# Head 48 — GOVERNMENT LABORATORY

**Controlling officer:** the Government Chemist will account for expenditure under this Head.

| | |
|---|---|
| **Estimate 2007–08** | **$286.3m** |
| **Establishment ceiling 2007–08** (notional annual mid-point salary value) representing an estimated 348 non-directorate posts as at 31 March 2007 rising by 56 posts to 404 posts as at 31 March 2008 ... | **$156.8m** |
| In addition, there will be an estimated six directorate posts as at 31 March 2007 and as at 31 March 2008. | |
| **Commitment balance** | **$21.2m** |

## Controlling Officer's Report

**Programmes**

| | |
|---|---|
| **Programme (1) Statutory Testing** | This programme contributes to Policy Area 2: Agriculture, Fisheries and Food Safety (Secretary for Health, Welfare and Food) and Policy Area 15: Health (Secretary for Health, Welfare and Food). |
| **Programme (2) Advisory and Investigative Services** | This programme contributes to Policy Area 2: Agriculture, Fisheries and Food Safety (Secretary for Health, Welfare and Food), Policy Area 9: Internal Security (Secretary for Security), Policy Area 23: Environmental Protection and Conservation (Secretary for the Environment, Transport and Works) and Policy Area 32: Environmental Hygiene (Secretary for Health, Welfare and Food). |
| **Programme (3) Forensic Science Service** | This programme contributes to Policy Area 9: Internal Security (Secretary for Security). |

**Detail**

**Programme (1): Statutory Testing**

| | 2005–06 (Actual) | 2006–07 (Original) | 2006–07 (Revised) | **2007–08 (Estimate)** |
|---|---|---|---|---|
| Financial provision ($m) | 66.8 | 81.4 | 75.4 (–7.4%) | **119.4** (+58.4%) (or +46.7% on 2006–07 Original) |

***Aim***

**2** The aim is to carry out statutory functions as referee analyst under a number of ordinances and regulations.

***Brief Description***

**3** The Government Chemist discharges statutory functions as referee analyst under various ordinances and regulations. The work involves the analysis of food products for regulatory compliance, the examination of western and Chinese medicines for registration and quality control, the classification of dangerous goods for compliance with the Dangerous Goods Ordinance, the testing of dutiable commodities for tariff classification, the assessment of toys, children's products and consumer articles for health and safety hazards, the determination of tar and nicotine yields in cigarettes, the assay of gold and platinum articles for fineness and the verification of products and equipment for compliance with the Weights and Measures Ordinance. The Government Laboratory provides 24-hour on-call service to assist the Fire Services Department and the Labour Department at scenes of accidents involving hazardous chemicals.

**4** In 2006, due to the increasing workload on food complaint cases that are of a high level of complexity, only 75% of the food complaint samples were reported on target instead of the pledged target of 80%. The situation should improve next year with the additional resources approved for 2007–08 onwards. To address the widespread concerns on food safety, the Laboratory provided continuous support in testing additional samples submitted under the stepped-up food surveillance programme of the Food and Environmental Hygiene Department, which would become a regular programme for the coming years. In another area of health concern, the Laboratory continued to provide full support for the investigation into the cases of adverse reaction arising from taking slimming products or proprietary Chinese medicines found containing western drug ingredients, and intoxication incidents related to substitution or contamination of herbs in Chinese herbal medicines.

**5** The key performance measures in respect of statutory testing are:

***Targets***

| | Target | 2005 (Actual) | 2006 (Actual) | **2007 (Plan)** |
|---|---|---|---|---|
| *Testing of:* | | | | |
| samples relating to food poisoning within one working day (%)# | 100 | 100 | 100 | **100** |
| food samples for regulatory compliance purposes within target reporting time averaging 19 working days (%)# | 95 | 95 | 98 | **95** |
| food complaint samples within target reporting time averaging 25 working days (%)#@ | 80 | — | 75 | **80** |
| pharmaceuticals (quality control) within target reporting time averaging 14 working days (%)# | 95Ω | 99 | 99 | **95** |
| pharmaceuticals (registration) within target reporting time averaging 30 working days (%)# | 90 | 92 | 93 | **90** |
| Chinese medicines within target reporting time averaging 30 working days (%)# | 95 | 98 | 96 | **95** |
| dangerous goods within target reporting time averaging 14 working days (%)# | 95 | 98 | 97 | **95** |
| dutiable and other commodities within target reporting time averaging ten working days (%)# | 95ϕ | 97 | 99 | **95** |
| toys and children's products within target reporting time averaging 15 working days (%)# | 95 | 95 | 96 | **95** |
| consumer goods within target reporting time averaging 35 working days (%)# | 95 | 95 | 97 | **95** |

\# Different samples require different analytical procedures, thus different target reporting time applies. The quoted number of working days required represents an average of target reporting time for the different samples within the category.

@ New target as from 2006. This new category of food complaint samples was grouped under the category of food samples for regulatory compliance purposes in previous years.

Ω The target has been revised from 92% to 95% with effect from 2007.

ϕ The target has been revised from 90% to 95% with effect from 2007.

***Indicators***

The key indicators for statutory testing are the numbers of tests performed on the various samples submitted.

| | 2005 (Actual) | 2006 (Actual) | **2007 (Estimate)** |
|---|---|---|---|
| *Tests performed* | | | |
| food samples for regulatory compliance purposes | 136 053 | 112 421 | **130 000** |
| food complaint samples§ | — | 14 604 | **12 000** |
| pharmaceuticals (quality control) | 24 322 | 21 878 | **23 000** |
| pharmaceuticals (registration) | 19 853 | 19 748 | **19 000** |
| Chinese medicines | 53 022 | 56 076 | **51 000** |
| dangerous goods | 5 512 | 6 064 | **6 000** |
| dutiable and other commodities | 24 936 | 23 325 | **26 000** |
| cigarette samples | 13 380 | 14 064 | **12 000** |
| toys and children's products | 11 268 | 9 687 | **8 500** |
| consumer goods | 13 393 | 14 530 | **16 000** |

§ New indicator as from 2006. This new category of food complaint samples was grouped under the category of food samples for regulatory compliance purposes in previous years.

***Matters Requiring Special Attention in 2007–08***

**6** During 2007–08, the Laboratory will continue to:

- provide analytical support to other government departments for further enhancement of food safety efforts in Hong Kong. The Laboratory is planning to establish a Food Safety Testing Laboratory to cope with the increasing demand for analytical services from the Food and Environmental Hygiene Department;
- participate in the development of the Hong Kong Chinese Materia Medica Standards;
- provide professional advice in the updating of the Toys and Children's Products Safety Ordinance (Cap.424) and make preparation for service provision to support the enforcement of the updated Ordinance; and
- develop testing methods to cater for the implementation of the Dangerous Goods (Amendment) Ordinance 2002.

**Programme (2): Advisory and Investigative Services**

| | 2005–06 (Actual) | 2006–07 (Original) | 2006–07 (Revised) | **2007–08 (Estimate)** |
|---|---|---|---|---|
| Financial provision ($m) | 56.1 | 59.0 | 53.9 (−8.6%) | **59.7** (+10.8%) (or +1.2% on 2006–07 Original) |

***Aim***

**7** The aim is to provide a wide range of primarily chemical testing and advisory services to other government departments and public institutions.

***Brief Description***

**8** The Laboratory provides comprehensive analytical and advisory services to the Government in the management and monitoring of the environment and in the enforcement of various pollution control measures. Chemical testing of air, water and waste samples for a variety of pollution indicators constitutes the main activity under this programme. Specific incidents of emission or leakage of gaseous substances into the environment involve the Laboratory in on-site investigations. Analytical support is provided to the Hong Kong Observatory's Environmental Radiation Monitoring Programme as well as the Daya Bay Contingency Plan. Other activities include the examination of seepage and swimming pool water samples for the Food and Environmental Hygiene Department, evaluation of workplace exposure of occupational hazards for the Labour Department, testing of government supplies for conformity to tender specifications and identifying products made from endangered species.

**9** In 2006, the Laboratory continued to render analytical support and professional advice to the Government in improving the quality of the environment of Hong Kong and engage in scientific research to further extend its analytical capabilities in environmental analysis. In addition to its routine commitments, the Laboratory was actively involved in various environmental impact studies and ad-hoc projects including the analysis of environmental samples for organic pollutants under the Toxic Substances Monitoring Programme.

**10** The key performance measures in respect of advisory and investigative services are:

***Targets***

| | Target | 2005 (Actual) | 2006 (Actual) | **2007 (Plan)** |
|---|---|---|---|---|
| *Testing of:* | | | | |
| air monitoring samples within target reporting time averaging 20 working days (%)β | 95 | 99 | 99 | **95** |
| other field investigation samples within target reporting time averaging 12 working days (%)β | 96Δ | 99 | 100 | **96** |
| air samples for litigation purposes within target reporting time averaging 18 working days (%)β | 97 | 100 | 100 | **97** |
| water monitoring samples within target reporting time averaging 20 working days (%)β | 96¶ | 99 | 100 | **96** |
| waste monitoring samples within target reporting time averaging 27 working days (%)β | 95 | 99 | 97 | **95** |

| | Target | 2005 (Actual) | 2006 (Actual) | **2007 (Plan)** |
|---|---|---|---|---|
| waste samples for litigation purposes within target reporting time averaging 12 working days (%)β | 97α | 100 | 100 | **97** |
| radioactivity monitoring samples within target reporting time averaging 12 working days (%)β | 95 | 100 | 97 | **95** |
| pesticides formulation samples within target reporting time averaging 38 working days (%)β | 90 | 100 | 95 | **90** |
| seepage and swimming pool water samples within target reporting time averaging ten working days (%)β | 95 | 97 | 99 | **95** |
| other samples within target reporting time averaging 25 working days (%)β | 90 | 97 | 98 | **90** |

β Different samples require different analytical procedures, thus different target reporting time applies. The quoted number of working days required represents an average of target reporting time for the different samples within the category.
Δ The target has been revised from 95% to 96% with effect from 2007.
¶ The target has been revised from 95% to 96% with effect from 2006.
α The target has been revised from 95% to 97% with effect from 2007.

***Indicators***

The key indicators for advisory and investigative services are the numbers of tests performed on the various samples submitted.

| | 2005 (Actual) | 2006 (Actual) | **2007 (Estimate)** |
|---|---|---|---|
| *Tests performed* | | | |
| air monitoring samples | 76 767 | 78 237 | **62 000** |
| air samples for litigation purposes | 756 | 1 849 | **2 900** |
| field investigation samples | 1 137 | 434 | **450** |
| water samples | 128 117 | 128 126 | **125 000** |
| waste monitoring samples | 20 415 | 17 622 | **17 000** |
| waste samples for litigation purposes | 540 | 242 | **200** |
| pesticides formulation samples | 218 | 299 | **500** |
| seepage and swimming pool water samples | 46 657 | 33 096 | **35 000** |
| miscellaneous | | | |
| radioactivity monitoring samples | 4 312 | 4 366 | **4 700** |
| other samples | 17 167 | 14 683 | **10 000** |

***Matters Requiring Special Attention in 2007–08***

**11** During 2007–08, the Laboratory will:

- provide analytical services in the determination of volatile organic compound contents in specified products;
- provide support to government departments in pursuing action items proposed under the Hong Kong Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants;
- continue to provide analytical services according to international protocols in support of the fuel specifications stipulated in Air Pollution Control (Motor Vehicle Fuel) Regulations;
- continue to develop sensitive and advanced analytical techniques to cater for the measurement of ultra-trace levels of environmental pollutants; and
- continue to provide analytical and advisory services to government departments in support of the implementation of the Chemical Weapons (Convention) Ordinance.

**Programme (3): Forensic Science Service**

| | 2005–06 (Actual) | 2006–07 (Original) | 2006–07 (Revised) | **2007–08 (Estimate)** |
|---|---|---|---|---|
| Financial provision ($m) | 105.3 | 104.8 | 104.1 (−0.7%) | **107.2** (+3.0%) |
| | | | | (or +2.3% on 2006–07 Original) |

***Aim***

**12** The aim is to provide a comprehensive and unbiased forensic science service to the criminal justice system.

***Brief Description***

**13** The Laboratory provides comprehensive forensic science services to law enforcement departments, which include mainly the Hong Kong Police Force, the Customs and Excise Department, the Immigration Department and the Independent Commission Against Corruption. Additionally, urinalysis monitoring is conducted for the Department of Health (Methadone Maintenance Scheme), the Social Welfare Department, the Correctional Services Department and other organisations requiring this service.

**14** The services are grouped into two main work areas: criminalistics and quality management; and drugs, toxicology and documents. A 24-hour service is also provided for the scientific examination of crime scenes. It covers general crime scenes and scenes requiring specialist knowledge, such as fire investigation, traffic accident reconstruction, blood pattern analysis and illicit drug manufacturing.

**15** The performance in biochemical grouping had previously been affected due to increased application of DNA analytical techniques for criminal investigation. The situation has been addressed by improving techniques and increasing use of resources on DNA profiling. In 2006, with the clearing of the long-standing backlog of cases, the pledged targets for all DNA profiling cases have been met. On areas where targets were not met owing to sustained demands, the Laboratory is striving to enhance efficiency to improve the situation.

**16** The key performance measures in respect of the forensic science services are:

***Targets***

Targets are defined as the number of working days required to complete 80% of cases in each category to accommodate the wide variations experienced in forensic casework.

| | Target Working Days Per Case | 2005 (Actual) | 2006 (Actual) | **2007 (Plan)** |
|---|---|---|---|---|
| biochemical grouping (DNA profiling) - | | | | |
| routine cases | 88 | 129 | 68 | **75** |
| complicated cases | 154 | 188 | 140 | **150** |
| DNA database (DNA profiling) | 22 | 22 | 21 | **22** |
| parentage testing (DNA profiling)∇ | 22 | 23 | 23 | **22** |
| trace evidence | 66 | 66 | 71 | **66** |
| accident reconstruction | 66 | 68 | 71 | **66** |
| routine illicit drug seizures | 11 | 10 | 11 | **11** |
| major drug seizures and manufacturing | 44 | 46 | 59 | **44** |
| analytical toxicology | 33 | 36 | 42 | **33** |
| drug urinalysis - | | | | |
| methadone clinics | 11 | 8 | 6 | **8** |
| judicial-screening^ | 11 | 13 | — | **—** |
| judicial-confirmation | 22 | 25 | 21 | **22** |
| drink-driving | 11 | 11 | 11 | **11** |
| handwriting examination | 66 | 78 | 84 | **66** |
| counterfeiting/forgery | 33 | 33 | 31 | **32** |
| express counterfeiting/forgery service | 1 | 1 | 1 | **1** |

∇ The figures represent the number of working days lapsed between the reception by the Laboratory of samples for genetic testing and the issuing of genetic data after completion of DNA analysis of these samples within the Laboratory.

^ With the application of new methodology, the presence of abused drugs in the urine samples can be confirmed directly instead of using the original screening method. With effect from 2006, all drug urinalysis findings will be confirmed results and the target on drug urinalysis (judicial screening) is to be discontinued.

***Indicators***

Key indicators for the forensic science services are the number of cases investigated, urinalysis samples tested, statutory certificates or technical reports/witness statements issued and crime scenes attended.

| | 2005 (Actual) | 2006 (Actual) | **2007 (Estimate)** |
|---|---|---|---|
| *Criminalistics and Quality Management Group* | | | |
| samples tested | | | |
| DNA database | 5 036 | 4 298 | **5 000** |
| cases investigated | | | |
| biochemical sciences - | | | |
| routine | 5 131 | 3 206 | **3 500** |
| complicated | 804 | 691 | **800** |
| parentage testing | 2 726 | 2 672 | **2 700** |
| chemical sciences | 803 | 820 | **830** |
| physical sciences | 831 | 858 | **830** |
| Total | 10 295 | 8 247 | **8 660** |
| *Drugs, Toxicology and Documents Group* | | | |
| cases investigated | | | |
| controlled drugs | 5 754 | 6 450 | **6 400** |
| analytical toxicology | 2 379 | 2 400 | **2 600** |
| drink-driving | 141 | 118 | **140** |
| questioned documents | 2 284 | 2 154 | **2 400** |
| Total | 10 558 | 11 122 | **11 540** |
| tests conducted | | | |
| drug urinalysis - | | | |
| methadone clinics | 18 716 | 14 279 | **17 000** |
| judicial-screeningΨ | 7 900 | N.A. | **N.A.** |
| judicial-confirmation | 63 994 | 64 266 | **65 000** |
| Total | 90 610 | 78 545 | **82 000** |
| *Forensic Science Division* | | | |
| statutory certificates issued | 5 932 | 6 698 | **6 690** |
| technical reports/statements | 17 262 | 14 787 | **16 000** |
| crime scenes attended | 437 | 451 | **450** |

Ψ With the application of new methodology since 2006, the presence of abused drugs in the urine samples can be confirmed directly instead of using the original screening method.

***Matters Requiring Special Attention in 2007–08***

**17** During 2007–08, the Laboratory will:

- maintain the efficiency in DNA profiling services in the detection and investigation of crime, management of the DNA database and genetic parentage testing; and
- endeavour to enhance the efficiency in other service areas where targets were not met, by refining methodology and administration.

## ANALYSIS OF FINANCIAL PROVISION

| Programme | 2005–06 (Actual) ($m) | 2006–07 (Original) ($m) | 2006–07 (Revised) ($m) | **2007–08 (Estimate) ($m)** |
|---|---|---|---|---|
| (1) Statutory Testing | 66.8 | 81.4 | 75.4 | **119.4** |
| (2) Advisory and Investigative Services | 56.1 | 59.0 | 53.9 | **59.7** |
| (3) Forensic Science Service | 105.3 | 104.8 | 104.1 | **107.2** |
| | 228.2 | 245.2 | 233.4 | **286.3** |
| | | | (–4.8%) | **(+22.7%)** |
| | | | | **(or +16.8% on 2006–07 Original)** |

**Analysis of Financial and Staffing Provision**

**Programme (1)**

Provision for 2007–08 is $44.0 million (58.4%) higher than the revised estimate for 2006–07. This is mainly due to additional provision for creating 48 posts for enhancement of food safety and meeting other operational needs, salary increments for staff and increased requirement for procurement of capital equipment and specialist stores for setting up a Food Safety Testing Laboratory and supporting the enforcement of the updated Toys and Children's Products Safety Ordinance.

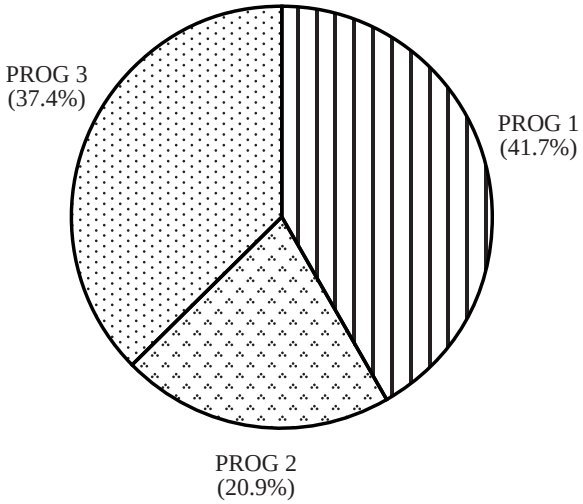
**Programme (2)**

Provision for 2007–08 is $5.8 million (10.8%) higher than the revised estimate for 2006–07. This is mainly due to increased requirement for procurement of capital equipment and salary increments for staff, partly offset by reduced requirement for specialist stores.

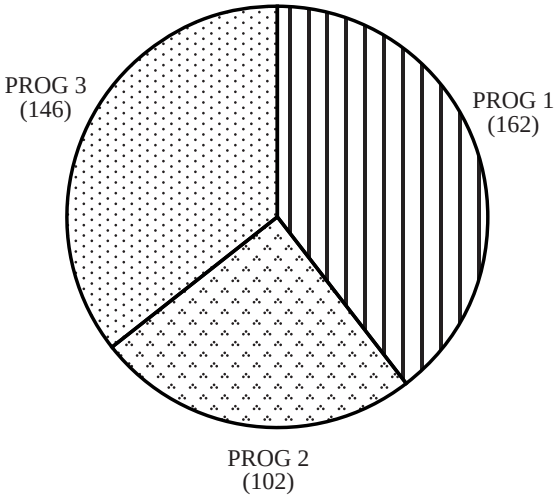
**Programme (3)**

Provision for 2007–08 is $3.1 million (3.0%) higher than the revised estimate for 2006–07. This is mainly due to additional provision for creating eight posts in 2007–08 to meet operational needs, salary increments for staff and increased requirement for procurement of capital equipment and specialist stores.

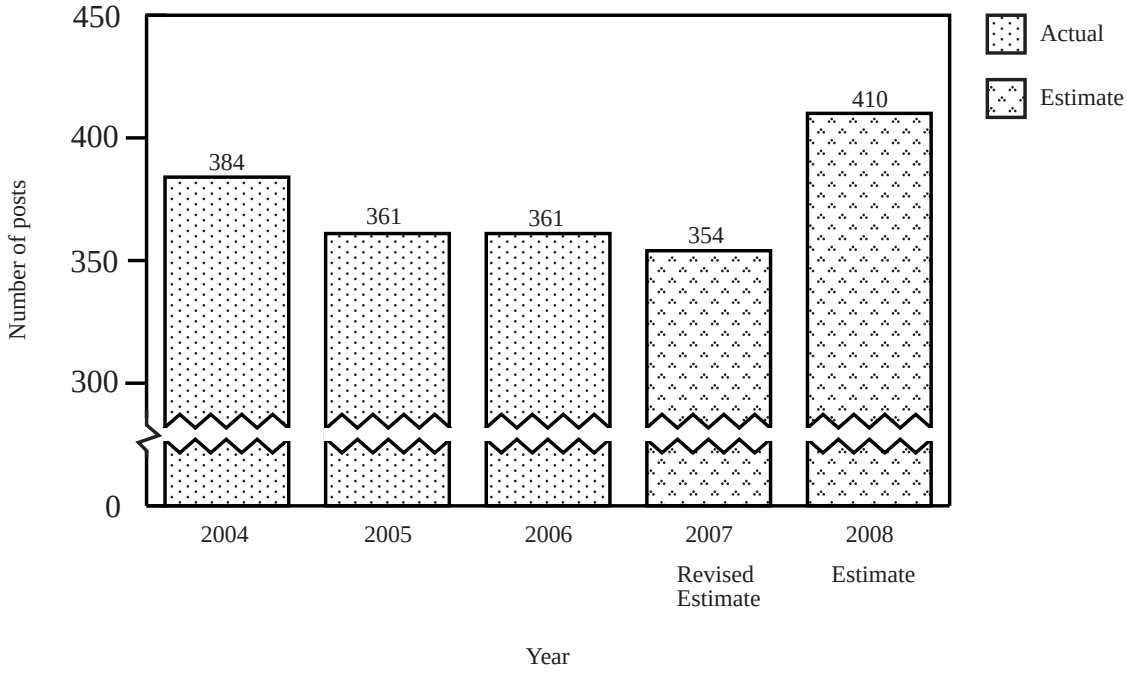
*Allocation of provision to programmes (2007-08)*




*Staff by programme (as at 31 March 2008)*




*Changes in the size of the establishment (as at 31 March)*



# Head 48 — GOVERNMENT LABORATORY

| Sub-head (Code) | | Actual expenditure 2005–06 | Approved estimate 2006–07 | Revised estimate 2006–07 | **Estimate 2007–08** |
|---|---|---|---|---|---|
| | | $'000 | $'000 | $'000 | **$'000** |
| | **Operating Account** | | | | |
| | Recurrent | | | | |
| 000 | Operational expenses | 217,814 | 218,825 | 217,425 | **243,434** |
| | Total, Recurrent | 217,814 | 218,825 | 217,425 | **243,434** |
| | Total, Operating Account | 217,814 | 218,825 | 217,425 | **243,434** |
| | **Capital Account** | | | | |
| | Plant, Equipment and Works | | | | |
| 603 | Plant, vehicles and equipment | 768 | 16,150 | 5,770 | **21,155** |
| 661 | Minor plant, vehicles and equipment (block vote) | 9,638 | 10,182 | 10,182 | **21,693** |
| | Total, Plant, Equipment and Works | 10,406 | 26,332 | 15,952 | **42,848** |
| | Total, Capital Account | 10,406 | 26,332 | 15,952 | **42,848** |
| | Total Expenditure | 228,220 | 245,157 | 233,377 | **286,282** |

**Details of Expenditure by Subhead**

The estimate of the amount required in 2007–08 for the salaries and expenses of the Government Laboratory is $286,282,000. This represents an increase of $52,905,000 over the revised estimate for 2006–07 and of $58,062,000 over actual expenditure in 2005–06.

*Operating Account*

Recurrent

**2** Provision of $243,434,000 under *Subhead 000 Operational expenses* is for the salaries, allowances and other operating expenses of the Government Laboratory. The increase of $26,009,000 (12.0%) over the revised estimate for 2006–07 is mainly due to additional provision for setting up a Food Safety Testing Laboratory and for making preparation for service provision to support the enforcement of the updated Toys and Children's Products Safety Ordinance in 2007–08.

**3** The establishment as at 31 March 2007 will be 354 permanent posts. It is expected that 56 permanent posts will be created in 2007–08. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2007–08, but the notional annual mid-point salary value of all such posts must not exceed $156,824,000.

**4** An analysis of the financial provision under *Subhead 000 Operational expenses* is as follows:

| | 2005–06 (Actual) ($'000) | 2006–07 (Original) ($'000) | 2006–07 (Revised) ($'000) | **2007–08 (Estimate) ($'000)** |
|---|---|---|---|---|
| Personal Emoluments | | | | |
| - Salaries | 158,551 | 161,909 | 158,909 | **168,824** |
| - Allowances | 698 | 953 | 953 | **1,024** |
| Personnel Related Expenses | | | | |
| - Mandatory Provident Fund contribution | 480 | 434 | 434 | **625** |
| - Civil Service Provident Fund contribution | — | 418 | 418 | **1,106** |
| Departmental Expenses | | | | |
| - General departmental expenses | 58,085 | 55,111 | 56,711 | **71,855** |
| | 217,814 | 218,825 | 217,425 | **243,434** |

*Capital Account*

Plant, Equipment and Works

**5** Provision of $21,693,000 under *Subhead 661 Minor plant, vehicles and equipment (block vote)* represents an increase of $11,511,000 (113.1%) over the revised estimate for 2006–07. This is mainly due to more replacement and new items required in 2007–08.

**Commitments**

| Sub-head (Code) | Item (Code) | Ambit | Approved commitment | Accumulated expenditure to 31.3.2006 | Revised estimated expenditure for 2006–07 | Balance |
|---|---|---|---|---|---|---|
| | | | $'000 | $'000 | $'000 | $'000 |
| ***Capital Account*** | | | | | | |
| 603 | | *Plant, vehicles and equipment* | | | | |
| | 448 | Acquisition of a liquid chromatograph - mass spectrometer | 4,000 | — | — | 4,000 |
| | 804 | Acquisition of a matrix-assisted laser desorption ionisation time-of-flight mass spectrometer | 3,200 | — | — | 3,200 |
| | 805 | Acquisition of a scanning electron microscope | 3,500 | — | — | 3,500 |
| | 806 | Acquisition of a high resolution gas chromatograph - high resolution mass spectrometer | 4,680 | — | — | 4,680 |
| | 838 | Acquisition of a high resolution inductively coupled plasma - mass spectrometer | 5,775 | — | — | 5,775 |
| | | Total | 21,155 | — | — | 21,155 |