17 user B/Ds (the Audit Survey) revealed that there were requests from some user B/Ds for expediting the GL's services to better serve their operational needs (paras. 2.4, 2.5, 2.11 to 2.14, 2.19 and 2.20).

3. **Quality assurance.** Audit examination of the GL's internal quality audit reports revealed that the FSD had reported root cause analysis in the summary report of the annual quality audit and submitted to Division Heads for endorsement and necessary actions, while the AASD had not. Audit reviewed the root cause analyses conducted by the FSD and noted that some of these analyses were not thoroughly carried out. Audit analysis of the "non-conformities" and "areas worth improvement" identified by the GL's quality audits revealed some irregularities common among different Sections and some recurring year after year (paras. 2.32 to 2.34 and 2.37).

4. **Coordination with user B/Ds.** To promote effective coordination and facilitate regular consultations, the GL signed a Memorandum of Understanding (MOU) with the Hong Kong Police Force (HKPF) in 2000 and the Customs and Excise Department (C&ED) in 2003. In the Audit Survey, the HKPF and the C&ED considered that the MOU was useful for the GL to understand their needs and there was a need to review the MOU on a regular basis. Of the 15 surveyed B/Ds without such an MOU, four agreed that it would better serve their operational needs if MOUs were signed with the GL. Furthermore, seven of the 17 surveyed B/Ds considered that the GL could provide more types of testing services. Four B/Ds considered that the GL could provide more tests for each type of service (paras. 2.42, 2.45, 2.46 and 2.52).

Outsourcing of laboratory services

5. **Tender evaluation and contract administration.** Since 2008, the GL has outsourced some of its regular food surveillance testing work to local accredited laboratories. In 2013-14, about 120,000 food tests were outsourced at a total contract sum of \$2.63 million, accounting for some 60% of the AASD's routine food testing work (or 17% of the AASD's testing work). The GL outsourced a total

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of 17 food testing contracts in 2013-14. Of the four private laboratories involving outsourcing by the GL, one was awarded 97% of the food testing (in 13 separate contracts). Audit considers that reliance on a dominant contractor for the food testing may pose concentration risks to the GL. Audit also noted that the past performance of laboratories (such as late reporting of test results or warnings issued) had not been taken into account in tender assessment (paras. 3.5, 3.9, 3.10 and 3.15).

6. ***Monitoring contractor performance.*** To safeguard the quality of outsourcing services, the GL regularly monitors the performance of contractors. During each contract period, the Chemist-in-charge conducted at least one routine on-site inspection. The on-site inspections were normally announced one or two days in advance. There is a need for the GL to consider introducing unannounced inspections to enhance the monitoring of contractor performance. Although the GL formulated in 2011 a comprehensive checklist as a guide for inspections, this checklist was not used by GL staff. Audit considers that using the checklist by different inspection teams would help ensure completeness and consistency (paras. 3.18 to 3.21).

7. ***Post-implementation review (PIR) of outsourcing.*** Audit found that the GL's outsourcing had improved the turnaround times tremendously in conducting food tests. The turnaround times in conducting outsourced food tests were much shorter than those for in-house food tests. After six years of implementation since 2008, it is timely for the GL to conduct a PIR on the outsourcing of the laboratory testing so as to take stock of the position and plan the way forward. The Audit Survey also found that some user B/Ds would like to outsource the laboratory services to private laboratories (directly by themselves or by the GL). Additionally, Audit noted that some user B/Ds wanted to have staff seconded from the GL. The Secretary for Food and Health has allocated a recurrent funding of \$12 million a year to the GL for outsourcing its routine food tests to commercial laboratories. Audit however found that of the \$10.33 million expenditure on outsourcing in 2013-14, only \$2.69 million (26%) was spent on contract payments to contractors, while \$7.64 million (74%) was spent on items not directly related to outsourcing (paras. 3.36, 3.37, 3.42 to 3.44).

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Management of chemicals, samples, exhibits and equipment

8. *Stock management of chemicals.* The GL spends about \$120 million a year on purchasing equipment and chemicals. Audit noted that there were stock discrepancies between stock balance reports and stocktaking records. Audit selected 20 items with discrepancies for the year 2014 and checked whether the discrepancies were properly adjusted. It was found that the stock balances of six items had not been adjusted accordingly. Audit conducted a stocktaking exercise on 28 July 2014 at the GL main store, and found discrepancies in 20% of the items checked. Audit also noted that no expiry dates of chemicals were recorded in the stock system. There was no requirement for the GL's Sections to conduct stocktakes regularly on the stock held and to check the expiry dates of the stock items (paras. 4.2, 4.4 to 4.7, 4.9 and 4.14).

9. *Handling of samples and exhibits.* Many of the samples received by the GL are formal exhibits used for prosecution purposes. The reports are required to be delivered, and the exhibits to be returned, to the user B/Ds. Taking 28 July 2014 as the cut-off date, Audit found that 32% of the cases with reports and/or exhibits had not been collected for over 3 months after the completion date (including 14% over one year). Audit noted that there were no stocktaking requirements stipulated in the quality manuals for samples/exhibits, nor were there any guidelines for handling exhibits remaining uncollected by user B/Ds for a long time. Audit also found cases in which the exhibits were only collected a long time (e.g. over 1 year in 56 cases) after the reports were completed. As such, the GL may need extra storage space/facilities to keep these long-outstanding exhibits (paras. 4.23 to 4.25).

10. *Maintenance of equipment.* The GL has been using the service of the Electrical and Mechanical Services Trading Fund (EMSTF) to maintain and repair its equipment since the establishment of the EMSTF in 1996. The GL entered into a five-year Service Level Agreement (SLA) with the EMSTF starting from 1 April 2001. Under the current SLA (1 July 2011 to 31 March 2016), the GL would pay the EMSTF a maintenance fee of about \$40.38 million over the period according to the equipment list. The current SLA will expire on 31 March 2016. In April 2014, the GL was exploring the way forward and the strategy for the maintenance of all equipment in use. In this regard, the GL identified some major challenges, including: (a) the warranties of many items of scientific equipment would expire in the next few years; (b) the additions to the equipment list for maintenance services might increase the SLA fee substantially; and (c) for some scientific equipment with advanced technology, the EMSTF might not have the required expertise to provide maintenance services (paras. 4.28, 4.30, 4.32 and 4.35).

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Way forward

11. Given its limited resources and the wide spectrum of government services that require its support, the GL is facing challenges to continuously improve its efficiency and cost-effectiveness in the provision of laboratory services. The frequent occurrence of emergency incidents (notably food incidents) in recent years has also put pressure on the GL in providing support to various B/Ds in dealing with such incidents. The GL is meanwhile reviewing its way forward to meet the challenges (paras. 5.2 and 5.5).

Audit recommendations

12. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has *recommended* that the Government Chemist should:**

Provision of laboratory services to user B/Ds

- (a) **critically review the GL's compilation of performance information on turnaround times reported in the COR to ensure that it is clearly and fairly presented (para. 2.22(a));**
- (b) **continue to make efforts to shorten the target turnaround times of laboratory services to help user B/Ds better meet their operational needs (para. 2.22(e));**
- (c) **take measures to ensure that root cause analyses are thoroughly conducted and the results are documented, so as to identify appropriate corrective actions (para. 2.38(b));**
- (d) **liaise with user B/Ds for signing an amplified version of MOU with the GL in order to better define and predict the service needs and facilitate effective planning of the use of resources (para. 2.55(c));**

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Outsourcing of laboratory services

- (e) consider the need to limit the number of outsourcing contracts that each private laboratory may be awarded so as to reduce concentration risks (para. 3.16(a));
- (f) introduce unannounced on-site inspections, and remind the inspecting officers to use the inspection checklist to properly document the results for each inspection (para. 3.22(a) and (b));
- (g) conduct a PIR on the outsourcing of laboratory services, including exploring the feasibility of more outsourcing of laboratory services and staff secondment to user B/Ds, and reviewing the propriety of charging to the outsourcing vote items which are not directly related to outsourcing (para. 3.46(b) and (c));

Management of chemicals, samples, exhibits and equipment

- (h) ensure that the expired stocks are disposed of periodically and the stock lists are updated promptly (para. 4.18(d));
- (i) provide more management information for monitoring long-outstanding cases pending collection by user B/Ds (para. 4.26(b)); and

Way forward

- (j) take on board the audit observations and recommendations in this Audit Report in taking forward the GL's long-term strategic development plan (para. 5.6).

Response from the Administration

13. The Government Chemist agrees with the audit recommendations.