



本署檔案 Our Ref.: (2) in WSD TC 10/2011 (Pt. 9)

來函檔號 Your Ref.: CB(4)/PAC/R57

19 December 2011

(By fax 2840 0716)

Ms Lily SZE
Clerk, Public Accounts Committee
Legislative Council

Dear Ms SZE

**The Director of Audit's Report on the
results of value for money audits (Report No. 57)**

**Water losses from unauthorised consumption and
inaccurate metering (Chapter 12)**

I refer to your letter of 8 December 2011 requesting for supplementary information arising from the Public Accounts Committee's public hearing on 1 December 2011.

I have the pleasure to provide the required information as follows.

- (a) *regarding the eight categories of unlawful water taking cases as set out in Table 2 in paragraph 2.14 of the Director of Audit's Report ("the Audit Report"), please provide an analysis of the reasons giving rise to unlawful water taking in respect of each of the eight categories and the specific measures that the Water Supplies Department ("WSD") has taken/will take to address the unlawful water taking problem in respect of each category, particularly the "Flushing" category;*

The reasons applicable to all the eight categories of unlawful taking of water are:

香港灣仔告士打道七號入境事務大樓四十八樓

48/F, Immigration Tower, 7 Gloucester Road, Wan Chai, Hong Kong

電話號碼 Tel. : (852) 2829 4400

傳真號碼 Fax : (852) 2824 0578

電子郵遞 E-mail : wsdinfo@wsd.gov.hk

互聯網址 Web : <http://www.info.gov.hk/wsd/>

- (i) avoidance of water charges;
- (ii) expediency for maintaining water supply pending the repair of inside services of the registered consumers; or
- (iii) provision of water supply prior to the effecting of an authorised supply,

with (i) as the predominant reason for cases related to trade, domestic, cleansing, and irrigation, fire services and air-conditioning; (ii) for cases related to flushing; and (iii) for cases related to construction.

A two-prong approach is being adopted by the Water Supplies Department (WSD) to deal with unauthorised water losses - by detection and prosecution and by promotion and education against unauthorised uses. The WSD will strengthen work on these two areas by exploring new detection techniques and enhancing collaboration with concerned authorities and other sectors of the Community.

In 2011, the WSD has started to adopt a risk-based approach for detecting unlawful taking of water through comparisons of flow data of district meters with aggregated consumption figures of individual consumers in the corresponding areas. The WSD is also taking steps to explore the use of data mining techniques to evaluate changes of individual consumers' water usage in a bid to detect unauthorised uses. The WSD will explore the expansion of the "Quality Water Recognition Scheme for Buildings" to cover flushing water systems so as to improve the maintenance of such systems by the estate management companies, hence reducing the risk of system breakdowns and thereby, the situation of unlawfully tapping the fresh water resource for flushing.

The WSD will collaborate with different sectors of the Community through promotion and education activities for tapping the supporting resources of the Community to widen the detection webs for unlawful taking of water. In this regard, the WSD has already liaised with the Government works departments and the Food and Environmental Hygiene Department for prevention of unauthorised water uses within their works sites and premises and circulated letters to all estate management companies to solicit their support against unauthorised water uses. The WSD is also in discussions with the plumbing associations and institutions, and contractors association for collaboration on reporting unauthorised water uses. Relevant publicity and education programmes will also be stepped up, riding on the extensive promotion activities on water conservation.

- (b) *the number of cases in which the WSD had taken enforcement actions with a warrant and the circumstances of the cases in each of the years of 2008, 2009 and 2010;*

The number and the circumstances of the cases are shown in the table below:

Year	No. of Cases	Circumstances of the Cases
2008	0	Not applicable
2009	3	All concerned suspected stealing of fresh water for flushing.
2010	3	Two cases concerned suspected stealing of fresh water for flushing. The other concerned suspected stealing of fresh water for use in a restaurant.

- (c) *it was mentioned at the public hearing that the WSD had discussed the level of penalty of Case 1 (in paragraph 2.24(a) of the Audit Report) with the Department of Justice (“DoJ”) for its advice on lodging an appeal. Please provide a summary of the WSD’s discussion with the DoJ on the appeal and the reasons for not lodging the appeal subsequently;*

Upon conviction of the defendant company in Case 1 on 9 September 2009, the WSD considered that the sentence was unduly lenient and an application for a review against the sentence was made to DoJ. After reviewing the circumstances taking into account the average fine of concerned offences in the past and the actual fine imposed on the defendant company in this case, DoJ advised on 15 September 2009 that they did not agree that the case warranted a review of the sentence.

- (d) *it was mentioned at the public hearing that there were unlawful water taking cases at construction sites in which the employees of the contractors, instead of the contractors, were prosecuted and this might create an opportunity for the contractors to evade the legal liability. You undertook to review the WSD’s existing approach in dealing with similar cases and consider how such a loophole could be plugged. Please advise the Committee of the measures that the WSD will take to address the problem;*

The WSD will solicit assistance of the Development Bureau to highlight in the contractor administration procedures that any unauthorised water uses in the contractors' works sites will be reflected in the contractors' performance reports as deterrent against unauthorised water uses.

The WSD will also seek legal advice on how an employee's stealing of water can be imputed to his/her employer based on the evidence collected.

- (e) *how the WSD will improve the training, in terms of frequency, content and format, etc. for WSD officers on handling suspected unlawful water taking cases (paragraph 3.5 of the Audit Report refers);*

The Prosecution Unit (PU) of the WSD will arrange the uploading of all training materials, including conviction cases, onto the WSD intranet for web-based training.

A half-day training course will also be provided to the staff of relevant government departments once a year.

The training needs and modes will be reviewed in December 2012 for further enhancement as necessary.

- (f) *according to paragraph 3.23 of the Audit Report, in some cases requiring termination of unauthorised connections, the Prosecution Unit took 11 to 25 working days after the last inspections to report the findings, and the district officers of the Customer Services Branch took more than 10 working days to terminate the connections after receiving notifications from the Prosecution Unit. It was mentioned at the public hearing that the WSD would consider setting time pledges for completing the different steps involved in handling cases of termination of unauthorised connections. Please inform the Committee of the details of the time pledges to be set;*

Upon completion of an investigation by the PU and if terminating an unauthorised connection is required, the PU will notify the Customer Services Branch (CS), within three working days from the date of completion of investigation, for follow up actions.

The WSD will also set target on the time limit to undertake the following activities:

- Issue notice (Form K) to the offender requiring the offender to engage a licensed plumber to carry out rectification work to terminate the unauthorised connection.
- Carry out inspection after the period allowed for rectification in the Form K to confirm if the work required has been complied with.
- Issue disconnection notice (Form J) if the unauthorised connection has not been terminated.
- Carry out inspection after the period allowed for rectification in the Form J and terminate the unauthorised connection as necessary.
- Apply for an entry warrant from the Magistrate if the offender obstructs the WSD staff from making an inspection or terminating the unauthorised connection.

(g) *in connection with paragraph 3.23 of the Audit's Report, please provide the number of existing district officers of the Customer Services Branch who are responsible for handling cases of termination of unauthorised connections;*

The Customer Services Branch has an establishment of 250 staff providing non-accounts-related services to the Community. Other than handling cases of termination of unauthorised connections that amounted to around 0.1% of the workload, they are also responsible for installation and replacement of water meters; attending complaints from customers on water supplies; disconnecting and reconnecting water supplies; and providing emergency temporary water supplies etc.

(h) *it was mentioned at the public hearing that the WSD would consider setting a timetable for replacement of large water meters which had exceeded their optimal service lives (paragraph 4.20 of the Audit Report refers). Please provide the timetable;*

The WSD plans to acquire resources for replacing the large water meters following the schedule below:

Age (Year)	Number of meters in service as at July 2011 (No.)	Target date of replacement
25mm to 100 mm meters (optimal service life of 7 years)		
Over 20	3	All by end 2011
11 to 20	3 196	80% by end 2012 Remaining 20% by end June 2013
8 to 10	7 382	50% by end 2012 Remaining 50% by end 2013
150 mm to 300 mm meters (optimal service life of 4 years)		
11 to 16	10	All by end March 2012
5 to 10	37	30 numbers by end 2012 7 numbers by end June 2013

Some of the cases of meter replacement will involve the need to sort out issues such as clearance of blocked access and repairing of dilapidated plumbing and building renovation works by the registered consumers. The WSD will as necessary apply for warrants for entering the premises to effect the works to facilitate the meter replacement with all costs so incurred to be recovered from the registered consumers.

- (i) *as stated in Table 9 in paragraph 4.25 of the Audit Report, the 150-mm to 200-mm meters of 10 government establishments had exceeded their optimal service lives. Please provide a list of the government establishments concerned and a timetable for replacing those meters;*

The information on the 10 meters in Table 9 of the Audit Report is as shown below:

Age of Meter	Size of meter	Establishment	Location	Present position
13 years	200 mm	Water Supplies Department (Check meter ^{Note 1})	Kwun Loong Lau	The check meter has already been replaced.
12 years	200 mm	Ditto	Kwun Loong Lau	Ditto
12 years	150 mm	Ditto	Yau Oi Estate	Ditto
12 years	150 mm	People's Liberation Army Forces	Naval Base, Stonecutter Island	The meter has already been replaced.
10 years	200 mm	Drainage Services Department	Sedimentation Tanks, Sewage Treatment Works, Stonecutter Island	The meter is scheduled for replacement in March 2012.
10 years	150 mm	Drainage Services Department	Chemical Dosing Facilities, Sewage Treatment Works, Stonecutter Island	The meter has already been replaced.
10 years	150 mm	People's Liberation Army Forces	Ngong Shuen Chau Barracks, Stonecutter Island	Ditto
10 years	150 mm	Fire Services Department	FSD Fire Boat Station, Tsing Yi	Ditto
5 years	150 mm	Water Supplies Department (Test meter ^{Note 2})	Hau Tak Estate	The test meter is scheduled for removal by end 2011.
5 years	150 mm	Ditto	Hau Tak Estate	Ditto

Note 1 Check meters are for capturing data for comparison with the aggregated readings of the meters of all the consumers in the concerned building. They are not for billing purpose.

Note 2 Test meters are new types of meter being tested on-site for operational functionalities and/or durability. These meters are not used for billing and they will be removed after completion of tests.

- (j) *the latest report showing the WSD's annual total income from collection of water charges as well as the loss of government revenue due to under-collection of water charges and water losses from different causes, such as unauthorised water consumption, inaccurate metering, leakages in joints and fittings of water mains, and bursts and leaks in water supply and distribution systems;*

In 2010/11, the total income from water charges is HK\$ 6.44 billion including HK\$ 2.47 billion from bill payments, HK\$ 0.16 billion as notional income for supplies to Government establishments and HK\$ 3.81 billion of Government's contributions on free allowances to consumers and income from rates.

The percentage of water consumption and losses in 2010 are as shown below:

Authorised consumption	73.5%
Unauthorised consumption	2.0%
Meter inaccuracy	2.0%
Water mains leakage and burst	20.0%
Other losses such as leakage in consumers' inside services	2.5%
Total	100%

Because of the hilly terrain in Hong Kong, the water mains are subjected to high water pressure. Loss due to leakage is therefore an operational constraint rather than a loss. Moreover, unauthorised consumption is a notional estimate following international practice and the 2% under-registration of the meter fleet is within the allowable accuracy limit, hence an allowable operational tolerance.

- (k) *in the past three years from 2008 to 2010, whether the Senior Engineer who heads the Prosecution Unit had ever sought legal advice regarding his prosecution duties, or put up suggestions and taken actions to improve the WSD's prosecution work, and if he had, please provide the details;*

The Senior Engineer who heads the PU is also responsible for quality management works. He has in the past three years from 2008 to 2010 sought legal advice on the following matters:

Area of Legal Advice Sought	No. of Cases
Sufficiency of evidence to institute prosecution	7
Plead-not-guilty (PNG) cases requesting appointing court prosecutor	4
Clarification of points of law	2
Recommendation for not proceeding with the prosecution due to untraceable suspect's whereabouts for serving summons	1
Appeal (application for review of sentence)	1

He has also put up suggestions and taken actions to improve the WSD's prosecution work as stated below:

- Periodically reviewing and updating the Prosecution Unit Handbook which summarises current practices and procedures for the investigation and prosecution of suspected waterworks offences.
- Creating one additional Assistant Prosecution Officer post in the PU in 2008/09.
- Publishing the leaflet on "Unlawful taking of water is prohibited" in early 2009.
- Securing a contract car for use by the PU in June 2009.
- Periodically soliciting relevant legal training opportunities for PU colleagues.

(l) *a progress report on the WSD's enforcement actions on Case 2 (in paragraph 2.24(b) of the audit Report) by 31 January 2012 (Tuesday).*

Latest development after the public hearing on 1 December 2011 is summarised below :

- Sufficient evidence has been collected for instituting the third prosecution. The summons has just been issued.
- The WSD had issued a warning letter to the management office of the concerned building demanding the management office to remove the unauthorised connection before 14 December 2011. The management office had removed the unauthorised connection, which was confirmed by the WSD's inspection carried out on 14 December 2011.
- In view that the construction of the permanent flushing supply system (approved by the WSD in 2008) will take some time, the management office submitted on 13 December 2011 to the WSD an application for temporary water supply for flushing. The WSD granted approval to the application on 14 December 2011. The management office anticipates that the temporary supply will be completed in one week's time.

An updated progress report will be provided to the Committee by 31 January 2012.

(m) *according to paragraph 2.4 of the Audit Report, the Prosecution Unit has an establishment of 13 staff in four different ranks. Please provide:*

(i) *the duty lists of each of the four ranks of staff; and*

The duty lists are in Appendix I.

(ii) *a table showing the total annual salaries of all the 13 staff and the total water charges recovered for water taken unlawfully in each of the years of 2008, 2009 and 2010.*

The information is presented in the tables below.

Total Annual Salaries (2009/10)

Post (Rank)	No. of Staff	Annual Staff Cost per officer (HK\$)
Superintendent (Chief Technical Officer)	1	750,120
Prosecution Officer (Waterworks Inspector)	3	483,480
Assistant Prosecution Officer (Assistant Waterworks Inspector)	3	303,840
Customer Services Inspector	6	226,620
Total Annual Staff Cost (HK\$)		4,471,800

Total Water Charges Recovered

Year	Water Charges Recovered (HK\$)
2008	316,488
2009	610,411
2010	1,035,254
Total :	1,962,153

Yours sincerely,

A handwritten signature in black ink, consisting of stylized, cursive letters that appear to be 'L T MA'.

(L T MA)
Director of Water Supplies

c.c. Secretary for Development (fax no. 3167 2591)
Secretary for Financial Services and the Treasury (fax no. 2147 5239)
Director of Audit (fax no. 2583 9063)

**Duties and Responsibilities
Superintendent/Prosecution (S/P), WSD**

The Superintendent/Prosecution (short title S/P) is responsible to Senior Engineer/Prosecution and Quality Management (short title SE/PQM) for the enforcement of prosecution under the Waterworks Ordinance and Regulations, and his duties and responsibilities are detailed below :-

- (a) To plan, organise and supervise the activities of the Prosecution Unit.
- (b) To examine cases reported to be in contravention of the Waterworks Ordinance and Regulations and to take action to prosecute the offenders if appropriate.
- (c) To ensure prosecution procedures are followed in the proper manner, and provide assistance and advice to other staff of the Department in this respect.
- (d) To give advice and instructions to Prosecution Officers, carry out on-site investigation when required and perform as prosecutor in court when necessary.
- (e) To document court cases for reference and recommend revision of the legislation if required.
- (f) To liaise with court staff and personnel of other divisions or other departments/offices in connection with prosecution matters.
- (g) To prepare monthly progress report and arrange for the compilation of statistics on the work carried out.
- (h) To arrange for the necessary staff training.
- (i) To undertake other duties as assigned by SE/PQM and Chief Engineer/Development(1).

Duties and Responsibilities
Prosecution Officer (PO), WSD

The Prosecution Officer (PO) is responsible to Superintendent/Prosecution (short title S/P) for the enforcement of prosecution under the Waterworks Ordinance and Regulations, and his duties and responsibilities are detailed below:-

- (a) To prepare case work connected with investigation / prosecution under the Waterworks Ordinance and Regulations.
- (b) To attend in court as Prosecutor.
- (c) To assist in routine office administration and general supervision of the subordinate staff.
- (d) To recommend to the Superintendent on matters presented by the Assistant Prosecution Officers within the provisions of the Waterworks Ordinance and Regulations.
- (e) To co-ordinate activities and liaise within the Unit and with the officers of the other sections / divisions of the Water Supplies Department and other government departments.
- (f) To prepare evidence and court statements.
- (g) To liaise with other departments in connection with enforcement matter.
- (h) To assist in the preparation of monthly reports on progress and the statistical returns for the quarterly report.
- (i) To make on-site investigations when required and direct / guide the Assistant Prosecution Officers in such investigations and in obtaining evidence.
- (j) To assist external investigation agencies (e.g. ICAC) when called upon to do so.

Duties and Responsibilities Assistant Prosecution Officer (APO), WSD

The Assistant Prosecution Officer (APO) is responsible to Prosecution Officer (short title PO) for the enforcement of prosecution under the Waterworks Ordinance and Regulations, and his duties and responsibilities are detailed below:-

- (a) To liaise with other departments in connection with enforcement matters.
- (b) To make on-site investigations when required, prepare proper reports on such investigations and obtain document evidence.
- (c) To investigate complaints of irregularities lodged by the public and other agencies.
- (d) To conduct cases in court, present evidence in court and act as government witness.
- (e) To assist Government Counsel when required.
- (f) To co-ordinate activities and liaise within the Unit and with the officers of the other sections / divisions of the Water Supplies Department and other government departments.
- (g) To prepare evidence and court statements.
- (h) To assist in routine office administration and general supervision of the subordinate staff.

Duties and Responsibilities

Consumer Services Inspector (CSI) of PU, WSD

The Consumer Services Inspector (CSI) of PU is responsible to Prosecution Officer (short title PO) for the enforcement of prosecution under the Waterworks Ordinance and Regulations, and his duties and responsibilities are detailed below:-

- (a) To carry out inspections relating to unauthorised extensions, illegal draw-offs, pollution, misuse and wastage of water or other irregularities.
- (b) To attend complaints of breaches of the Waterworks Ordinance and Regulations.
- (c) To assist Prosecution Officers and Assistant Prosecution Officers in legal proceedings.
- (d) To assist in the preparation of statistical returns monthly progress reports of Prosecution Unit and in the estimation of the loss of water.
- (e) To liaise with other departments and other sections in this department in connection with enforcement matters.