

## **CHAPTER 9**

### **Buildings Department Food and Environmental Hygiene Department**

#### **Joint-office operation on water seepage in buildings**

**Audit Commission  
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*This audit review was 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 accepted by the Government of the Hong Kong Special Administrative Region.*

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# **JOINT-OFFICE OPERATION ON WATER SEEPAGE IN BUILDINGS**

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# **JOINT-OFFICE OPERATION ON WATER SEEPAGE IN BUILDINGS**

## **Executive Summary**

1. Mostly owing to defective water pipes, sanitary fitments and drainage pipes, and deteriorated waterproofing of floor slabs, rooftops and external walls, water seepage in buildings may cause nuisances, health problems, building-safety issues and at times water wastage. In addition to the originating flat, these problems may extend to adjacent and underlying flats. Under the Public Health and Municipal Services Ordinance (Cap. 132 — PH&MS Ordinance), the Food and Environmental Hygiene Department (FEHD) may issue a nuisance notice requiring the responsible person of any premises, drain or sewer which is in such a state as to be a nuisance, or injurious or dangerous to health to take actions to abate the water seepage within a specified period.

2. Upon noting water seepage in a flat which is suspected to be originated from an upper-floor or an adjacent flat, the affected flat owner may seek to resolve the problem by approaching and liaising with the pertinent flat owners to carry out necessary investigations and repair works. The affected flat owner may also refer a water-seepage case to the Government for assistance. In response, the FEHD may carry out investigations to trace the source of the seepage and, upon identifying the source, issue a nuisance notice (see para. 1).

3. In July 2006, a joint-office (JO) operation comprising staff of the FEHD and the Buildings Department (BD) was set up in offices of all the 19 FEHD districts to handle water-seepage cases. The JO operation aimed to improve coordination of FEHD and BD staff. FEHD staff had the enforcement power under the PH&MS Ordinance and BD staff possessed building-survey expertise. The main objectives of the JO operation were to shorten the time of investigation of water-seepage cases reported by the public and improve the success rate of identifying the seepage source of these cases. The Audit Commission (Audit) noted that the number of public reports on water-seepage cases had increased by 70% from 17,405 cases in 2007 to 29,617 cases in 2015.

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4. In 2014-15, the total cost of the JO operation was \$129 million, comprising staff cost of \$97 million, and office expenditure and cost of hiring contractors (for carrying out water-seepage investigations) totalling \$32 million. As of March 2016, 274 staff (comprising 211 FEHD JO staff and 63 BD JO staff) were involved in the JO operation. Audit has recently conducted a review to examine the efficiency and effectiveness of the JO operation in handling water-seepage cases with a view to identifying areas for improvement.

### Investigation and enforcement actions

5. As of December 2006, there were 6,228 outstanding cases. After the setting up of the JO operation in all the 19 districts in 2006, from January 2007 to March 2016, the JO operation had received a total of 231,968 reports on water-seepage cases (or about 2,100 cases a month). As of March 2016, of the 238,196 (6,228 plus 231,968) cases, actions on 196,926 (83%) cases had been completed, and 15,564 (6%) were outstanding cases with investigations in progress. The shortfall of 25,706 (11%) cases was due to record-keeping discrepancies between the number of cases captured in the FEHD's Complaints Management Information System (CMIS) and that in the FEHD JO monthly returns and BD JO case records. Of the 196,926 completed cases: (a) 97,296 (49%) were screen-out cases where investigations would not be carried out due to certain reasons such as the water seepage being at a level not meeting the moisture-content threshold; (b) 40,856 (21%) were cases where the water seepage had ceased or the informants had withdrawn case reports during investigations; (c) 41,024 (21%) were cases where the seepage source was successfully identified by the JO operation; and (d) 17,750 (9%) were cases where the seepage source could not be identified after conducting investigations. According to the formula adopted by the FEHD and the BD, the success rate of identifying the source of water-seepage cases completed from January 2007 to March 2016 was 41% ( $41,024 \div (41,024 + 17,750 + 40,856) \times 100\%$ ) (paras. 1.17, 2.3 and 2.10).

6. ***Deteriorating source-identification success rates.*** Notwithstanding that one of the main objectives of the JO operation was to improve the success rate of identifying the seepage source of water-seepage cases (see para. 3), according to the formula adopted by the FEHD and the BD (see para. 5), the success rate of cases requiring investigations had decreased progressively from 46% in 2007 to 36% in 2015 (paras. 2.9 and 2.10).

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7. ***Long time taken to handle some water-seepage cases.*** Despite the fact that a key objective of the JO operation was to shorten the time of investigation of water-seepage cases (see para. 3), Audit examination revealed that it took a long time for the JO operation to process some water-seepage cases. In this connection, of the 28,332 cases having actions completed from April 2015 to March 2016, the time taken to complete 9,710 (34%) cases had exceeded the 133-day reference timeframe set by the FEHD and the BD. In particular, 643 (2%) cases took 2.2 to 7.5 years to complete. Furthermore, of the 15,564 outstanding cases as of March 2016, 6,368 (41%) cases had been outstanding for more than 133 days, where the time having been spent on 1,046 (7%) cases ranged from 2.2 to 8.3 years (paras. 1.9, 2.17, 2.18 and 2.22).

8. ***Inadequate system for referring cases to BD and WSD for follow-up actions.*** During investigations of water-seepage cases, FEHD JO staff and/or BD JO staff would carry out preliminary assessments and refer cases involving building-safety issues to the BD and cases involving leaking of water-supply pipes to the Water Supplies Department (WSD) for further investigations and necessary enforcement actions under the Buildings Ordinance (Cap. 123) and the Waterworks Ordinance (Cap. 102) respectively. Audit examination revealed that, although FEHD guidelines required FEHD JO staff to maintain a list of cases having been referred to the BD and the WSD for follow-up actions, the staff of 8 of the 19 districts did not maintain such a list. Moreover, while the WSD had received 2,240 cases having been referred from the JO operation from 2011 to 2015 for follow-up actions, the records of the JO operation showed that only 728 (33% of 2,240) cases had been referred to the WSD during the period (paras. 2.28, 2.29 and 2.31).

9. ***Lack of system control over investigations and issuance of nuisance notices.*** From 2011 to 2015, the JO operation had successfully identified the seepage source of 22,439 water-seepage cases and had served 20,729 nuisance notices on the responsible persons. The FEHD promulgated an instruction in March 2008 requiring JO staff of the 19 districts to maintain in each district a Water-seepage Case Monitoring Database by using standalone computers for monitoring the progress of actions taken on each water-seepage case. Information for inclusion in the Database included the date of: (a) conducting a coloured-water test; (b) inspecting the test results; (c) issuing a nuisance notice and its expiry date; and (d) conducting a compliance inspection of a nuisance notice issued. However, information of the Database could not be provided for Audit examination. The absence of the related records and information had impeded the FEHD's monitoring

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and management of investigations and issuance of nuisance notices on water-seepage cases, as well as Audit's examination of the completeness and timeliness of actions taken by the JO operation in conducting investigations and issuing nuisance notices on water-seepage cases (paras. 2.42, 2.46, 2.47 and 2.49).

10. ***Lack of system control over follow-up actions on nuisance notices.*** According to FEHD guidelines, JO staff of each district needed to maintain a Nuisance Notices Monitoring List. However, Audit examination revealed that JO staff of 14 of the 19 districts did not maintain information in the Monitoring Lists on one or more of the following items: (a) the date of serving a nuisance notice; (b) the date of expiry of a nuisance notice; and (c) the dates of conducting follow-up inspections to ascertain compliance with a nuisance notice. Moreover, Audit also noted that none of the Monitoring Lists of the 19 districts comprised information on the results of compliance inspections and the dates of referring cases to the FEHD Prosecution Section for taking enforcement actions. The absence of the related records and information had impeded the FEHD's monitoring and management of follow-up actions on nuisance notices served, and Audit's examination of the completeness and timeliness of the related actions (paras. 2.50 and 2.52 to 2.55).

### Monitoring of service contractors

11. To supplement staff resources, BD JO staff engaged and monitored service contractors to assist in carrying out investigations of water-seepage cases. Service contractors were required to submit bi-weekly progress reports to BD JO staff to show the progress of actions taken on each assigned case. As of March 2016, 7 contractors had been appointed under 9 service contracts to provide water-seepage investigation services for the 19 FEHD districts (paras. 1.10 and 3.3).

12. ***Inadequate monitoring and assessment of contractors' effectiveness.*** Service contractors were mainly engaged to carry out investigations with a view to identifying the source of seepage of water-seepage cases. However, in monitoring and assessing a contractor's performance, BD JO staff did not compile and make reference to the contractor's success rate of identifying the source of seepage of cases assigned to him. Audit examination revealed that there were large variations among the success rates of the nine contracts covering the period April 2014 to April 2015, with the rates ranging from 23% to 67% (paras. 3.6, 3.7 and 3.9).



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13. ***Lack of effective actions taken against contractors for taking a long time to complete investigations.*** Audit examination revealed that some contractors had taken a long time to complete investigations of cases assigned to them. For example, as of April 2016, of the 8,327 cases of the nine contracts covering the period April 2014 to April 2015 where investigation reports had been submitted to BD JO staff, the time taken to complete 281 (3%) cases ranged from 1.1 to 1.9 years. Furthermore, a target timeframe had been specified in the contract for a contractor to complete an inspection of the affected premises and carry out necessary tests within 30 days from assignment of a case. However, Audit examination revealed that, as of April 2016, of the 5,457 cases of contracts covering the period April 2014 to April 2015 where actions on inspection of the affected premises and tests had been completed, 3,337 (61%) cases did not meet the 30-day target timeframe. In particular, the time taken for 85 (2%) cases to complete this task ranged from 1.1 to 2.1 years. However, the BD had not issued any warning letter or adverse performance report to related contractors from January 2011 to April 2015 (paras. 3.13 to 3.15, 3.18 and 3.21).

### **Management information system and performance reporting**

14. ***FEHD JO staff not fully adopting new CMIS for water-seepage cases.*** In July 2012, the FEHD engaged a contractor at a cost of \$7.3 million to develop a new CMIS to facilitate the handling of all FEHD enquiry and complaint cases, including water-seepage cases. The new system was rolled out by phases for implementation in the 19 districts from December 2014 to December 2015. The new CMIS provided new functions for storing scanned copies of case documents, generating exception reports highlighting cases not complying with timeframes and generating ageing analysis reports on long-outstanding cases. However, JO staff of the 19 districts did not fully implement the new CMIS. For example, they did not input into the new CMIS the dates of conducting tests and inspections, and issuing nuisance notices of water-seepage cases, causing inefficiency for the management to monitor performance and progress of the cases (paras. 4.2, 4.4 to 4.6 and 4.9).

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15. *Need to consider setting additional performance targets.* While informants of water-seepage cases and members of the public are mostly concerned about the time taken by the JO operation in identifying the source of seepage of water-seepage cases and the extent to which the JO operation could successfully identify the source of seepage, the FEHD and the BD have not set performance targets in these two areas (para. 4.22).

### Audit recommendations

16. **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 should:**

#### *Investigation and enforcement actions*

- (a) **strengthen measures with a view to ensuring that the JO operation actions on water-seepage cases are completed in a timely manner (para. 2.34(c));**
- (b) **periodically send a list of referral cases to the WSD and the BD for reconciliation purposes (para. 2.34(e));**
- (c) **take measures to ensure that BD JO staff take actions on outstanding cases in a timely manner (para. 2.36(a));**
- (d) **take necessary actions to ensure that Water-seepage Case Monitoring Databases are properly maintained by the JO staff (para. 2.58(a));**
- (e) **issue clear guidelines on essential information for inclusion in Nuisance Notices Monitoring Lists (para. 2.58(b));**

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### ***Monitoring of service contractors***

- (f) **take actions to ensure that contractors' investigations on water-seepage cases are completed in a timely manner, and warning letters and adverse performance reports are issued to contractors having unsatisfactory performance (para. 3.33(a));**

### ***Management information system and performance reporting***

- (g) **take measures to ensure that all functions of the new CMIS on water-seepage cases are fully implemented for the JO operation in a timely manner (para. 4.13(a)); and**
- (h) **consider regularly publishing performance indicators for the JO operation (para. 4.24).**

## **Response from the Government**

- 17. The Government agrees with the audit recommendations.



## **PART 1: INTRODUCTION**

1.1 This PART describes the background to the audit and outlines the audit objectives and scope.

### **Background**

1.2 Mostly owing to defective fresh-water and seawater pipes, sanitary fitments and drainage pipes, and deteriorated waterproofing of floor slabs, rooftops and external walls, water seepage in buildings (see Photograph 1) may cause nuisances, health problems, building-safety issues and at times water wastage. In addition to the originating flat, these problems may extend to adjacent and underlying flats.

**Photograph 1**

**Water seepage from a ceiling**



*Source: Buildings Department records*

1.3 According to the Food and Environmental Hygiene Department (FEHD) and the Buildings Department (BD):

- (a) property owners are responsible for maintaining and managing their buildings, and resolving any water-seepage problem occurring in their buildings;

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- (b) if water seepage is suspected to be originated from an upper-floor flat or an adjacent flat, the property owner affected should promptly approach the pertinent flat owner for carrying out investigations and repair works. He may seek assistance from the management office or the owners' corporation of his building for resolving the problem. Where necessary, he may engage a building professional to carry out investigations and request the responsible property owner to take actions to cease the water seepage, or lodge a claim for damages;
- (c) an affected property owner may refer a water-seepage case to the Government for assistance (for example, through the Government hotline 1823). In response, FEHD staff will pay a visit to the site. If FEHD staff find that the water seepage has posed a health nuisance or a risk to the structural safety of the building, or has led to wastage of water, they would handle the case by conducting an investigation. If the investigation confirms the existence of water seepage (by measuring the moisture content of the seepage area), the FEHD staff (and at times service contractors engaged by the BD) will seek to pay visits to upper-floor or adjacent premises suspected to be the originated place of the seepage to carry out tests with a view to identifying the source of seepage. Upon identifying the source of seepage, the FEHD will issue a nuisance notice requiring the responsible person to take actions to abate the water seepage within a specified period; and
- (d) the FEHD will refer cases involving building-safety issues and leaking of water-supply pipes to the BD and the Water Supplies Department (WSD) respectively for further investigations and necessary enforcement actions (see para. 1.4(b) and (c)).

### ***Government enforcement actions under three ordinances***

1.4 Upon receiving a public report on water seepage in buildings, pertinent government departments may take actions under the following circumstances:

- (a) ***Nuisances.*** Any premises, drain or sewer which is in such a state as to be a nuisance, or injurious or dangerous to health shall be nuisances under section 12 of the Public Health and Municipal Services Ordinance (Cap. 132 — PH&MS Ordinance) and the FEHD may issue a

nuisance notice under section 127 (Note 1) of the Ordinance to require the responsible person to abate the nuisance within a specified period;

- (b) ***Building-safety issues.*** If the seepage has given rise to building-safety issues, the BD may issue orders under section 24 (related to unauthorised building works (UBW) — Note 2), sections 26 and 26A (related to dangerous, dilapidated and defective buildings — Note 3) and section 28 (related to defective and insanitary drains of building — Note 4) of the Buildings Ordinance (Cap. 123) to require the responsible person to take rectification actions within a specified period; and
- (c) ***Water wastage.*** If the seepage is originated from leaking water-supply pipes and has resulted in water wastage, the WSD may issue a notice under section 16 (Note 5) of the Waterworks Ordinance (Cap. 102) to require the responsible person to take rectification actions within a specified period.

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**Note 1:** *Under section 127 of the PH&MS Ordinance, the Director of Food and Environmental Hygiene may cause a notice to be served on the person by reason of whose act, default or sufferance the nuisance arose or continues, or on the occupier or owner of the premises on which the nuisance exists, requiring him to abate the nuisance.*

**Note 2:** *Under section 24 of the Buildings Ordinance, where any building works have been or are being carried out in contravention of any of the provisions of the Buildings Ordinance, the Building Authority (i.e. the Director of Buildings) may by order in writing require the demolition or necessary alteration of the works.*

**Note 3:** *Under sections 26 and 26A of the Buildings Ordinance, where in the opinion of the Building Authority any building has been rendered dangerous or liable to become dangerous, or on inspection the Building Authority finds any dilapidation or defect in a building, he may by order in writing require the owner to carry out such works as specified.*

**Note 4:** *Under section 28 of the Buildings Ordinance, where in the opinion of the Building Authority the drains or sewers of any building are inadequate or in defective or insanitary condition, he may by an order in writing require the owner to carry out such drainage works as specified.*

**Note 5:** *Under section 16 of the Waterworks Ordinance, the Water Authority (i.e. the Director of Water Supplies) may, if he is satisfied that an inside service is in such a condition that waste of a supply has occurred or is likely to be caused thereby, by notice require the consumer to carry out the repairs or other works as specified.*

### *Government actions before July 2006*

1.5 Before July 2006, a water-seepage case reported by the public would firstly be referred to the pertinent FEHD district office (DO — Note 6) which would carry out an initial investigation to ascertain if there was any evidence of water seepage. If water seepage was suspected to have originated from defective drainage or sewage pipes, the responsible FEHD DO staff might carry out a coloured-water test (Note 7) to trace the source of the seepage. FEHD DO staff would not carry out a coloured-water test if they found that the water seepage was not significant or was intermittent because, according to the FEHD, the test might not help identify the source of seepage in such circumstances. If the source of seepage could be identified, the FEHD would issue a nuisance notice under section 127 of the PH&MS Ordinance to the responsible person requiring him to abate the nuisance within a specified period.

1.6 For a case where the source of seepage could not be identified, the FEHD would not take further actions on the case, and would notify the informant of the investigation results and any referral of the case to other government departments for follow-up actions. For a case which might involve building defects and/or leaking water-supply pipes (Note 8), the FEHD would refer the case to the BD and/or the WSD as appropriate for follow-up actions, which would reply to the informant notifying him of the investigation results directly with a copy of the reply forwarded to the FEHD.

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**Note 6:** *The FEHD has set up 19 DOs to provide public services on a district basis, of which 17 districts were the same as 17 of the 18 District Council districts. The remaining Yau Tsim Mong District Council district is split into two FEHD districts, namely Yau Tsim district and Mongkok district.*

**Note 7:** *If water seepage was suspected to have originated from defective drainage or sewage pipes, investigators would apply coloured water to drainage and sewage outlets and observe any appearance of the coloured water at the affected areas. This test is known as a coloured-water test.*

**Note 8:** *During investigations of water-seepage cases, FEHD DO staff would carry out preliminary assessments of signs of water seepage due to building defects (see para. 1.4(b)) or leaking water-supply pipes (see para. 1.4(c)).*



### *Joint-office operation from July 2006*

1.7 In December 2004, in response to a recommendation of the Team Clean (Note 9), a joint-office (JO) operation comprising 7 FEHD staff and 6 BD staff commenced on a trial basis at an FEHD office in Shamshuipo to handle water-seepage cases. In addition to carrying out coloured-water tests (see Note 7 to para. 1.5) by FEHD DO staff (hereinafter referred to as FEHD JO staff), BD staff with building expertise (hereinafter referred to as BD JO staff) might conduct (or engage service contractors to conduct) additional tests (such as coloured-water ponding test — Note 10) to trace the source of water seepage. In addition, BD JO staff also made preliminary assessments of whether any of the water seepage might be caused by building defects and/or leaking water-supply pipes and refer relevant cases to the BD Existing Buildings Divisions (Note 11) and/or the WSD for follow-up actions. Other than carrying out additional tests and assessments, the other follow-up actions adopted before July 2006 continued to be applicable (see paras. 1.5 and 1.6).

1.8 From December 2004 to July 2006, the trial JO operation was progressively extended to all the 19 FEHD districts using FEHD office facilities and staff resources (mainly non-civil service contract (NCSC) staff) of both the FEHD and the BD. The period of the trial scheme was later extended to March 2009, and subsequently further to March 2012 and March 2014. Since April 2014, the JO operation has become a permanent arrangement.

1.9 Under the JO operation, BD JO staff cost, BD office expenditures and cost of engaging service contractors for carrying out tests to trace the source of water seepage are borne by the BD whereas the FEHD JO staff cost and FEHD

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**Note 9:** *The Team Clean, led by the Chief Secretary for Administration, was set up in May 2003 (in the wake of the spread of the Severe Acute Respiratory Syndrome) to develop and take forward proposals for entrenching a high level of public and environmental hygiene in Hong Kong.*

**Note 10:** *If water seepage was suspected to have originated from floor slabs or a shower tray, investigators would maintain a pond of coloured water on the floor slabs or shower tray for two hours and observe any seepage of the coloured water to the seepage areas. This test is known as a coloured-water ponding test.*

**Note 11:** *Cases under JO operation referred by the FEHD and BD JO staff to the BD for follow-up actions under sections 24, 26, 26A and 28 of the Buildings Ordinance would be handled by staff of the Existing Buildings Divisions of the BD.*

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office expenditures are borne by the FEHD. BD JO staff are under the supervision of an Assistant Director of the BD's Existing Buildings Division 2 whereas FEHD JO staff are under the supervision of the respective Assistant Directors of Operations Divisions 1, 2 and 3 of the FEHD (see Appendix A for a JO operation structure). According to the FEHD and the BD, the main objectives of the JO operation are to:

- (a) shorten the time of investigation of water-seepage cases and improve the success rate of identifying the source of water seepage of cases reported by the public; and
- (b) improve inter-departmental coordination and facilitate efficient and effective management and investigations of water-seepage cases jointly by FEHD staff having the enforcement power under the PH&MS Ordinance and BD staff having the building-survey expertise.

### *Staff resources and recurrent expenditures*

1.10 As of July 2006 (when the JO operation was first extended to all 19 FEHD districts), 129 staff (comprising 81 FEHD NCSC staff and 48 BD NCSC staff — Note 12) were involved in the JO operation. As of March 2016, 274 staff (a 112% increase) comprising 211 FEHD JO staff (136 civil service and 75 NCSC staff) and 63 BD JO staff (30 civil service and 33 NCSC staff) were involved in the JO operation. The 211 FEHD JO staff were deployed in 19 FEHD DOs, and the 63 BD JO staff were stationed at 4 FEHD DOs and a BD office located in Kwai Fong. The staff strength of the JO operation as of March 2016 is shown in Appendix B. The 63 BD JO staff were mainly responsible for engaging and overseeing the work of BD service contractors (Note 13) who carried out tests to trace the source of water seepage. As of March 2016, 7 contractors had been appointed under 9 service contracts to provide water-seepage test services for the 19 FEHD districts.

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**Note 12:** *According to the FEHD and the BD, before the JO operation becoming a permanent arrangement in April 2014, majority of staff involved in the JO operation were NCSC staff and their staff turnover rate was high. Since then, civil service posts have been progressively created to replace the NCSC posts.*

**Note 13:** *Before April 2007, about 69% of the investigation work for tracing the seepage source was conducted by BD JO staff, with the remaining 31% by BD service contractors. Since April 2007, all such investigation work has been carried out by contractors.*

1.11 In 2014-15, the total cost of the JO operation was \$129 million, comprising staff cost of \$97 million (\$71 million for FEHD JO staff and \$26 million for BD JO staff), and office expenditures and cost of hiring contractors totalling \$32 million (\$1 million office expenditures borne by the FEHD, and \$2 million office expenditures and \$29 million contractor cost borne by the BD).

### ***Monitoring progress of actions taken on water-seepage reports***

1.12 The following are relevant systems and records maintained for monitoring and managing the JO operation:

- (a) ***Complaints Management Information System (CMIS).*** The FEHD has maintained a CMIS to record information of all public enquiry and complaint cases received on its services and operations, including water-seepage reports;
- (b) ***FEHD JO monthly returns.*** FEHD JO staff in 19 districts submitted to the FEHD Headquarters (to BD JO staff before 2015) monthly returns on statistics and results of Stages I and II investigations (see para. 2.2) conducted by them (Note 14); and
- (c) ***BD JO case records.*** BD JO staff maintained records of water-seepage cases being assigned to service contractors in spreadsheet format, including the date of assigning each case to a service contractor, the date of submitting an investigation report by a contractor, the date of endorsement of the report by BD JO staff, and investigation results of each case.

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**Note 14:** *According to the BD, it made use of FEHD statistics for compiling statistics of the JO operation.*

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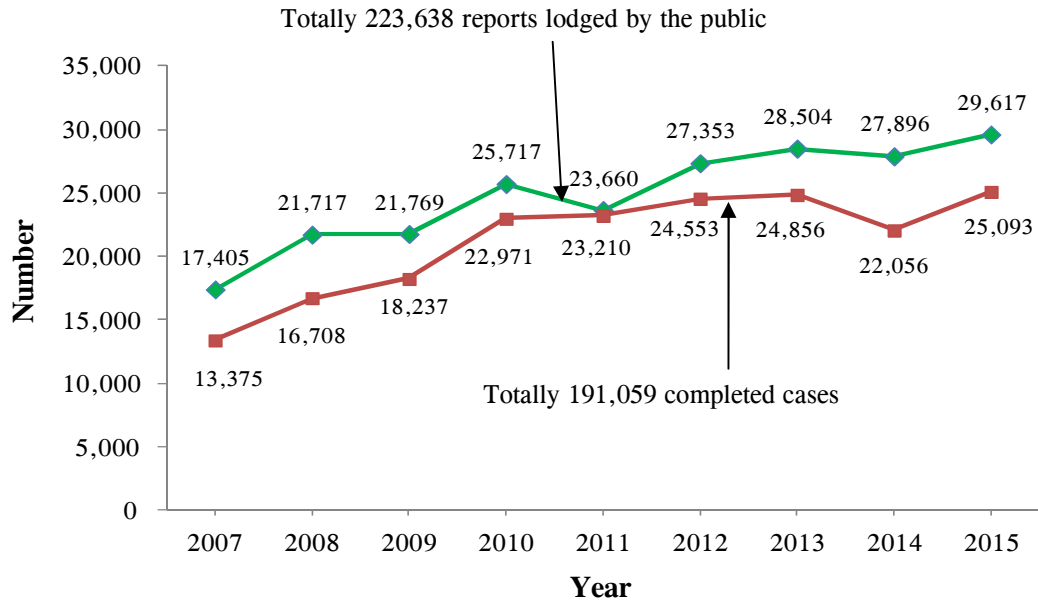
1.13 Relevant statistics of the JO operation include:

- (a) number of cases received in a month;
- (b) number of completed cases (comprising screen-out cases — see para. 2.3, completed cases with water-seepage sources identified, completed cases without identifying the source and cases where water seepage had ceased or reports had been withdrawn by the informants during investigations);
- (c) number of cases being referred to other government departments such as the BD Existing Buildings Divisions and the WSD for follow-up actions; and
- (d) number of cases being followed up with enforcement actions.

1.14 According to FEHD JO monthly returns and BD JO case records, the number of water-seepage reports having been received by the JO operation had increased from 17,405 in 2007 (the first full year of adoption of the JO operation in all 19 FEHD districts) to 29,617 in 2015 (a 70% increase), and the number of completed cases had increased from 13,375 in 2007 to 25,093 in 2015 (a 88% increase). Details are shown in Figure 1.

Figure 1

**Water-seepage public reports and completed cases  
(2007 to 2015)**



Source: FEHD and BD records

Remarks: The data were based on FEHD JO monthly returns and BD JO case records. Some completed cases in a year related to cases received in previous years. Furthermore, from January to March 2016, the JO operation had received a total of 8,330 water-seepage reports, screened out 2,667 cases and completed investigations of 3,200 cases. Moreover, from April to June 2016, the JO operation had received 10,567 water-seepage reports, screened out 3,526 cases and completed investigations of 4,101 cases.

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1.15 According to the FEHD, upon receipt of a water-seepage report from the public, FEHD JO staff would pay visits to the affected premises to examine the water seepage and its moisture content. If the moisture content of the water seepage was found to be below 35% (see para. 2.3(a) — Note 15), or the seepage had not caused nuisances (Note 16), FEHD JO staff would not take further actions and would inform the premises owner accordingly.

1.16 On the other hand, if the moisture content of the water seepage was found to be 35% or above, and that it had caused nuisances, FEHD JO staff (and at times BD service contractors) would seek to pay visits to the premises (mostly upper-floor or adjacent premises) suspected to be the origin of the seepage to carry out tests (see paras. 2.5 and 2.7 for details of tests) with a view to detecting the source of water seepage. Upon identifying the source and that the seepage had caused nuisances, the FEHD JO staff would issue a nuisance notice to the responsible premises owner requiring him to abate the seepage problem within a specified period.

1.17 Based on FEHD JO monthly returns and BD JO case records, as of December 2006, there were 6,228 outstanding cases. After the setting up of the JO operation in all the 19 FEHD districts in 2006, from January 2007 to March 2016, the JO operation had received a total of 231,968 water-seepage reports (223,638 plus 8,330 — see Figure 1 in para. 1.14). As of March 2016, the 238,196 (6,228 plus 231,968) cases requiring actions comprised the following:

- (a) based on FEHD JO monthly returns and BD JO case records, 196,926 (83%) were completed cases (see Table 1);
- (b) based on information in the CMIS, 15,564 (6%) were outstanding cases with investigation in progress; and

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**Note 15:** *The moisture content, ranging from 0% (denoting completely dry) to 100% (denoting completely wet), of a substance could be measured by a moisture measurement meter.*

**Note 16:** *According to the FEHD, water seepage from potentially unclean sources (such as sewage and drainage water) that may give rise to public health concerns is normally regarded as causing nuisances.*

- (c) the shortfall of 25,706 (11%) cases was due to record-keeping discrepancies between the number of water-seepage cases captured in the CMIS and that in the FEHD JO monthly returns and BD JO case records (see para. 4.20 for details).

Table 1

**Completed water-seepage cases  
(January 2007 to March 2016)**

Year	Number of completed cases				
	Screen-out	Seepage source identified	Seepage source not identified	Others (Note)	Total
2007	6,350	3,246	327	3,452	13,375
2008	7,144	4,476	986	4,102	16,708
2009	8,115	4,813	1,433	3,876	18,237
2010	11,051	4,737	2,322	4,861	22,971
2011	12,219	4,199	2,089	4,703	23,210
2012	13,727	4,053	1,963	4,810	24,553
2013	13,062	4,692	2,336	4,766	24,856
2014	10,961	4,816	2,133	4,146	22,056
2015	12,000	4,679	3,494	4,920	25,093
2016 (up to March)	2,667	1,313	667	1,220	5,867
Total	97,296	41,024	17,750	40,856	196,926

*Source: FEHD and BD records*

*Note: Other cases included those where the water seepage had ceased or withdrawn by informants during investigations.*

*Remarks: The data were based on FEHD JO monthly returns and BD JO case records. From April to June 2016, the JO operation had received a total of 10,567 water-seepage reports, screened out 3,526 cases and completed investigation of 4,101 cases.*

## **Introduction**

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1.18 Of the 29,617 (see Figure 1 in para. 1.14) water-seepage public reports received in 2015:

- (a) according to the records of the FEHD, 221 related to leaking water-supply pipes had been referred to the WSD for follow-up actions under the Waterworks Ordinance (see para. 1.4(c)); and
- (b) according to the records of the BD, 65 related to building-safety issues had been referred to the Existing Buildings Divisions of the BD for follow-up actions under the Buildings Ordinance (see para. 1.4(b)).

## **Audit review**

1.19 In 2012, the Audit Commission (Audit) completed a review on Management of public enquiries and complaints by the FEHD (see Chapter 7 of the Director of Audit's Report No. 59 of October 2012). Audit's findings on the FEHD's handling of water-seepage cases formed part of the audit report. The FEHD accepted Audit's recommendations included in the audit report for implementation, including the following:

- (a) reviewing the data accuracy of the CMIS, amending the incorrect data and taking measures to guard against errors and omissions in recording data;
- (b) reminding staff to properly maintain all case files;
- (c) closely monitoring long-outstanding cases;
- (d) looking into the reasons for the long time taken to complete some of the cases so as to identify room for improvement, and for any long periods of inaction during investigations; and
- (e) taking effective measures to improve the efficiency of investigations.



1.20 In April 2016, Audit commenced a review to examine the efficiency and effectiveness of the JO operation in handling water-seepage cases. The review focuses on the following areas:

- (a) investigation and enforcement actions (PART 2);
- (b) monitoring of service contractors (PART 3); and
- (c) management information system and performance reporting (PART 4).

Audit has identified areas where improvements can be made by the Government in the above areas, and has made a number of recommendations to address the issues.

## Acknowledgement

1.21 Audit would like to acknowledge with gratitude the cooperation of the staff of the Food and Health Bureau, the Development Bureau, the FEHD, the BD and the WSD during the course of the audit review.

## **PART 2: INVESTIGATION AND ENFORCEMENT ACTIONS**

2.1 This PART examines the work of FEHD JO staff and BD JO staff under the JO operation on water seepage in buildings, focusing on:

- (a) investigation actions (see paras. 2.2 to 2.40); and
- (b) enforcement actions (see paras. 2.41 to 2.59).

### **Investigation actions on water-seepage cases**

2.2 Members of the public mostly lodge water-seepage reports to the Government hotline 1823 or directly to JO staff of the 19 FEHD districts, and the former will refer cases received to the pertinent district JO staff for follow-up actions. Under the JO operation, three stages of investigations would be carried out, namely Stages I and II investigations by FEHD JO staff and Stage III investigations by BD JO staff.

#### ***Stage I investigations by FEHD JO staff***

2.3 Upon receipt of a water-seepage report from the public, responsible FEHD JO staff would pay visits to the affected premises to examine the water seepage and its moisture content (Stage I investigations). According to FEHD guidelines, FEHD JO staff would not take further actions if the case involves any one of the following circumstances (known as a screen-out case):

- (a) the moisture content of the seepage was below 35% (Note 17);

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**Note 17:** *According to the BD, water seepage with moisture content of less than 35% is insignificant and the chance of detecting its source is slim, and follow-up actions would not be taken on related cases.*

## **Investigation and enforcement actions**

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- (b) the seepage was caused by penetration of rain water through external walls, roofs or floor slabs which did not give rise to public health concerns;
- (c) the seepage was originated from areas within the affected premises;
- (d) the affected area was part of UBW (e.g. UBW on a flat roof, which would be referred to the BD Existing Buildings Divisions for follow-up actions);
- (e) the report was not a seepage case in nature (e.g. a defective drainage system at the exterior of a building, which would be referred to the BD Existing Buildings Divisions for follow-up actions); and
- (f) investigations under the JO operation on the case had been completed within two weeks and the water seepage had not worsened since the last investigation.

2.4 FEHD JO staff would notify the informants of the reasons for any screen-out cases. Table 2 shows the number of water-seepage cases lodged by the public and the screen-out cases from 2007 to 2015, which were based on information contained in FEHD JO monthly returns.

## Investigation and enforcement actions

**Table 2**  
**Number of water-seepage cases and screen-out cases**  
**(2007 to 2015)**

Year	Cases lodged by the public (No.)	Screen-out cases	
		(No.)	(Percentage)
2007	17,405	6,350	36 %
2008	21,717	7,144	33 %
2009	21,769	8,115	37 %
2010	25,717	11,051	43 %
2011	23,660	12,219	52 %
2012	27,353	13,727	50 %
2013	28,504	13,062	46 %
2014	27,896	10,961	39 %
2015	29,617	12,000 (Note)	41 %
Overall	223,638	94,629	42 %

*Source: FEHD records*

*Note: Based on a one-off exercise carried out by the FEHD for 2015, of these 12,000 screen-out cases, 8,049 (27% of 29,617 cases) related to cases not meeting the 35% moisture-content threshold.*

*Remarks: The data were based on FEHD JO monthly returns. Some screen-out cases in a year related to cases received in previous years.*

### ***Stage II investigations by FEHD JO staff***

2.5 For a water-seepage case other than a screen-out case, for the purpose of identifying the source of seepage, FEHD JO staff would conduct one or more of the following tests:

- (a) moisture-content assessment. Other tests might not be required if the moisture content of the seepage had fallen below 35%;
- (b) coloured-water test (see Note 7 to para. 1.5); and

- (c) reversible-pressure test. If water dripping from a ceiling was noted and that the seepage was suspected to be originated from water-supply pipes, FEHD JO staff would turn off the related main water supply and, in order to release the pressure inside the pipes, drain off the remaining water in the pipes by turning on all the pertinent water taps, and observe if the rate of water dripping would reduce. Thereafter, the FEHD JO staff would resume the pressure inside the pipes by turning on the main water supply and turning off all the pertinent water taps, and observe if the rate of water dripping would increase to determine whether the water-supply pipes had any possible leakage.

2.6 If the source of seepage could be identified after conducting the coloured-water test, FEHD JO staff would issue a nuisance notice to the responsible person for taking rectification actions within the time specified in the notice. A case involving possible leakage of water-supply pipes as revealed by a reversible-pressure test would be referred to the WSD for follow-up actions. Otherwise, FEHD JO staff would hand over the case to related BD JO staff for conducting Stage III investigations.

### ***Stage III investigations by BD JO staff***

2.7 Stage III investigations involved conducting one or more of the following tests:

- (a) moisture-content assessment. Other tests might not be required if the moisture content of the seepage had fallen below 35%;
- (b) coloured-water spraying test. If the walls were suspected to be the source of water seepage, investigators would spray diluted coloured water against the walls and observe any seepage of the coloured water to other areas;
- (c) coloured-water test (see Note 7 to para. 1.5);
- (d) coloured-water ponding test (see Note 10 to para. 1.7); and
- (e) reversible-pressure test (see para. 2.5(c)).

## Investigation and enforcement actions

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2.8 To supplement staff resources, BD JO staff engaged and monitored service contractors to assist in carrying out Stage III investigations. If the source of a water-seepage case could be identified and the seepage had caused nuisances under the PH&MS Ordinance (see para. 1.4(a)), BD JO staff would inform FEHD JO staff of the results for the latter to issue a necessary nuisance notice for rectification actions. Cases involving possible leakage of water-supply pipes as revealed by reversible-pressure tests would be referred to the WSD for follow-up actions. For cases where the source of seepage could not be identified after completing Stage III investigations, BD JO staff would notify the informants accordingly.

### *Deteriorating source-identification success rates*

2.9 The objectives of the JO operation are to shorten the time of investigations and improve the success rate of identifying the source of water seepage of cases reported by the public (see para. 1.9(a)). The FEHD and the BD jointly compiled success rates of identifying the source of seepage.

2.10 Figure 2 shows that the success rates had decreased progressively from 46% in 2007 to 36% in 2015, based on data recorded in FEHD JO monthly returns and BD JO case records using the formula adopted by the FEHD and the BD (Note 18).

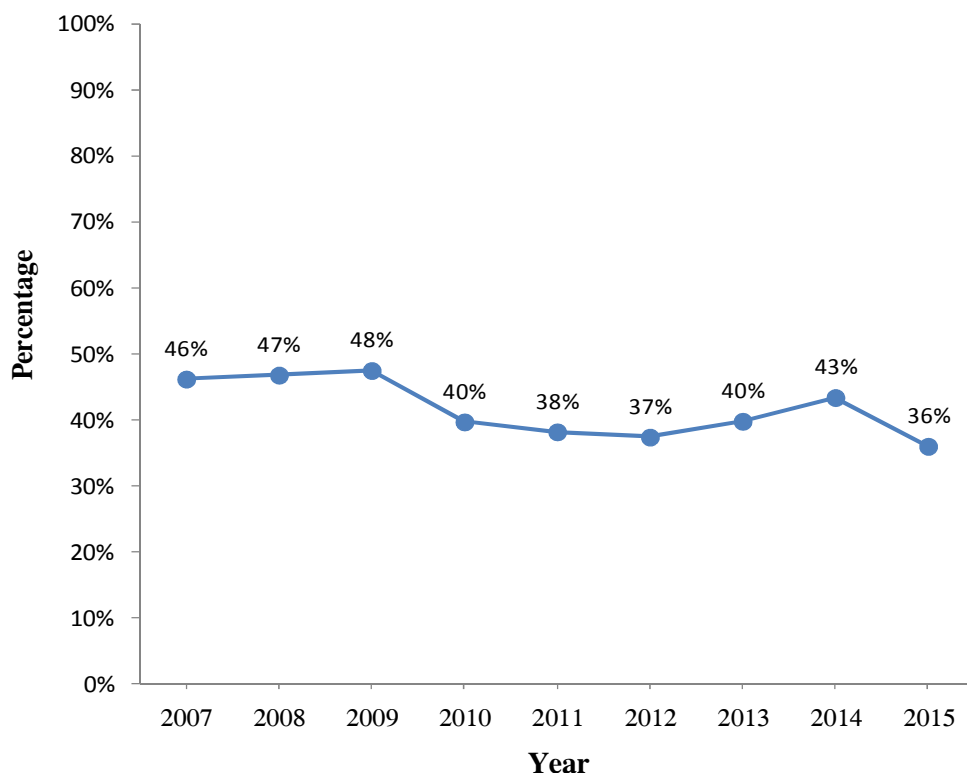
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**Note 18:** *The source-identification success rates were computed using the following formula:*

$$\text{Success rate} = \frac{\text{No. of completed cases with seepage source identified (A)}}{(A) + \text{No. of completed cases without identifying seepage source (Net of screen-out cases)} + \text{No. of cases closed during investigations due to cessation of water seepage or cases withdrawn by informants}} \times 100\%$$

Figure 2

**Success rates of identifying seepage source (Note)  
(2007 to 2015)**



*Source: Audit analysis of FEHD and BD records*

*Note: The number of screen-out cases was excluded from the computation of the success rates.*

*Remarks: From January to June 2016, the success rate of investigation actions on completed cases was 43%.*

2.11 In October 2016, the BD informed Audit that the declining success rates from 2007 to 2015 were attributed to the following:

- (a) the public had become more aware of the service and less tolerant of water seepage having a lower moisture-content level. Hence, public demand for services of the JO operation had increased considerably; and

## **Investigation and enforcement actions**

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- (b) in recent years, more water-seepage cases at lower moisture-content levels were received, and investigators would have a lower chance of identifying the seepage source of these cases.

2.12 In view of the fact that one of the main objectives of the JO operation is to improve the success rate of identifying the source of water seepage, the deteriorating source-identification success rates in recent years is a cause for concern. Audit considers that the BD and the FEHD need to strengthen actions with a view to improving the success rate.

### ***Lack of information on the time of sending final replies on screen-out cases***

2.13 For a screen-out case (see para. 2.3), the FEHD has set a completion timeframe on sending a final reply to the informant within 18 working days from the time of receiving the related water-seepage public report. However, the FEHD's CMIS did not maintain information on the time of sending final replies to informants of screen-out cases. The absence of related information has impeded FEHD management's monitoring and Audit's examination of the timeliness and completeness of the FEHD's actions in handling screen-out cases.

2.14 In Audit's view, the FEHD needs to take measures to maintain the information on the time of sending final replies to informants of screen-out cases. A comprehensive database system on water-seepage cases will facilitate this task (see para. 4.12).

### ***Long time taken to handle some water-seepage cases***

2.15 In 2008, the FEHD and the BD issued guidelines on reference completion timeframes on handling water-seepage cases (see Appendix C) by their staff, as follows:



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## Investigation and enforcement actions

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Guidelines issued by	Work	Reference completion timeframe
FEHD	From receiving a water-seepage report to completing Stage II investigations	38 working days
BD	From receiving a water-seepage case from FEHD JO staff to completing Stage III investigations	52 working days
	Total	90 working days (or 133 calendar days — Note 19)

### 2.16 According to the FEHD and the BD:

- (a) the guidelines provided indicative timeframes for simple and straightforward cases (i.e. cases not involving any problem for investigators to gain access to the premises concerned, not involving difficulties to trace the seepage source, not involving multiple seepage sources nor multiple tests and not requiring Government Laboratory's confirmation of results of seepage-source tests);
- (b) the actual timeframe for completing a case will vary depending on the complexity of the case, the testing methods used, and the workload and manpower situation of the JO operation; and
- (c) a case will require longer time to complete and the timeframe would become less meaningful if it involves laboratory testing of samples, sub-divided flats or an application for an entry warrant from the Court.

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**Note 19:** *After deducting 52 Saturdays and 52 Sundays, and 14 public holidays not falling on Saturdays in a year, 247 of 365 days in a year were working days. Therefore, the ratio of working days : calendar days was 1:1.48. Based on this ratio, 90 working days = about 133 calendar days.*

## Investigation and enforcement actions

2.17 From April 2015 to March 2016, based on the information in the CMIS, JO operation actions on 28,332 cases had been completed. Audit examination revealed that, of these 28,332 cases, the time of completing 9,710 (34%) cases had exceeded the total reference completion timeframe of 133 days (see para. 2.15). An analysis of the time of completing the 28,332 cases is as follows:

Days (No.)	Cases	
	(No.)	(Percentage)
133 days (or 90 working days) or less	18,622	66%
134 to 400 days	6,332	22%
401 to 600 days	1,863	7%
601 to 800 days	872	3%
801 to 1,000 days (or 2.2 to 2.7 years)	388	1%
1,001 to 2,730 days (or 2.7 to 7.5 years)	255	1%
Total	28,332	100%

2.18 Furthermore, as of March 2016, of the 15,564 outstanding cases with actions not having been completed, the time used for handling 6,368 outstanding cases (41% — Note 20) had exceeded the total reference completion timeframe of 133 days. An analysis of the time of processing the 15,564 outstanding cases as of March 2016 is as follows:

Days (No.)	Cases	
	(No.)	(Percentage)
133 days (or 90 working days) or less	9,196	59%
134 to 400 days	3,422	22%
401 to 600 days	1,083	7%
601 to 800 days	817	5%
801 to 1,000 days (or 2.2 to 2.7 years)	383	3%
1,001 to 3,026 days (or 2.7 to 8.3 years)	663	4%
Total	15,564	100%

**Note 20:** The 6,368 outstanding cases exceeding the 90-working-day completion timeframe was based on an ageing analysis management report provided by the FEHD (see para. 2.57).

2.19 Of the 6,368 (15,564 less 9,196) cases exceeding the completion timeframe, as of March 2016, Stages I and II investigations on 837 (13%) cases were in progress, and on 5,531 (87%) had been completed, which were awaiting completion of Stage III investigations (Note 21).

2.20 Audit selected for examination 30 cases (Note 22) involving long time (more than 800 days) for taking investigation actions (see paras. 2.17 and 2.18). Of these 30 cases, the FEHD and the BD informed Audit that the case files of 7 cases could not be located for Audit examination, and the apparent long time taken for 7 other cases (case files provided for Audit examination) were due to delays in updating the CMIS records. Audit considers it unsatisfactory that the files of some outstanding cases were missing which would create difficulties for the JO operation to follow-up and complete the water-seepage cases. The absence of the records and files has impeded Audit examination of FEHD's and BD's efficiency and effectiveness in handling long-outstanding cases. In Audit's view, the FEHD and the BD need to take measures to improve record keeping and the filing system for case files. The FEHD and the BD also need to take measures to ensure that information of the CMIS is updated in a timely manner. Regarding the remaining 16 (30 minus 7 minus 7) cases, Audit examination revealed the following major reasons for the long time taken:

- (a) long periods without actions taken (see Case 1);
- (b) investigators encountering difficulties in gaining access to the premises suspected to be the origin of the seepage (see Audit comments in paras. 3.23 to 3.25); and
- (c) long time taken by contractors to submit investigation reports and by BD JO staff to endorse the reports (see Case 2).

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**Note 21:** *In October 2016, the BD informed Audit that the number of cases awaiting completion of Stage III investigations as of June 2016 had decreased to 3,867.*

**Note 22:** *Of the 30 cases selected for examination, 8 (exceeding 800 days) were completed cases and 22 (comprising 15 longest cases and 7 other cases exceeding 800 days) were outstanding cases. Due to delays in updating the CMIS records, 3 completed cases and 4 outstanding cases in fact did not exceed 800 days as of March 2016.*

### Case 1

#### Case without actions taken for a long period of time (January 2010 to June 2016)

1. In January 2010, the FEHD received a water-seepage report. In February 2010, FEHD JO staff visited the affected premises and, from February to May 2010, conducted tests at the premises suspected to be the origin of seepage.

2. In July 2010, the case was assigned to a service contractor (Contractor A) for conducting Stage III investigations. In February 2011, Contractor A submitted an investigation report stating that the source of seepage could not be identified. However, as Contractor A did not provide the BD with some requested information, the report was not endorsed by the BD.

3. In May 2011, the case was re-assigned to another contractor (Contractor B). In October 2011, Contractor B informed BD JO staff that it had difficulties in making an appointment with the informant to visit the affected premises, and suggested that a letter could be issued to the informant requesting him to contact the office in ten days.

4. In June 2016, the BD issued a letter to the informant. About two weeks later, the BD issued a final reply to the informant and owner of the suspected premises, stating that no further action would be taken on the case.

#### *Audit comments*

5. There was no record showing that any action had been taken under the JO operation during the 4 years and 8 months from October 2011 to June 2016. Also, the BD did not take any follow-up actions (such as issuing a warning letter) against Contractor A for not providing the requested information, leading to re-assigning the case to Contractor B. The BD needs to strengthen actions on monitoring contractors' performance (see PART 3). In Audit's view, the BD needs to take measures to ensure that its staff take actions on outstanding cases in a timely manner.

*Source: Audit analysis of FEHD and BD records*

**Case 2****Case with long time taken to submit and endorse investigation reports  
(May 2013 to November 2015)**

1. In May 2013, the FEHD received a water-seepage report. After conducting Stages I and II investigations (without identifying the seepage source), the case was assigned by BD JO staff to a contractor (Contractor C) in June 2013 for conducting Stage III investigations. From August to December 2013, Contractor C had visited the affected premises, conducted tests at the premises suspected to be the origin of the seepage and inspected the test results.

2. In April 2014, Contractor C submitted an investigation report, indicating that the seepage source could not be identified. In June 2014, Contractor C conducted another moisture-content assessment at the affected premises and found that the moisture level was above 35%.

3. In May 2015, BD JO staff endorsed Contractor C's investigation report. On the same day, the case was re-assigned to another contractor (Contractor D).

4. In June 2015, Contractor C submitted a supplementary report on the result of the moisture-content assessment conducted in June 2014 (see para. 2).

5. In October 2015, after measuring the moisture content twice at the affected premises (both measurements showed that the moisture levels were below 35%), Contractor D submitted an investigation report and concluded that water seepage had ceased. In November 2015, after endorsing the report, BD JO staff issued a final reply to the informant and owner of the suspected premises.

***Audit comments***

6. BD JO staff had taken 13 months (from April 2014 to May 2015) to endorse the investigation report submitted by Contractor C, and Contractor C had taken 12 months (from June 2014 to June 2015) to submit a supplementary investigation report. In Audit's view, the BD needs to timely endorse investigation reports, and strengthen actions on monitoring contractors' performance to ensure that the investigation reports are submitted in a timely manner.

7. Also, there was no record in the case file showing the reasons for re-assigning the case to Contractor D for investigation after endorsing Contractor C's investigation report. The BD needs to make improvement in this area.

*Source: Audit analysis of FEHD and BD records*

## **Investigation and enforcement actions**

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2.21 In August and October 2016, the BD and the FEHD informed Audit that:

### ***BD***

- (a) before the JO operation becoming a permanent arrangement in April 2014, the majority of BD JO staff were contract staff whose turnover rate was high. Also, the manpower strength and the staff experience level at that time were less than satisfactory. With a more stable workforce being progressively established since April 2014, the performance of the JO operation had improved. The significant increase in the number of water-seepage reports in recent years had resulted in the JO operation taking a long time in completing some outstanding cases; and

### ***FEHD***

- (b) since the JO operation would only apply tests which would not cause damage to premises suspected of causing water seepage, the related staff normally needed to conduct multiple inspections (involving a number of visits) in order to collect adequate evidence for taking legal actions.

2.22 Audit considers it unsatisfactory that FEHD and BD JO staff had taken a long time in processing some cases. For example, they had taken more than 800 days (or 2.2 years) to handle 1,689 (388 plus 255 plus 383 plus 663) cases as of March 2016 (see paras. 2.17 and 2.18). This may lead to prolonged nuisances and increased public concerns over the Government's efficiency and effectiveness in taking enforcement actions under the PH&MS Ordinance. In Audit's view, in order to improve the efficiency of delivery of public services, the FEHD and the BD need to strengthen measures with a view to ensuring that the JO operation actions on water-seepage cases are completed in a timely manner, and publish the ranges of time spent on completing the cases.

### *Case records not available for Audit examination*

2.23 Audit noted that, in January 2016, BD JO staff of 7 (Note 23) of the 19 districts had informed the BD senior management that, regarding the clearance of backlog assigned cases of service contractors, actions on all outstanding assigned cases which were handled before 2014 had been completed. However, based on CMIS information, as of March 2016, 1,046 (383 plus 663) cases had been outstanding for more than 800 days (see para. 2.18), of which 162 (15%) were handled by JO staff of the 7 districts (all related cases were received before 2014 and were under Stage III investigations as of March 2016). In view of the anomaly, Audit requested the BD to provide details of the 162 cases for examination.

2.24 Of the 162 cases handled by JO staff of the 7 districts, from July to September 2016, the BD informed Audit that:

- (a) as of March 2016, actions on 115 cases (71%) had been completed and 35 cases (22%) were in progress. The 115 completed cases had been erroneously indicated as outstanding cases in the CMIS (see para. 2.18) as of March 2016 due to the CMIS not having been timely updated; and
- (b) the case files of the remaining 12 cases (7%) could not be located because:
  - (i) for 5 cases (42%), according to FEHD records, the case files had been transferred to BD JO staff for Stage III investigations. However, according to BD JO staff, the case files had not been received by them; and
  - (ii) for 7 cases (58%), the case files had been mislaid during Stage III investigations.

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**Note 23:** *The 7 districts were Kowloon City, Kwai Tsing, Mongkok, Shamshuipo, Tsuen Wan, Tuen Mun and Yau Tsim districts.*

## **Investigation and enforcement actions**

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2.25 However, as of September 2016, of the 115 cases (see para. 2.24(a)) having actions completed by March 2016, the BD could only provide Audit with the final replies having been sent to informants of 93 cases (81%) notifying them of the completion of the cases. In Audit's view, the BD needs to take measures to locate the final replies for the remaining 22 (115 less 93) cases, and ensure that its staff send final replies to informants in a timely manner and keep related records on file.

2.26 Audit considers it unsatisfactory that the files of some outstanding cases were missing which would create difficulties for the JO operation to manage the water-seepage cases. The absence of the records and files has impeded Audit examination of FEHD's and BD's efficiency and effectiveness in handling long-outstanding cases. In Audit's view, the FEHD and the BD need to take measures to improve the filing system for case files (also see Audit comments in para. 2.20). They also need to conduct a review to identify all cases involving missing case files and take necessary remedial actions. A comprehensive record and database system for water-seepage cases storing scanned copies of documents would help improve the efficiency and effectiveness of the JO operation (see para. 4.12).

2.27 Regarding omissions in updating records in the CMIS (see para. 2.24(a)), the FEHD and the BD need to take measures to ensure that the progress of actions taken under the JO operation are updated in a timely manner (also see Audit comments in para. 2.20).

### ***Inadequate system for referring cases to BD and WSD for follow-up actions***

2.28 During investigations of water-seepage cases, FEHD JO staff and/or BD JO staff would carry out preliminary assessments of whether the cases might involve building defects or leaking water-supply pipes, and refer relevant cases to the BD Existing Buildings Divisions and the WSD respectively for follow-up actions. The BD would then check for any infringement of sections 24, 26, 26A and 28 of the Buildings Ordinance (see para. 1.4(b)) and the WSD for any infringement of section 16 of the Waterworks Ordinance (see para. 1.4(c)).



## Investigation and enforcement actions

2.29 According to FEHD guidelines:

- (a) in referring a case to another government department for follow-up actions, FEHD JO staff will send a memorandum together with the relevant information to the related department;
- (b) for water-seepage cases justifying referral to the WSD, FEHD JO staff would forward related memorandum to the WSD directly. For cases to be referred to BD Existing Buildings Divisions, the cases would be passed to BD JO staff for assessing the justifications and forwarding the cases to BD Existing Buildings Divisions for follow-up actions; and
- (c) FEHD JO staff would record the referrals in a list of referral cases.

However, in response to Audit's request for the lists of referral cases for the period January 2015 to March 2016, the FEHD provided Audit with such lists maintained by JO staff of only 11 of the 19 districts, as follows:

<b>FEHD districts</b>	
<b>Maintaining a list of referral cases</b>	<b>Not maintaining a list of referral cases</b>
1. Central & Western	1. Kowloon City
2. Eastern	2. Kwai Tsing
3. Islands	3. Kwun Tong
4. Mongkok	4. Sai Kung
5. North	5. Tsuen Wan
6. Shamshuipo	6. Tuen Mun
7. Shatin	7. Wanchai
8. Southern	8. Wong Tai Sin
9. Tai Po	
10. Yau Tsim	
11. Yuen Long	

2.30 In Audit's view, the FEHD needs to take measures to ensure that FEHD JO staff of all districts comply with FEHD guidelines to maintain a list of referral cases.

## Investigation and enforcement actions

2.31 In July 2016, in response to Audit's request for information on the number of water-seepage cases that had been referred by the JO operation to the BD Existing Buildings Divisions and the WSD for follow-up actions from 2011 to 2015, the FEHD and the BD informed Audit that they could only provide Audit with information related to the WSD but not to the BD Existing Buildings Divisions. However, in response to Audit's request for information on the number of water-seepage cases that had been received under the JO operation by the BD and the WSD for follow-up actions from 2011 to 2015, the BD Existing Buildings Divisions and the WSD were able to provide Audit with the information (see Table 3).

**Table 3**

**Number of water-seepage cases referred under JO operation  
to the BD and the WSD for follow-up actions  
(2011 to 2015)**

Year	Cases referred to BD (No.)		Cases referred to WSD (No.)		
	Based on records of JO operation (see para. 2.32)	Based on records of BD Existing Buildings Divisions	Based on records of JO operation	Based on WSD records	Discrepancy
2011	Not available	75	142	513	(371)
2012		79	124	599	(475)
2013		111	116	516	(400)
2014		117	125	353	(228)
2015		65	221	259	(38)
Total		447	728	2,240	(1,512)

*Source: FEHD, BD and WSD records*

2.32 In October 2016, the FEHD informed Audit that the information on cases having been referred by the JO operation to the BD was kept in individual case files and was not readily available. The absence of the number of cases having been referred to the BD Existing Buildings Divisions for follow-up actions in the past years has impeded proper management and oversight as well as Audit examination of whether all cases referred had been duly followed up.

2.33 Moreover, Audit noted discrepancies between the number of water-seepage cases referred to the WSD under the JO operation and the number of cases received and recorded by the WSD for follow-up actions (see Table 3 in para. 2.31). In October 2016, the FEHD informed Audit that:

- (a) the discrepancies were due to the different bases adopted by the FEHD and the WSD in classifying a referred case. The number of cases based on records of the JO operation was the number of completed cases with seepage source found to be originated from water-supply pipes. The number did not include other cases having been referred to the WSD (e.g. cases requested by informants to be referred to the WSD which did not involve water seepage from water-supply pipes); and
- (b) the number of cases based on WSD records was the total number of cases referred under the JO operation.

In Audit's view, FEHD and BD JO staff need to periodically send a list of referral cases to the WSD and the BD Existing Buildings Divisions for reconciliation purposes.

## Audit recommendations

2.34 **Audit has *recommended* that, in carrying out investigation actions under the JO operation on water-seepage cases, the Director of Food and Environmental Hygiene and the Director of Buildings should jointly:**

- (a) **take measures to improve record keeping and the filing system for case files to prevent loss of files;**
- (b) **take measures to ensure that information of the CMIS is updated in a timely manner;**
- (c) **strengthen measures with a view to ensuring that the JO operation actions on water-seepage cases are completed in a timely manner, and publish the ranges of time spent on completing the cases;**
- (d) **conduct a review to identify all cases involving missing case files and take necessary remedial actions; and**

## **Investigation and enforcement actions**

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- (e) **periodically send a list of referral cases to the WSD and the BD Existing Buildings Divisions for reconciliation purposes.**

**2.35 Audit has *recommended* that, in carrying out investigation actions under the JO operation on water-seepage cases, the Director of Food and Environmental Hygiene should:**

- (a) **take measures to maintain information on the time of sending final replies to informants of screen-out water-seepage cases; and**
- (b) **take measures to ensure that FEHD JO staff of all districts comply with FEHD guidelines to maintain a list of referral cases.**

**2.36 Audit has *recommended* that the Director of Buildings should, under the JO operation on water-seepage cases:**

- (a) **take measures to ensure that BD JO staff take actions on outstanding cases in a timely manner;**
- (b) **strengthen actions on monitoring service contractors' performance to ensure that investigation reports are submitted in a timely manner;**
- (c) **take timely action to endorse investigation reports submitted by service contractors; and**
- (d) **take measures to ensure that BD JO staff send final replies on completed cases to informants in a timely manner and keep related records on file.**

## **Response from the Government**

**2.37 The Director of Food and Environmental Hygiene and the Director of Buildings agree with the audit recommendations in paragraph 2.34. They have said that:**

### *Director of Food and Environmental Hygiene*

- (a) the FEHD and the BD are taking measures to enhance the CMIS, including implementing applicable functions in the CMIS to improve the record keeping in the system;
- (b) the FEHD and the BD are taking measures to ensure that information of the CMIS is updated in a timely manner. For example, in addition to generating exception reports, the CMIS would periodically generate outstanding case lists for reference by supervising officers of the JO operation;
- (c) the FEHD and the BD have started a review of all cases involving missing case files and are exploring means to set up a bar-code filing system to monitor file movements in future;

### *Director of Buildings*

- (d) to enhance the effectiveness of the investigations conducted by the JO operation, in 2014, the BD commissioned a consultancy study on the latest technological methods for identifying the source of water seepage in buildings. The study will be completed in 2017. Furthermore, the BD has engaged contractors (engaged under contracts other than those for conducting Stage III investigations) under the JO operation to use infrared thermography and microwave tomography technologies for investigating complicated cases;

### *Director of Food and Environmental Hygiene and Director of Buildings*

- (e) in view of the significant increase in the caseload over the past years, the FEHD and the BD will realistically review the reference completion timeframe; and
- (f) FEHD and BD JO staff will periodically send a list of referral cases to the WSD and the BD Existing Buildings Divisions.

2.38 The Director of Food and Environmental Hygiene agrees with the audit recommendations in paragraph 2.35. She has said that:

## **Investigation and enforcement actions**

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- (a) for paragraph 2.35(a), FEHD and BD JO staff are required to upload the final reply letters and input the issuing dates into the CMIS. The FEHD will explore whether enhancements to the CMIS can be made on recording information on final reply letters issued; and
- (b) for paragraph 2.35(b), FEHD JO staff have been reminded to comply with FEHD guidelines to maintain a list of referral cases, and will compile such a list in future. Furthermore, to improve work efficiency, the FEHD will enhance the existing CMIS or set up a new database system for FEHD and BD JO staff to keep track of various actions taken in processing water-seepage cases, so that related information can be directly retrieved from the system.

2.39 The Director of Buildings agrees with the audit recommendations in paragraph 2.36. He has said that:

- (a) in October 2013, after conducting a review, the BD revamped its internal guidelines on performance of service contractors (which was further revised in December 2015) and promulgated clearer guidelines on responsibilities of different levels of BD staff on monitoring contractors' performance. The BD also required its staff to make realistic assessments of contractors' performance, timely issue warning letters to contractors having unsatisfactory performance and inculcate partnership relationship with contractors;
- (b) new automation functions had been incorporated in BD JO case records to facilitate monitoring of progress of actions taken, and consideration of issuing warning letters and adverse performance reports to contractors having unsatisfactory performance; and
- (c) the BD will continue to take actions to locate the final replies for the remaining 22 cases (see para. 2.25).

2.40 The Director of Water Supplies agrees with the audit recommendation in paragraph 2.34(e). He has said that the WSD will support the JO operation in conducting reconciliation of the number of referral cases and the review to ascertain the reasons for discrepancies between the number of cases referred under the JO operation and that received by the WSD.

## **Enforcement actions on water-seepage cases**

2.41 The FEHD is responsible for taking enforcement actions against persons not complying with the PH&MS Ordinance. Under section 127 of the PH&MS Ordinance, if water seepage from premises was found to have caused nuisances, the FEHD may issue and serve a nuisance notice on the responsible person requiring him to abate the nuisance within a specified period (Note 24). Any person who fails to comply with requirements of a nuisance notice shall be guilty of an offence and, on conviction, may be fined up to \$10,000 and a daily penalty of \$200 during the period of non-compliance.

2.42 From 2011 to 2015, the JO operation had successfully identified the source of 22,439 water-seepage cases (based on FEHD JO monthly returns and BD JO case records) and the FEHD had issued 20,729 nuisance notices (based on FEHD JO monthly returns) on such cases. The statistics of these cases would at times be reported to the Legislative Council (LegCo) in response to its enquiries. Details are shown in Table 4.

**Table 4**  
**Water-seepage cases with source identified**  
**and nuisance notices issued**  
**(2011 to 2015)**

<b>Year</b>	<b>2011 (No.)</b>	<b>2012 (No.)</b>	<b>2013 (No.)</b>	<b>2014 (No.)</b>	<b>2015 (No.)</b>	<b>Total (No.)</b>
Cases with source identified	4,199	4,053	4,692	4,816	4,679	22,439
Nuisance notices issued	3,064	3,639	4,338	4,700	4,988	20,729
Nuisance orders granted by Court	30	17	41	31	16	135

*Source: FEHD and BD records*

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**Note 24:** *The responsible person is normally given two to four weeks to carry out rectification works, depending on the scale of the works.*

## **Investigation and enforcement actions**

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2.43 Furthermore, if a responsible person did not comply with a nuisance notice, the FEHD might apply to the Court for issuing a nuisance order for:

- (a) requiring the person to comply with the requirements of a nuisance notice;
- (b) prohibiting the recurrence of a nuisance; or
- (c) prohibiting the use of premises causing a nuisance for human habitation.

Any person who fails without reasonable excuse to comply with a nuisance order shall be guilty of an offence and, on conviction, may be fined up to \$25,000 and a daily penalty of \$450 during the period of non-compliance. From 2011 to 2015, upon the FEHD's applications, 135 nuisance orders on water seepage had been granted by the Court (see Table 4 in para. 2.42).

### ***Lack of system control over investigations and issuance of nuisance notices***

2.44 According to the FEHD, upon identifying the source of a water-seepage case causing nuisances (i.e. source-identified case), FEHD JO staff would take actions to ascertain the ownership of the seepage-originated premises by conducting a search at the Land Registry, and serve a nuisance notice on the owners of the seepage-originated premises in warranted cases.

2.45 As shown in Table 4 in paragraph 2.42, for example, in 2011, the JO operation identified the sources of 4,199 water-seepage cases. However, in the same year, the FEHD only issued 3,064 nuisance notices. According to the FEHD, the difference between the number of source-identified cases and the number of nuisance notices issued may be attributed to the following:

- (a) nuisance notices for some cases might be issued in the following year; or
- (b) repair works had been satisfactorily carried out and the water seepage had ceased or been reduced to a level below 35% moisture content before issuing a nuisance notice.



2.46 Furthermore, in March 2008, the FEHD promulgated an instruction requiring JO staff of the 19 districts to maintain in each district a Water-seepage Case Monitoring (WCM) Database by using standalone computers for monitoring the progress of actions taken on each water-seepage case. A standard format of the WCM Database was provided to JO staff of all districts for actions. Information for inclusion in the WCM Database included the date of:

- (a) conducting a coloured-water test;
- (b) inspecting the test results;
- (c) issuing a nuisance notice and its expiry date; and
- (d) conducting a compliance inspection of a nuisance notice issued.

Under the WCM Database, cases with actions exceeding the completion timeframes (see Appendix C) would be highlighted for follow-up actions.

2.47 Audit considers that the efficient and effective implementation of the WCM Database system would facilitate the FEHD in monitoring the progress of actions on each water-seepage case. However, the FEHD could not provide Audit with information of the WCM Database for examination.

2.48 In October 2016, the FEHD informed Audit that:

- (a) details of each of the water-seepage cases such as actions recommended by case officers and endorsed by supervisors were recorded in individual case files; and
- (b) the WCM Database was a spreadsheet database established in 2008 to facilitate individual case officers to record the actions taken and manage the progress of actions taken against the timeframes set for Stages I and II investigations. The Database captured essential information for frontline supervisors of the JO operation to review the progress of cases. In 2012, the FEHD incorporated some useful features of the WCM Database into

## Investigation and enforcement actions

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the new CMIS. However, in mid-July 2015, due to problems encountered when implementing the new CMIS, FEHD JO staff were not required to input some information (see paras. 4.5(a) and 4.6) into the new CMIS.

2.49 The absence of the related records and information has impeded the FEHD's monitoring and management of investigations, issuance of nuisance notices on water-seepage cases, as well as Audit examination of the completeness and timeliness of actions taken by the JO operation in conducting investigations and issuing nuisance notices. In Audit's view, the FEHD needs to conduct a review to ascertain whether FEHD JO staff have complied with FEHD instruction on maintaining WCM Databases and whether the Databases have been maintained in compliance with FEHD requirements, and take necessary actions on proper maintenance of the required Databases.

### *Lack of system control over follow-up actions on nuisance notices*

2.50 According to FEHD guidelines, JO staff of each of the 19 districts needed to maintain a Nuisance Notices Monitoring List (NNM List). The guidelines also stipulated that, after issuing a nuisance notice to a responsible person of seepage-originated premises:

- (a) the pertinent JO staff needed to carry out a follow-up inspection after expiry of the period specified in the nuisance notice;
- (b) during the follow-up inspection, JO staff needed to ascertain:
  - (i) if the moisture of areas of the affected premises was below 35% moisture content; and
  - (ii) proper repair works had been carried out;
- (c) if the JO staff found that one or both of the two conditions in (b) were not fulfilled, they would carry out a coloured-water test or a coloured-water ponding test to obtain evidence of causing nuisances for taking prosecution actions; and

- (d) the JO staff would refer the case found in (c) to the FEHD's Prosecution Section for applying to the Court for taking prosecution actions against the responsible person for not complying with the nuisance notice and for issuing a nuisance order (see para. 2.43).

2.51 In 2015, a total of 4,988 nuisance notices had been issued (see Table 4 in para. 2.42) and the FEHD took prosecution actions against the responsible persons of 60 cases for not complying with nuisance notices on water seepage, of which 55 cases were convicted with each involving fines ranging from \$800 to \$5,500. In the same year, the FEHD took prosecution actions against the responsible person of one case for not complying with a nuisance order on water seepage, who was convicted and was fined \$1,400.

2.52 Notwithstanding that FEHD guidelines required JO staff of all districts to maintain an NNM List, the guidelines did not specify information for inclusion in the List. As a result, there were wide variations in the format and information included in the NNM Lists maintained by JO staff of the 19 districts. In Audit's view, in order to effectively monitor the follow-up actions on nuisance notices issued, the NNM Lists should include the following information of each case:

- (a) date of serving a nuisance notice;
- (b) date of expiry of a nuisance notice; and
- (c) dates of conducting follow-up inspections to ascertain whether a nuisance notice has been complied with (i.e. compliance inspections).

2.53 However, Audit examination of the NNM Lists of the 19 districts revealed that JO staff of only 5 of the 19 districts had maintained NNM Lists containing all the information stated in paragraph 2.52. Details are shown in Table 5.

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**Table 5**  
**Information included in NNM Lists of 19 FEHD districts**  
**(2015)**

<b>District</b>	<b>Date of serving notice</b>	<b>Date of expiry of notice</b>	<b>Date of conducting compliance inspection</b>
5 districts (Note 1)	Yes	Yes	Yes
Eastern	Yes	No	No
Islands	Yes	No	No
Shamshuipo	No	No	Yes
Tai Po	No	Yes	No
10 districts (Note 2)	No	No	No

*Source: Audit analysis of FEHD records*

*Note 1: The 5 districts were Kwai Tsing, North, Sai Kung, Shatin and Tuen Mun districts.*

*Note 2: The 10 districts were Central & Western, Kowloon City, Kwun Tong, Mongkok, Southern, Tsuen Wan, Wanchai, Wong Tai Sin, Yau Tsim and Yuen Long districts.*

2.54 Moreover, according to FEHD guidelines, FEHD JO staff should refer cases not complying with nuisance notices to FEHD Prosecution Section for taking prosecution actions and applying for issuance of a nuisance order. However, Audit examination of the NNM Lists of the 19 DOs revealed that none of the Lists included information on:

- (a) results of compliance inspections (see para. 2.52); and
- (b) date of referring a case to the FEHD Prosecution Section for taking enforcement actions.

2.55 In the absence of information on the dates of serving nuisance notices, dates of expiry of the notices and dates of JO staff conducting compliance inspections as shown in Table 5, and results of compliance inspections and dates of referring cases to the FEHD Prosecution Section for actions of JO staff of all the

19 districts (see para. 2.54), the FEHD could not effectively monitor the follow-up actions on nuisance notices issued with a view to ensuring that necessary enforcement actions are taken in a timely manner. Likewise, the absence of the above-mentioned information has impeded Audit examination of the completeness and timeliness of the FEHD in discharging its duties in this area. In October 2016, the FEHD informed Audit that the information stated in paragraphs 2.52 and 2.54 was kept in individual case files. In Audit's view, the FEHD needs to issue clear guidelines on information for inclusion in the NNM Lists, including information in Table 5, and on results of compliance inspections and dates of referring cases to the FEHD Prosecution Section for actions. Including a standard NNM List in the guidelines will facilitate JO staff in maintaining essential information on water-seepage cases.

2.56 Furthermore, Audit examination of the NNM Lists for 2015 compiled by JO staff of the 19 districts revealed that a total of 3,263 nuisance notices had been issued by them, which was 1,725 less than the aggregate total of 4,988 nuisance notices reported to the FEHD Headquarters for the year (see Table 4 in para. 2.42). In September 2016, the FEHD informed Audit that the discrepancy might be due to:

- (a) JO staff of the 19 districts had in fact issued 4,933 nuisance notices in 2015 instead of 3,263 notices because:
  - (i) more than one nuisance notice had been issued for the same identified case because of multiple or co-ownership of the premises concerned; and
  - (ii) JO staff of some districts had not provided updated NNM Lists to the FEHD Headquarters; and
- (b) the remaining 55 (4,988 less 4,933) notices were due to data corruption as a result of a workstation breakdown in one of the 19 JO districts.

In Audit's view, the FEHD needs to take necessary actions with a view to preventing recurrence of the anomaly.

### *Data discrepancies on long-outstanding cases*

2.57 Based on information maintained in the CMIS, monthly ageing analysis reports on outstanding water-seepage cases were compiled for FEHD senior management to monitor the progress of actions taken on outstanding cases. However, Audit examination revealed that, while the FEHD's ageing analysis reports showed that as of March 2016, a total of 6,368 cases had exceeded the 90-working-day reference completion timeframe, Audit analysis of information contained in the CMIS found a total of 8,145 such cases, representing a 28% variance. In October 2016, the FEHD informed Audit that, it had conducted an investigation on the issue. In Audit's view, the FEHD needs to take necessary measures to prevent recurrence of the anomaly.

### **Audit recommendations**

2.58 **Audit has *recommended* that, in monitoring follow-up actions on nuisance notices issued, the Director of Food and Environmental Hygiene should:**

- (a) **conduct a review to ascertain whether FEHD JO staff have complied with FEHD instruction issued in March 2008 on maintaining WCM Databases and whether the Databases have been maintained in full compliance with FEHD requirements, and take necessary actions on proper maintenance of the Databases;**
- (b) **issue clear guidelines on essential information for inclusion in NNM Lists;**
- (c) **take necessary actions with a view to preventing the recording of incomplete information in the NNM lists; and**
- (d) **take necessary measures to prevent variance between the number of outstanding cases as shown in ageing analysis reports and that maintained in the CMIS.**

## Response from the Government

2.59 The Director of Food and Environmental Hygiene agrees with the audit recommendations. She has said that:

- (a) for paragraph 2.58(a), the FEHD has started to review the departmental instruction issued in March 2008 on maintaining WCM Databases (see para. 2.46), and whether the Databases have been maintained in full compliance with the instruction, and will take necessary actions on proper maintenance of the Databases. Measures will also be taken to ensure that all related information in the system is updated in a timely manner. The FEHD has also started to develop more effective and technically feasible means to capture data which will be useful for monitoring the progress of various actions taken on water-seepage cases;
- (b) for paragraph 2.58(b) and (c), as a short-term measure, the FEHD has issued clear guidelines to remind FEHD JO staff of the need to include in NNM Lists essential information. In the long term, the FEHD will explore means to enhance the existing CMIS or set up a new database system to capture information relating to the issuance of nuisance notices; and
- (c) for paragraph 2.58(d), the FEHD will put in place measures as soon as possible to prevent recurrence of the anomaly.

## **PART 3: MONITORING OF SERVICE CONTRACTORS**

3.1 This PART examines the work of BD JO staff in monitoring service contractors' performance in conducting water-seepage investigations.

### **Background**

3.2 In response to a public report on water seepage, the related FEHD JO staff would pay visits to the affected premises to examine whether the water seepage might infringe any of the PH&MS Ordinance, the Buildings Ordinance and the Waterworks Ordinance, and if the moisture content of the seepage was 35% or above (known as Stage I investigations). If a Stage I investigation found that the seepage might infringe the PH&MS Ordinance and that the moisture content of the seepage was 35% or above, the FEHD JO staff would carry out a coloured-water test (see Note 7 to para. 1.5) and/or a reversible-pressure test (see para. 2.5(c)) to trace the source of the seepage (known as Stage II investigations). If a Stage II investigation failed to identify the source of the seepage, the case would be forwarded to BD JO staff for carrying out further tests to detect the seepage source (known as Stage III investigations). BD JO staff maintained BD JO case records (in spreadsheet format) on cases handled by them in standalone computers.

3.3 To supplement staff resources, BD JO staff engaged and monitored service contractors to assist in carrying out Stage III investigations. Moreover, service contractors were required to submit bi-weekly progress reports to BD JO staff to show the progress of actions taken on each assigned case, and attend bi-weekly meetings with BD JO staff to discuss progress of the cases.

### **Service contracts for carrying out Stage III investigations**

3.4 From April 2014 to April 2015, there were 9 service contracts (each for a 12-month period) at an estimated total cost of \$20 million for carrying out Stage III investigations for the 19 FEHD districts (Note 25). In tendering for each contract,

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**Note 25:** *From May 2015 to May 2016 and from May 2016 to May 2017, there were respectively 9 and 10 service contracts (each for a 12-month period) for carrying out Stage III investigations for the 19 FEHD districts.*



BD JO staff made an estimate of the number of cases for Stage III investigations under the contract and tenderers were required to indicate a basic rate for a case and a rate for each individual test. The rates indicated by the successful tenderer would become the rates of the contract for payment purposes.

3.5 Upon receiving a case assigned by BD JO staff, a contractor would pay visits to the premises concerned to carry out a moisture-content assessment and subsequently compile and submit an investigation report to BD JO staff, and he would be paid a basic rate for this service. Depending on the water-seepage situation, one or more of the following tests might be carried out by the contractor:

- (a) additional moisture-content assessment (see para. 2.7(a));
- (b) coloured-water spraying test (see para. 2.7(b));
- (c) coloured-water test (see Note 7 to para. 1.5);
- (d) coloured-water ponding test (see Note 10 to para. 1.7); and
- (e) reversible-pressure test (see para. 2.5(c)).

### ***Inadequate monitoring and assessment of contractors' effectiveness***

3.6 The objective of engaging contractors to carry out Stage III investigations is to identify the source of water seepage of each case assigned to them. However, in response to Audit's enquiries, the BD informed Audit that BD JO staff did not compile the rate of each contractor who successfully identified the source of water seepage (hereinafter referred to as contractor success rate — see Note 18 to para. 2.10). Hence, BD JO staff did not make reference to contractor success rates in monitoring and assessing the performance of contractors.

3.7 In August 2016, in response to Audit's request, the BD compiled and provided Audit with the contractor success rates as of April 2016 of the nine contracts (involving 9,904 cases) for carrying out Stage III investigations covering the period April 2014 to April 2015. Details are shown in Table 6.

## Monitoring of service contractors

**Table 6**  
**Contractor success rates for period April 2014 to April 2015**  
**(April 2016)**

Contract (Note 1)	Contractor	Cases assigned  (a)  (No.)	Completed cases			Cases with action in progress  (e)  (No.)	Success rate (Note 3)  (f) = $\frac{(b)}{(b) + (c) + (d)} \times 100\%$  (%)
			Seepage source identified  (b)  (No.)	Seepage source not identified  (c)  (No.)	Others (Note 2)  (d)  (No.)		
1	E	1,147	766	201	176	4	67%
2	F	1,354	619	344	391	0	46%
3	G	1,138	471	410	205	52	43%
4	H	1,211	394	329	292	196	39%
5	F	657	245	135	277	0	37%
6	I	1,222	240	147	320	515	34%
7	H	1,033	241	199	314	279	32%
8	I	1,078	302	415	290	71	30%
9	J	1,064	174	348	228	314	23%
Total		9,904 (Note 4)	3,452	2,528	2,493	1,431	Overall: 41%

8,473

Source: Audit analysis of BD records

Note 1: Contracts 2 and 5, 4 and 7, and 6 and 8 were respectively awarded to Contractors F, H and I.

Note 2: Other cases included those where the water seepage had ceased or withdrawn by informants during the investigation.

Note 3: The success rates were computed using the formula adopted by the FEHD and the BD (see Note 18 to para. 2.10).

Note 4: The total number of assigned cases according to contractors' bi-weekly progress reports was 9,704. The variance of 200 cases was due to Contractor G only recorded 938 instead of 1,138 assigned cases (i.e. a shortfall of 200 assigned cases) in his bi-weekly progress reports. In October 2016, the BD informed Audit that Contractor G had deleted these 200 assigned cases from the progress reports as these cases had been completed with payment settled, and BD JO staff had reminded Contractor G to provide a full list of all assigned cases in the progress reports.

3.8 In October 2016, the BD informed Audit that the moisture-content levels of cases being assigned to a contractor would affect his success rate, because the contractor would have a higher chance of identifying the seepage source of a case having a higher moisture-content level than a case having a lower moisture-content level.

3.9 As shown in Table 6, contractor success rates ranged from 23% to 67%. The higher success rates (e.g. 46% and 67%) of some contractors might be the result of their adopting better practices or making more efforts than those achieving lower success rates (e.g. 23% and 30%) in conducting Stage III investigations. Therefore, the BD needs to periodically conduct reviews of contracts having:

- (a) high success rates with a view to identifying good practices for sharing with other contractors; and
- (b) low success rates with a view to taking necessary actions for improvement.

3.10 Audit also noted that the contracts did not provide incentives for contractors to achieve higher success rates. Audit considers that, with a view to improving the effectiveness of Stage III investigations conducted by contractors, the BD needs to consider providing incentives in contracts such that contractors would strive to achieve higher success rates in identifying seepage source.

### ***Data discrepancies on completed cases***

3.11 Audit conducted an examination of the bi-weekly progress reports submitted by contractors under the 9 contracts covering the period April 2014 to April 2015 (involving a total of 9,704 cases — see Note 4 to Table 6 in para. 3.7) and another 9 contracts covering the period May 2015 to May 2016 (involving a total of 9,844 cases) on the time of completion of Stage III investigations by contractors. The audit findings are shown in Table 7.

**Table 7****Data discrepancies on completed cases (Note)  
(April 2016)**

<b>Completed cases for 9 contracts covering the period April 2014 to April 2015</b>		<b>Completed cases for 9 contracts covering the period May 2015 to May 2016</b>	
<b>Based on BD JO case records (No.)</b>	<b>Based on contractors' bi-weekly progress reports (No.)</b>	<b>Based on BD JO case records (No.)</b>	<b>Based on contractors' bi-weekly progress reports (No.)</b>
8,473 (see Table 6 in para. 3.7)	7,416 (88 % of 8,473 cases)	4,466	3,712 (83 % of 4,466 cases)

*Source: Audit analysis of BD records*

*Note: Based on the number of investigation reports being submitted by contractors and endorsed by BD JO staff as of April 2016.*

3.12 In October 2016, the BD informed Audit that the discrepancies between the number of completed cases being recorded in BD JO case records and that in contractors' bi-weekly progress reports were mainly due to deficiencies in data input in the latter reports. Audit considers that the BD needs to take measures to improve the accuracy of data presented in contractors' bi-weekly progress reports.

***Lack of effective actions taken against contractors  
for taking a long time to complete investigations***

3.13 With a view to ensuring timely completion of Stage III investigations, target timeframes for completing different tasks were specified in the contracts. Details are shown in Table 8.

**Table 8**  
**Task timeframes specified in contracts**  
**(April 2014 to April 2015)**

<b>Task</b>	<b>Maximum working days specified in contract</b>  <b>(No.)</b>	<b>Equivalent calendar days</b> <b>(Note 1)</b>  <b>(No.)</b>
(a) Conducting an inspection of the affected premises and carrying out necessary tests within 20 working days from assignment of a case	20	30
(b) Conducting an inspection of the test results within one week after conducting a test and a second inspection not less than 3 weeks after the test if the first inspection could not identify the source of seepage	Not applicable (Note 2)	21 or more
(c) Submitting an investigation report to BD JO staff within 10 working days after completion of actions in (b)	10	15
Total	Not applicable	66 or more (or 9.4 weeks or more)

*Source: Audit analysis of BD records*

*Note 1: See Note 19 to paragraph 2.15.*

*Note 2: In contracts covering the period May 2016 to May 2017, it was specified in the contracts that the second inspection shall be carried out not less than 15 working days but not later than 40 working days after the test.*

## Monitoring of service contractors

3.14 According to contractors' bi-weekly progress reports, as of April 2016, contractors had submitted investigation reports on 7,416 cases (see Table 7 in para. 3.11) that had been endorsed and 911 cases that had not been endorsed by BD JO staff. Time taken by contractors from case assignments to report submissions for the 8,327 (7,416 plus 911) cases as of April 2016 under contracts covering the period April 2014 to April 2015 is as follows:

Days (No.)	Cases	
	(No.)	(Percentage)
66 days (see Table 8 in para. 3.13) or less	1,378	17 %
67 to 100 days	1,728	21 %
101 to 200 days	3,436	41 %
201 to 300 days	1,080	13 %
301 to 400 days	424	5 %
401 to 500 days (or 1.1 to 1.4 years)	186	2 %
501 to 697 days (or 1.4 to 1.9 years)	95	1 %
	281	
Total	8,327	100 %

3.15 Audit considers it unsatisfactory that some contractors had taken a long time (the longest being 1.9 years as of April 2016) to complete the cases assigned to them. The long time taken by some contractors to complete investigations for identifying the water-seepage source would undermine the delivery of efficient and effective public services to the public. In Audit's view, the BD needs to strengthen actions on monitoring contractors' performance to ensure that investigations on water-seepage cases are completed in a timely manner.

3.16 Notwithstanding that the contracts covering the period April 2014 to April 2015 did not specify an overall timeframe from the case assignment to the submission of an investigation report for a case assigned to a contractor, two timeframes of 30 and 15 days were respectively specified in the contracts for completing Tasks (a) and (c) in Table 8 in paragraph 3.13.

## Monitoring of service contractors

3.17 According to contractors' bi-weekly progress reports as of April 2016:

- (a) contractors had completed Tasks (a) to (c) in Table 8 for 8,327 cases;
- (b) contractors had completed Task (a) in Table 8 for 5,457 cases. This number had been understated due to omissions by some contractors to indicate the dates of completing Task (a) in the progress reports (see Audit comments in paras. 3.30 and 3.31); and
- (c) of the 8,327 cases in (a), only 5,462 cases had records of time taken from completion of inspecting test results to submission of investigation reports (Task (c) in Table 8).

3.18 The time taken by contractors in carrying out Task (a) (see Table 8 in para. 3.13) for 5,457 cases against the target timeframe of 30 days is as follows:

Days (No.)	Cases	
	(No.)	(Percentage)
30 days (or 20 working days) or less	2,120	39 %
31 to 100 days	2,253	41 %
101 to 200 days	671	12 %
201 to 300 days	209	4 %
301 to 400 days	119	2 %
401 to 500 days (or 1.1 to 1.4 years)	48	1 %
501 to 749 days (or 1.4 to 2.1 years (Note 26)) (see Case 3)	37	1 %
	85	2 %
Total	5,457	100 %

**Note 26:** *As of July 2016, the contractor of the case involving 2.1 years had not submitted an investigation report.*

### Case 3

#### Long time taken to conduct tests (May 2014 to April 2016)

1. In May 2014, the BD assigned a water-seepage case to Contractor H (see Table 6 in para. 3.7).
2. In October 2015, Contractor H contacted the informant and conducted an inspection of the affected premises.
3. In April 2016, Contractor H conducted tests at premises suspected to be the origin of the water seepage. As of July 2016, there was no information in the case file showing whether the tests could identify the source of water seepage.

#### *Audit comments*

4. Contractor H had taken two years (from May 2014 to April 2016) to conduct the tests after being assigned the case. Audit could not find any document in the case file showing actions taken by the BD during the two-year period.
5. In Audit's view, the BD needs to strengthen actions on monitoring contractors' performance to ensure that investigations on water-seepage cases are completed in a timely manner.

*Source: Audit analysis of BD records*

3.19 The time taken by contractors in carrying out Task (c) (see Table 8 in para. 3.13) for 5,462 cases against the target timeframe of 15 days is as follows:

Days (No.)	Cases	
	(No.)	(Percentage)
15 days (or 10 working days) or less	1,296	24%
16 to 100 days	3,648	67%
101 to 200 days	429	8%
201 to 604 days (or 0.6 to 1.7 years) (see Cases 4 and 5)	89	1%
Total	5,462	100%



Case 4

**Error in inputting date of completing investigation  
(June 2014 to January 2016)**

1. In June 2014, the BD assigned a case to Contractor G (see Table 6 in para. 3.7).
2. In July 2014, Contractor G conducted an inspection of the affected premises and found that the moisture content of the water seepage exceeded 35%. However, Contractor G mistakenly stated in the bi-weekly progress reports that the investigation had been completed in that month.
3. In October 2014 and February 2015, Contractor G attempted to contact the informant but in vain.
4. In December 2015, Contractor G visited the affected premises and found that the seepage had ceased.
5. In January 2016, Contractor G submitted an investigation report to BD JO staff.

***Audit comments***

6. Contractor G made a mistake in stating in the progress reports that the investigation had been completed in July 2014, resulting in an apparent long time (18 months from July 2014 to January 2016) taken to submit the investigation report from completion of the investigation. However, the BD did not notice this mistake before Audit's examination and did not take any follow-up actions on the anomaly. In Audit's view, the BD needs to strengthen actions on monitoring contractors' performance by vigilantly examining progress reports submitted by them.
7. There was no record showing that Contractor G had taken any action during the two-month period from August 2014 to September 2014 and during the nine-month period from March 2015 to November 2015. In Audit's view, the BD needs to strengthen actions on monitoring contractors' performance to ensure that investigations on water-seepage cases are completed in a timely manner.

*Source: Audit analysis of BD records*

### Case 5

#### **Long time taken to submit investigation report (May 2014 to January 2016)**

1. In May 2014, the BD assigned a case to Contractor H (see Table 6 in para. 3.7) which conducted an inspection of the affected premises (finding the moisture content of the water seepage exceeding 35%) and conducted coloured-water ponding tests at the suspected premises in the same month.
2. In June 2014, after conducting inspections of the test results, Contractor H could not identify the source of water seepage.
3. In October 2015, the informant withdrew the case.
4. In January 2016, Contractor H submitted an investigation report to BD JO staff.

#### ***Audit comments***

5. There was no record showing that Contractor H had taken any action during the 18-month period from July 2014 to December 2015. In Audit's view, the BD needs to strengthen actions on monitoring contractors' performance to ensure that investigation reports on water-seepage cases are submitted by service contractors in a timely manner.

*Source: Audit analysis of BD records*

3.20 According to BD guidelines, BD staff might take the following actions against contractors having unsatisfactory performance:

- (a) issuing a warning letter for unsatisfactory performance, such as a prolonged slippage in submitting investigation reports;
- (b) issuing a quarterly adverse performance report if a contractor did not show improvement after receiving a warning letter; and

- (c) if a contractor had been issued two or three consecutive adverse performance reports under the same contract, suspending him from bidding for work of the same category for at least 3 or 12 months respectively.

3.21 Despite the fact that some contractors had taken a long time far exceeding the timeframes specified in contracts (see paras. 3.18 and 3.19), the BD had not issued any warning letter or adverse performance report to contractors engaged in water-seepage investigations for the period January 2011 to April 2015. For contracts covering the period May 2015 to May 2016, the BD had only issued two warning letters and two quarterly adverse performance reports to the same contractor for not carrying out investigations and not submitting investigation reports within stipulated timeframes.

3.22 Audit considers it unsatisfactory that, before May 2015, the BD had not issued warning letters nor adverse performance reports to contractors having unsatisfactory performance which might lead to deterioration of the contractors' performance. Therefore, the BD needs to strengthen actions on monitoring contractor's performance by issuing warning letters and adverse performance reports to contractors having unsatisfactory performance.

### ***Need to provide necessary assistance to contractors to gain access to premises for carrying out investigations***

3.23 According to guidelines issued for the JO operation, when encountering access problems for carrying out investigations, FEHD and BD staff involved in the JO operation may take the following actions:

- (a) if an initial visit is unsuccessful, the staff should leave a Notice of Appointment requesting the notified party to contact the staff to arrange for a visit;
- (b) if there is no response after seven working days, the staff should pay a second visit to the premises and leave a Notice of Intended Entry giving a date for the next visit, which should be within the next three working days;
- (c) if the third visit is still unsuccessful, the staff should reconfirm the need for entry and then leave a Notice of Intention to Apply for a Warrant for Entry; and

## Monitoring of service contractors

- (d) if no response is received after one week, the staff will reconfirm the need for entry and report the case via his senior officers to the related Head of the FEHD DO to consider the need to apply to a Magistrate for a Warrant of Entry.

3.24 From 2006 to 2015, a total of 752 entry warrants had been granted by the Court for the JO operation. Details are as follows:

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
No. of entry warrants granted	15	18	70	120	136	90	101	64	74	64

752

3.25 As shown in paragraph 3.14, some contractors had taken a long time to complete investigations of water-seepage cases. According to file records, one of the reasons for the long time taken was that some contractors had encountered problems in gaining access to premises for carrying out investigations. In Audit's view, BD JO staff need to endeavour to provide necessary assistance to contractors in accordance with JO operation guidelines in resolving problems in gaining access to premises for carrying out investigations (see para. 3.23).

### ***Incomplete records and files on contractors' bi-weekly reports and BD JO case records***

3.26 Since May 2009, under a service contract for water-seepage investigations, a contractor was required to submit to BD JO staff bi-weekly progress reports in both hard and soft copies stating the dates of performing different tasks of each case assigned to him (see Table 8 in para. 3.13). However, in June 2016, in response to Audit's request, the BD informed Audit that it could not provide Audit with both the hard and soft copies of some bi-weekly progress reports for Audit examination because it could not locate the whereabouts of the reports. Details are shown in Table 9.

**Table 9**

**Provision of contractors' bi-weekly reports for Audit examination  
(April 2016)**

Contract period	Contracts awarded (No.)	Contracts with bi-weekly reports	
		Provided for Audit examination (No.)	Not provided for Audit examination (No.)
January 2011 to March 2012	10	4	6
April 2012 to April 2013	13	7	6
April 2013 to April 2014	13	7	6
April 2014 to April 2015	9	9	0
May 2015 to May 2016	9	9	0
Total	54	36	18

*Source: BD records*

3.27 In August and October 2016, the BD informed Audit that:

- (a) contractors' bi-weekly progress reports served as a quick reference for monitoring work progress and contractors' performance during the bi-weekly progress meetings. These reports were simply transient summaries of the assignments but they were not accounting records. In addition, upon receipt of the bi-weekly progress reports, BD JO staff would input the relevant information of the reports into BD JO case records; and
- (b) the bi-weekly progress reports that were not provided for Audit examination were related to completed contracts. Following completion of all assignments under these contracts, the related progress reports were no longer required and were not kept.

Regarding (a) above, it is not sure whether data of the bi-weekly progress reports had been completely input into BD JO case records.

## Monitoring of service contractors

3.28 Moreover, in response to Audit's request for BD JO case records (see para. 1.12(c)) for the period 2011 to 2016 for examination, the BD could not provide Audit with some records. Details are shown in Table 10.

**Table 10**  
**Provision of BD JO case records for Audit examination**  
**(April 2016)**

Contract period	Contracts awarded (No.)	BD JO case records	
		Provided for Audit examination (No.)	Not provided for Audit examination (No.)
January 2011 to March 2012	10	5	5
April 2012 to April 2013	13	11	2
April 2013 to April 2014	13	12	1
April 2014 to April 2015	9	9	0
May 2015 to May 2016	9	9	0
Total	54	46	8

*Source: BD records*

3.29 The absence of some contractors' bi-weekly reports and BD JO case records covering the period January 2011 to April 2014 has impeded Audit examination of completeness and timeliness of BD actions in monitoring the progress of Stage III investigations. In Audit's view, the BD needs to conduct a review to ascertain whether BD JO staff had properly compiled BD JO case records and why they had taken a long time to complete some cases.

3.30 The main purpose of bi-weekly progress reports was to help BD JO staff keep track of the progress of contractors' investigation of each case assigned to them against timeframes specified in contracts. Audit examination of the contracts awarded covering the period January 2011 to May 2017 revealed that, although the work-progress information for inclusion in the bi-weekly progress reports had been specified in the contracts, there were wide variations in the information included in progress reports among contractors. For example, some contractors did not provide in some progress reports information on dates of conducting tests (e.g. Contractor G) and dates of submission of investigation reports (e.g. Contractor H). In the absence

of work-progress information in the progress reports, BD JO staff were unable to effectively monitor the work of contractors and take necessary actions on long-outstanding cases.

3.31 In Audit's view, for the purpose of enhancing the monitoring of contractors' work, they should be required to highlight in progress reports long-outstanding cases (against target timeframes of completing a case), reasons for the delays and estimated time of completing the cases. The information will help BD JO staff focus monitoring on long-outstanding cases and take necessary actions in a timely manner.

3.32 As shown in Cases 1 and 2 in paragraph 2.20, two cases respectively handled by Contractors A and C were subsequently re-assigned to Contractors B and D respectively. However, the BD could not provide Audit with the number and details of cases (out of the total 9,904 cases — see Note 4 to Table 6 in para. 3.7) during the contract period April 2014 to April 2015 which had been re-assigned to other contractors. In this connection, in August 2016, the BD informed Audit that, upon expiry of a contract period, outstanding cases being assigned to a contractor involving problems to gain access to premises for carrying out investigations would be re-assigned to a newly appointed contractor under another contract period for carrying out the investigation work. Audit considers that the BD needs to take actions to find out the re-assigned cases.

## Audit recommendations

3.33 Audit has *recommended* that, in monitoring the work of the contractors in carrying out Stage III investigations, the Director of Buildings should:

- (a) **strengthen actions on monitoring contractors' performance:**
  - (i) **to improve accuracy of data presented in contractors' bi-weekly progress reports;**
  - (ii) **to ensure that investigations on water-seepage cases are completed in a timely manner; and**

## **Monitoring of service contractors**

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- (iii) **by issuing warning letters and adverse performance reports to contractors having unsatisfactory performance;**
- (b) **remind BD JO staff of the need to provide necessary assistance to contractors in accordance with JO operation guidelines in resolving problems in gaining access to premises for carrying out investigations;**
- (c) **conduct a review to ascertain whether BD JO staff had properly compiled BD JO case records and why they had taken a long time to complete some cases; and**
- (d) **require contractors to highlight in bi-weekly progress reports long-outstanding cases (against target timeframes of completing a case), reasons for the delays and estimated time of completing work of the cases.**

## **Response from the Government**

3.34 The Director of Buildings agrees with the audit recommendations. He has said that:

- (a) in collaboration with the FEHD, the BD is exploring means of enhancing the CMIS to introduce features which would enable the JO operation to assess the performance of the contractors. The BD has explored appropriate incentives to encourage contractors to strive more efforts to promptly complete different tasks. The BD is also studying the applicability of adopting a new contract for engaging contractors which would provide rewards and penalties for good and unsatisfactory performance respectively; and
- (b) the BD has developed functions in BD JO case records where cases with time spent exceeding the milestones would be highlighted. The BD will adopt the related functions for the contractors' bi-weekly progress reports which will help avoid discrepancies between the number of completed cases recorded in the bi-weekly progress reports and that in BD JO case records, and facilitate the monitoring of contractors' work progress.



## **PART 4: MANAGEMENT INFORMATION SYSTEM AND PERFORMANCE REPORTING**

4.1 This PART examines the management information system (see paras. 4.2 to 4.17) and performance reporting (see paras. 4.18 to 4.26) for handling water-seepage cases under the JO operation.

### **Management information systems for water-seepage cases**

4.2 Since November 2000, the FEHD has maintained a CMIS to record information of all public enquiry and complaint cases received on its services and operations, including water-seepage reports. Information for each case captured in the CMIS included:

- (a) date of receiving a public report;
- (b) case reference number and the related address;
- (c) date of completing investigations; and
- (d) dates of the interim and final replies being sent to the informant.

4.3 In February 2012, the FEHD Management Services Unit completed a study on the FEHD's complaint and enquiry handling processes. Among other issues, the study found that:

- (a) ***ineffective paper-based processes.*** Considerable amount of time had been spent in circulating paper files among officers concerned, resulting in slow sharing and retrieval of information, and frequent loss and misfiling of documents; and
- (b) ***ineffective case monitoring.*** The CMIS could no longer fully meet the user requirements, as it only served as a register providing basic case information but not case investigation details.

## Management information system and performance reporting

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The study recommended that a new computer system for complaint and enquiry handling should be developed to replace the existing CMIS.

4.4 In July 2012, the FEHD engaged a contractor at a cost of \$7.3 million to develop a new CMIS (Note 27). From December 2014 to December 2015, the new CMIS was rolled out by phases for implementation in the 19 FEHD districts. Under the implementation arrangements, information of new complaint and enquiry cases received would be recorded in the new CMIS. For information of existing cases, it would not be migrated to the new CMIS and the old CMIS would continue to be used for monitoring actions taken on existing cases.

4.5 In addition to recording case information (see para. 4.2), the new CMIS provides the following new functions for all FEHD enquiry and complaint cases:

- (a) storing scanned copies of case documents for easy reference and retrieval;
- (b) generating internal memoranda for endorsement by senior officers and replies for sending to complainants and informants;
- (c) generating exception reports highlighting cases not complying with timeframes for taking actions; and
- (d) generating ageing analysis reports on long-outstanding cases for management monitoring actions.

4.6 For a water-seepage case, the new CMIS (Note 28) also provides functions for recording the date of:

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**Note 27:** *In the 2012 audit review of the FEHD's management of public enquiries and complaints (see para. 1.19), Audit recommended and the Director of Food and Environmental Hygiene agreed that the progress of the new CMIS project should continue to be closely monitored, and effective interim measures should be explored to alleviate the inadequacies of the existing CMIS.*

**Note 28:** *According to the BD, since 2012, for capturing useful and sufficient statistics for assessing performance of the JO operation, it has been working closely with the FEHD in developing the new CMIS incorporating functions covering case management, reminders, exception reports and statistical reporting for Stage III investigations.*

- (a) conducting a coloured-water test;
- (b) inspection of test results; and
- (c) issuance of a nuisance notice and its expiry date.

***FEHD JO staff not fully adopting new CMIS for water-seepage cases***

4.7 By mid-July 2015, JO staff of 10 of the 19 districts had been requested to input information of water-seepage cases into the new CMIS. According to the FEHD, views and comments of users of the new CMIS indicated that:

- (a) due to the complex nature of water-seepage cases which usually involved a large number of reference documents such as layout plans and photographs, fully adopting all the functions of the new CMIS for water-seepage cases had adversely affected the efficiency and effectiveness of the handling of the cases;
- (b) it would be more convenient, efficient and effective for an officer to open a paper file and forward the file to the subject officers to take follow-up actions, and internal communication between officers on water-seepage cases through paper files was considered more convenient and effective (especially for complicated cases in which written communication between officers was frequent);
- (c) scanning and uploading of documents required considerable time and efforts. As the new CMIS did not provide for efficient cross-reference of scanned documents, it was difficult for FEHD staff to make cross reference to the images stored in the new CMIS when checking case reports. Also, retrieval of the scanned documents from the CMIS was time-consuming and cumbersome; and
- (d) when preparing for prosecution actions for a case, FEHD staff sometimes found it difficult to reconstruct a paper file from the scanned documents stored in the system, and some original documents might need to be located for the purpose.

4.8 According to the FEHD, in mid-July 2015, after extensively consulting FEHD JO frontline staff and thoroughly reviewing the system functions, the work processes and nature of the cases and operational needs, the FEHD informed its JO staff that, in order to help resolve the problems encountered by them in using the new CMIS in handling water-seepage cases, the work process should be streamlined and that some data were not required to be input into the new CMIS for the time being. The FEHD considered it appropriate to adopt a pragmatic approach to implement the above-mentioned measures to help FEHD JO staff improve their efficiency and effectiveness in handling water-seepage cases while at the same time the new CMIS could generate necessary management information.

4.9 As of July 2016, the FEHD JO staff of all 19 districts only input basic information of new water-seepage cases (see para. 4.2) into the new CMIS but not the information as stated in paragraphs 4.5(a) and 4.6. Audit considers it unsatisfactory that, although the new functions provided in the new CMIS would help improve the efficiency and effectiveness of the JO operation in monitoring actions taken on water-seepage cases, the new functions had not been fully implemented for the JO operation seven months after implementation of the new system in December 2015, causing inefficiency for the management to monitor performance and progress of the cases. In Audit's view, the FEHD needs to take measures to ensure that all functions of the new CMIS on water-seepage cases are fully implemented for the JO operation of all 19 districts in a timely manner. The FEHD also needs to consult JO staff on their difficulties encountered in implementing the new system and provide necessary assistance to them to resolve the problems.

### ***Need to consider adopting a comprehensive database system***

4.10 Audit noted that some statistics of the JO operation could not be reconciled. Examples included:

- (a) the number of nuisance notices issued in 2015 as revealed in the NNM Lists compiled by JO staff of the 19 districts was different from that reported to the FEHD Headquarters (see para. 2.56);
- (b) the number of outstanding cases as of March 2016 as recorded in the ageing analysis reports was different from that reflected in the CMIS (see para. 2.57); and

- (c) the number of cases with tests having been completed as recorded in contractors' bi-weekly progress reports had been understated (see para. 3.11).

Besides, some time information could not be provided for Audit examination (for example, the processing time of screen-out cases — see para. 2.13). According to the FEHD, the time information was recorded in the paper case files.

4.11 Furthermore, some information had been erroneously recorded in related reports and systems. For example, 115 cases where actions had been completed before March 2016 were erroneously indicated as outstanding cases in the CMIS (see para. 2.24(a)).

4.12 Audit noted that the FEHD and the BD were maintaining separate computer systems for monitoring water-seepage cases. In this connection, FEHD JO staff were using the CMIS and standalone computers of FEHD to record case information whereas BD JO staff were using standalone computers of BD to record related information. In order to improve the data and record keeping and updating, the FEHD and the BD need to consider implementing a comprehensive database system, under which all related data and scanned copies of documents are input into or shared among the systems, and investigators can make use of handheld devices to access case details and input results of investigations into the system through the handheld devices immediately after each inspection. The dates and details of all actions taken on each case should be recorded in the system. This system with handheld devices will facilitate timely input of details of actions taken and highlight cases requiring follow-up actions.

### Audit recommendations

4.13 **Audit has *recommended* that the Director of Food and Environmental Hygiene should:**

- (a) **take measures to ensure that all functions of the new CMIS on water-seepage cases are fully implemented for the JO operation in a timely manner; and**

- (b) consult JO staff on their difficulties encountered in implementing the new CMIS and provide necessary assistance to them to resolve the problems.

4.14 Audit has also *recommended* that the Director of Food and Environmental Hygiene and the Director of Buildings should jointly consider implementing a comprehensive database system for water-seepage cases under which handheld devices are used for recording and updating investigation results.

### Response from the Government

4.15 The Director of Food and Environmental Hygiene agrees with the audit recommendations in paragraph 4.13. She has said that:

- (a) the FEHD has implemented applicable functions in the CMIS for water-seepage cases, having regard to the nature of such cases, operational needs and users' views after extensive staff consultation. The FEHD has started taking actions to develop more effective and technically feasible means to capture data which are useful for monitoring actions taken on water-seepage cases; and
- (b) the FEHD will continue to explore enhancements to the CMIS, taking a pragmatic approach and having regard to the users' views and other relevant factors.

4.16 The Director of Buildings has said that, regarding the recommendation in paragraph 4.13(a), the BD will explore with the FEHD means of enhancing the CMIS to provide functions related to Stage III investigations covering case management, generation of reminders and exception reports, and statistical reporting.

4.17 The Director of Food and Environmental Hygiene and the Director of Buildings agree with the audit recommendation in paragraph 4.14. The Director of Food and Environmental Hygiene has said that, to improve the present filing and information system, the FEHD would make enhancements to the CMIS in collaboration with the BD.

## Performance reporting

4.18 In response to enquiries from Members of LegCo, the Government provided LegCo from time to time with information on the number of water-seepage cases received and number of cases with actions completed (Note 29).

4.19 Since January 2014, the FEHD has set the following two performance pledges, with results published on its website:

- (a) within six working days upon receipt of a water-seepage report, contacting the informant to arrange for an investigation at the premises concerned; and
- (b) within seven working days upon verification of the investigation results on the source of the seepage nuisance, issuing a nuisance notice.

According to the FEHD, in 2014 and 2015, 99% of water-seepage cases met the two performance pledges.

### *Data discrepancies on JO monthly returns*

4.20 Based on FEHD JO monthly returns and BD JO case records, from January 2007 to March 2016, the JO operation had received a total of 231,968 water-seepage reports, and during the period actions on a total of 196,926 cases had been completed (see para. 1.17). Given that there were 6,228 cases outstanding as of December 2006, there should be 41,270 (6,228 plus 231,968 less 196,926) outstanding cases as of March 2016. However, based on information captured in the CMIS, Audit noted that the system only recorded 15,564 outstanding cases as of March 2016. In August and October 2016, the FEHD informed Audit that:

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**Note 29:** *These cases comprised screen-out cases, cases with and without water-seepage source identified after completing investigations, and cases with seepage ceased or reports withdrawn by informants during investigations.*

## **Management information system and performance reporting**

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- (a) the discrepancy (i.e. 25,706 (41,270 less 15,564)) in the number of outstanding cases was noted and discussed at a directorate meeting between the FEHD and the BD held in July 2014. Since August 2014, the FEHD had started to share the relevant data in the CMIS with the BD. In addition, from 2015, the FEHD Headquarters would collate monthly statistics from FEHD JO staff of the 19 districts and provide the collated data to BD JO staff for compilation of the JO operation's monthly statistical returns; and
- (b) the FEHD had completed an investigation on the discrepancy stated in (a) above. The discrepancy might be due to unclear instructions being given to and different interpretations of FEHD JO staff in compiling the FEHD JO monthly returns.

In Audit's view, the FEHD needs to take measures to prevent the inclusion of inaccurate data in the CMIS and FEHD JO monthly returns.

### ***Need to consider setting additional performance targets***

4.21 While the FEHD and the BD have jointly set timeframes of 38 working days for completing Stages I and II investigations and 52 working days for completing Stage III investigations for a water-seepage case (see para. 2.15), they have not published these timeframes and results of achievement within these timeframes. In August and October 2016, the BD and the FEHD informed Audit that:

#### ***BD and FEHD***

- (a) as the time taken to complete a case depended on various external factors which were beyond the control of the JO operation, it was impractical to set a performance target on the overall timeframe for completing a case;

#### ***BD***

- (b) as the success rate of identifying the seepage source depended on case circumstances that were beyond the control of the JO operation, it was not appropriate to use the success rate as a performance target; and



### ***FEHD***

- (c) while JO operation would strive to meet the existing reference completion timeframe of 90 working days as far as possible, the timeframe is for simple and straightforward water-seepage cases.

4.22 In Audit's view, informants of water-seepage cases and the public are mostly concerned about the time taken by the JO operation in identifying the seepage source of the cases, and the extent to which the JO operation could successfully identify the seepage source. The absence of performance targets in these two areas is not in line with public expectations. Therefore, the FEHD and the BD need to consider setting performance targets, and publishing results of achievement of the targets, on the overall timeframe for completing a water-seepage case and the success rate of identifying the water-seepage source. With a view to enhancing public accountability, the FEHD and the BD also need to consider regularly publishing performance indicators for the JO operation, such as the numbers of completed cases, cases involving identification of seepage sources, cases where the seepage ceased during investigations and cases having nuisance notices issued.

### **Audit recommendations**

4.23 **Audit has *recommended* that the Director of Food and Environmental Hygiene should take measures to prevent the inclusion of inaccurate data in the CMIS and FEHD JO monthly returns.**

4.24 **Audit has *recommended* that the Director of Food and Environmental Hygiene and the Director of Buildings should jointly consider regularly publishing performance indicators for the JO operation.**

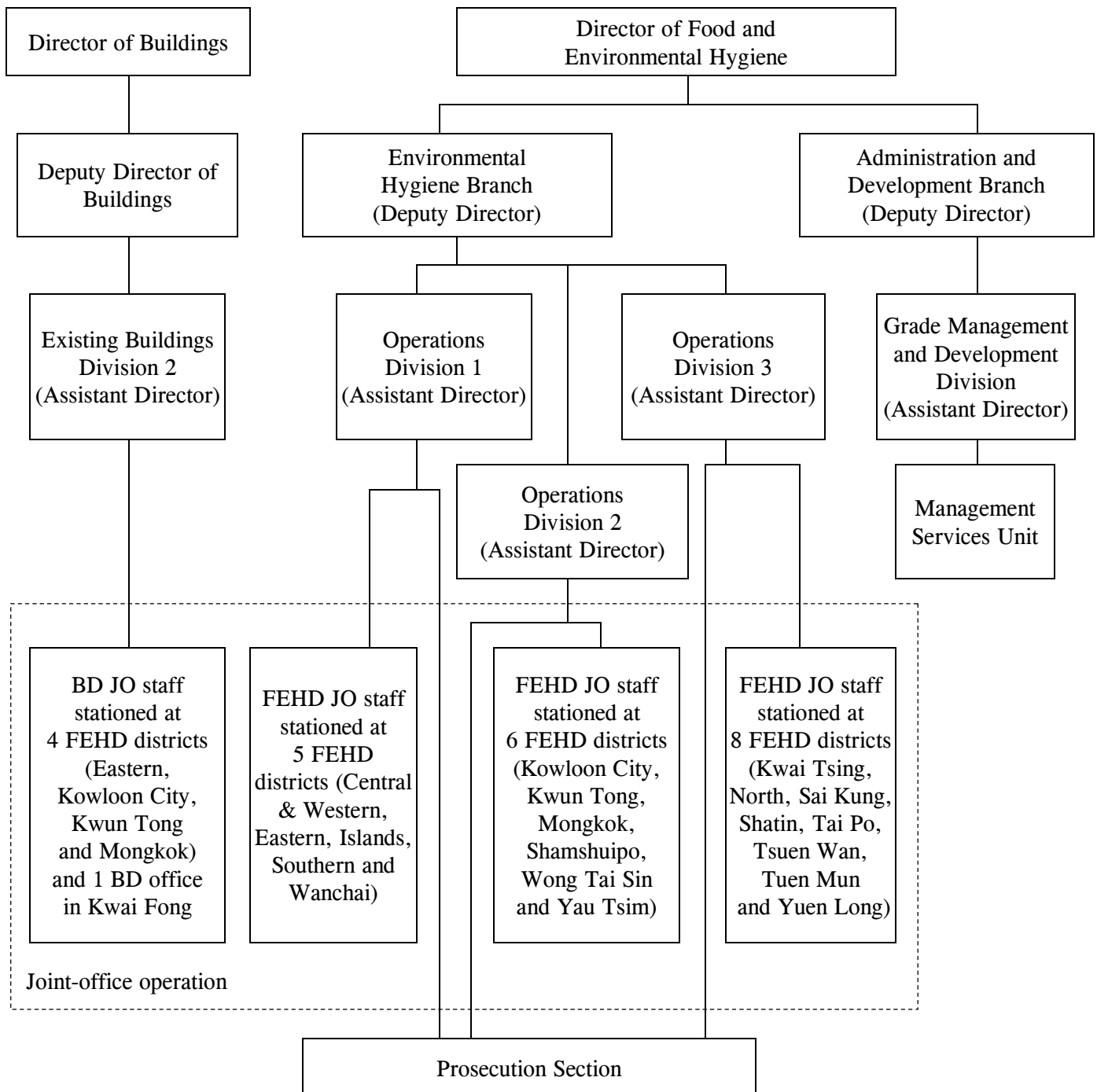
### **Response from the Government**

4.25 The Director of Food and Environmental Hygiene agrees with the audit recommendation in paragraph 4.23. She has said that clear instructions have been issued to FEHD JO staff to remind them of the need to input correct data into the monthly returns. Furthermore, the Director of Food and Environmental Hygiene and the Director of Buildings have said that they will discuss on ways to improve the information systems to prevent data discrepancies in the systems.

4.26 The Director of Food and Environmental Hygiene and the Director of Buildings agree with the audit recommendation in paragraph 4.24. They have said that:

- (a) the performance of the JO operation should be transparent to the public so as to enhance public accountability; and
- (b) the FEHD and the BD will explore if performance targets can be formulated for straightforward cases.

**Joint-office operation structure (extract)  
(31 March 2016)**



Source: FEHD and BD records

**Staff strength of the joint-office operation  
(March 2016)**

District		Number of staff		
		FEHD	BD	Total
1.	Central & Western	10	0	10
2.	Eastern (Note 1)	27	23	50
3.	Islands	1	0	1
4.	Kowloon City (Note 1)	22	25	47
5.	Kwai Tsing	13	0	13
6.	Kwun Tong (Note 1)	16	5	21
7.	Mongkok (Note 1)	11	5	16
8.	North	4	0	4
9.	Sai Kung	7	0	7
10.	Shamshuipo	14	0	14
11.	Shatin	16	0	16
12.	Southern	8	0	8
13.	Tai Po	6	0	6
14.	Tsuen Wan	11	0	11
15.	Tuen Mun	16	0	16
16.	Wanchai	7	0	7
17.	Wong Tai Sin	8	0	8
18.	Yau Tsim	9	0	9
19.	Yuen Long	5	0	5
Total		211	58 (Note 2)	269

*Source: FEHD and BD records*

*Note 1: For these 4 districts, FEHD JO staff and BD JO staff worked in the same office. BD JO staff stationing at the Eastern and Kowloon City districts (designated as the two regional offices for the JO operation) also oversaw Stage III investigations related to the other 17 districts.*

*Note 2: In addition to 58 BD JO staff stationing at 4 FEHD districts, 5 BD JO staff also stationed at a BD office located in Kwai Fong. Therefore, a total of 63 (58 plus 5) BD staff and 274 (269 plus 5) FEHD and BD staff were involved in the JO operation.*

**Appendix C**  
(paras. 2.15 and  
2.46 refer)

### Completion timeframes for Stages I, II and III investigations

Item	Particulars	Completion working day
<b>Stages I and II actions</b>		
1.	Receiving a report on water seepage	38 days
2.	Inputting case details into the CMIS	
3.	Issuing an acknowledgement reply	
4.	Contacting the informant and making an appointment to conduct Stage I investigations at the affected premises (Note 1)	
5.	Conducting site inspection (including measurement of the moisture content) and recording the findings with photographs taken of the affected area (Note 2)	
6.	For a case warranting further investigation (i.e. Stage II investigations), gaining entry into the suspected premises and carrying out tests (e.g. coloured-water test)	
7.	For a case with seepage source identified, sending a final reply to the informant and issuing a nuisance notice to the responsible party (Note 3), or for a case without seepage source identified, sending an interim reply to the informant and conducting Stage III investigations	
Subtotal (a)		38 days
<b>Stage III actions</b>		
8.	BD JO staff screening the case file, and issuing a works order and assigning the case to a service contractor	6 days
9.	Contractor arranging site visit, performing further investigation, and compiling an investigation report for BD JO staff endorsement	30 days
10.	Vetting and endorsing investigation reports	10 days

**Appendix C**  
 (Cont'd)  
 (paras. 2.15 and  
 2.46 refer)

<b>Item</b>	<b>Particulars</b>	<b>Completion working day</b>
11.	BD JO staff sending a reply to notify the informant of results of Stage III investigations. For a case with seepage source identified, FEHD JO staff issuing a nuisance notice to the liable party (Note 3).	6 days
Subtotal (b)		52 days
Total (c) = (a) + (b)		90 days

*Source: FEHD and BD records*

*Note 1: The FEHD has set a performance pledge to contact the informant within 6 working days upon receipt of a case and to arrange for investigation at the affected premises.*

*Note 2: For a case not warranting further investigation (i.e. screen-out case), the FEHD has set a timeframe on sending a final reply to the informant within 18 working days from receipt of the case.*

*Note 3: The FEHD has set a performance pledge to issue a nuisance notice within 7 working days upon confirming the investigation results of the source of the seepage nuisance.*

**Acronyms and abbreviations**

Audit	Audit Commission
BD	Buildings Department
CMIS	Complaints Management Information System
DO	District office
FEHD	Food and Environmental Hygiene Department
JO	Joint-office
LegCo	Legislative Council
NCSC	Non-civil service contract
NNM List	Nuisance Notices Monitoring List
PH&MS Ordinance	Public Health and Municipal Services Ordinance
UBW	Unauthorised building works
WCM Database	Water-seepage Case Monitoring Database
WSD	Water Supplies Department