

Executive Summary
Direct Investigation into Water Supplies Department's
Mechanism for Handling Leaks of Private Water Pipes

Background

Water is a very precious resource in Hong Kong. The Hong Kong Government has always emphasised to the public the importance of fresh water conservation and launched the “Let’s Save 10L Water” Campaign on World Water Day on 22 March 2014. Equally important to water conservation is the proper maintenance and repairs of water pipes. If water supply facilities are left to age and decay, leaks or even more serious bursts may occur, resulting in loss, and hence wastage, of fresh water. As such, it is an important work target of the department responsible for water supply, i.e. the Water Supplies Department (“WSD”), to ensure that there is no leakage in all water supply facilities (public water supply facilities and private water pipes inclusive), and that proper repair works are carried out as soon as there is a leak.

2. Nevertheless, The Office of The Ombudsman has from time to time received public complaints against WSD for delays in following up incidents of leaking private water pipes, resulting in wastage of fresh water for prolonged periods. Earlier on, a newspaper report also noted that in handling a complaint about an already heavily leaking private water pipe, WSD had failed to urge the consumer concerned to carry out repair works quickly or arrange for immediate repair. Consequently, large amount of fresh water was wasted, while residents nearby were affected by the nuisance of water leakage. Our preliminary inquiry revealed that repair works in about half of the cases of leaking private water pipes took more than 60 days to complete. In an extreme case, the repair works took more than two years. Meanwhile, the leakage continued and it was virtually impossible to assess the huge amount of fresh water wasted.

3. In this light, The Ombudsman decided to initiate a direct investigation into the issue.

Our Findings

4. Our investigation has found the following seven major deficiencies of WSD in handling leaks of private water pipes:

(1) Over-tolerance in Case Handling and Tendency towards Inaction

5. WSD's internal instructions stipulate that after a site inspection by WSD staff upon receipt of a report on leaking water pipe, a Waterworks Inspector or an engineer will, depending on the actual circumstances, determine a period for repairs and issue a Repair Notice. Normally, a period of 14 days would be allowed unless the leakage is serious and repairs must be completed within seven days. Non-compliance will lead to issuance of a Disconnection Notice by WSD, followed by a disconnection of water supply in seven days except in special circumstances.

6. However, the cases cited in our investigation report revealed that WSD would not arrange disconnection of water supply even when the repair works remained outstanding after expiry of the period prescribed in the Repair Notice. Instead, reminders were issued one after another to remind the consumers of their responsibility to carry out the repairs. Meanwhile, the leakage continued. We noticed that basically, WSD would resort to disconnection of water supply only under extremely urgent circumstances (such as when the water leakage might put people's lives and property at risk). For cases that involved delays or where the Repair Notices and the reminders were repeatedly disregarded, WSD had never issued any Disconnection Notice. WSD's attitude amounted to procrastination and a waste of time and manpower. Such over-tolerance and connivance only gave the public the impression of inaction.

(2) Staff Failing to Follow up Cases Properly According to Established Procedures

7. As mentioned in **paragraph 5** above, upon receipt of a report on leaking water pipe, WSD will arrange for site inspection by its staff, who will then report to a Waterworks Inspector or an engineer for the latter to issue a Repair Notice prescribing a period for repairs based on actual circumstances. According to WSD's internal instructions, when the specified period expires or when repair work is completed, the staff concerned will have to conduct a site inspection again at the premises in question within five working days in all circumstances. If the registered consumer or agent is found to have failed to comply with the requirements of the Repair Notice, a Disconnection Notice would be issued within two working days after the second inspection. However, the cases cited in our investigation report showed that WSD staff had not followed these instructions strictly. When consumers were found to have

failed to repair the leaking pipes, WSD staff just conducted inspections time and again without escalating the actions, let alone disconnecting the water supply.

8. Furthermore, it is stated in the instructions that in cases where a communal service involves fresh water supply to multiple domestic units, and where no agreement can be reached after mediation by the local district office (“DO”) and the parties concerned eventually fail to repair the leaking pipes, water supply to the concerned premises may be disconnected with the approval of the Director of Water Supplies (“DWS”). However, the cases cited in the investigation report showed that WSD staff just kept copying Repair Notices to the local DOs without specifying what substantive actions they expect from the DOs. Nor did the staff seek DWS’s approval to arrange for disconnection of water supply afterwards. This showed that WSD’s frontline staff did not fully understand the requirements in the instructions, and senior management also failed to monitor staff efficiency and the case progress effectively.

9. WSD informed this Office in August 2015 that, since November 2014, the Department has set up a new monitoring mechanism, with a directorate officer responsible for monitoring the progress of private water pipe leak cases on a monthly basis. Also, since the issue of a new internal instructions (“new guidelines”) on 18 May 2015, WSD has, from January to July 2015, disconnected water supply in 44 cases where consumers have failed to fix the leaking private water pipes within the prescribed period. This was nearly the full-year figure of the past year.

(3) Instructions Unclear and Incomprehensive

10. The instructions that WSD had been using before May 2015 did not define clearly the circumstances under which a leakage should be classified as serious. In fact, when examining the photo records of some leakage cases during our investigation, we noticed that the pools of water at the locations in question were actually ankle-high, yet WSD staff described the leakage cases as “moderate”. WSD agreed that different officers might have different judgements regarding the seriousness of a leakage. WSD had subsequently reviewed its procedures for handling leaking private water pipes and issued in May 2015 new guidelines in which the magnitude of leakages is more clearly and specifically defined, with photo illustrations of different scenarios to help its staff make judgements. We consider that in the absence of clear guidelines, deviations in judgement by different officers is no surprise, as the frontline officers can only rely on their own experience in assessing the magnitude of a leakage. An even bigger problem is that the assessment results of the individual frontline officer will affect the follow-up

actions to be taken. Incorrect assessment may result in delay in taking more decisive actions, resulting in more fresh water being lost.

11. As mentioned in **paragraph 7** above, WSD staff failed to act in accordance with its instruction to take decisive action (such as disconnecting water supply) after issuing the Repair Notice. The crux of the problem lies in the absence of monitoring procedures in WSD's old instructions. There was no mention of a mechanism for bringing up cases regularly for examination. Nor were the staff instructed to set a target timeframe for case resolution or bring more complicated cases to their supervisors for reviewing progress such that contingency measures (such as joint-departmental actions to resolve a case) could be taken where warranted. Even though the new guidelines stipulate that supervisors should review the case progress, specific measures for speedy resolution are not set out. We consider that if WSD can establish in its new guidelines a mechanism for regular case review and monitoring of case progress with specified timeframes for case resolution, it would help its staff take more decisive and proper actions to resolve leakage cases promptly.

(4) Insufficient Records of Private Water Pipe Plans Causing Delay in Repairs

12. WSD keeps the plans and drawings of all Government-built water mains networks, but the water pipe networks in private lands are not included in these plans and drawings. Nonetheless, when applying to WSD for water supply, registered consumers or agents are required to submit water pipe drawings for the Department to scrutinise whether the routing, specifications and associated fittings are up to standards. After granting approval, WSD will file away the drawings. So, WSD should in principle also have the drawings of the private water pipe networks. WSD stated that such drawings are only schematic and might not clearly show the precise locations of the water pipes in private lands, and that those drawings would not be helpful for WSD to obtain sufficient information about the water pipe networks.

13. We consider it highly unsatisfactory for WSD, the department responsible for water supply, not to know where the water it supplies ultimately goes to. It may not be able to discover, let alone prosecute, any water theft by those who deliberately exploit the loophole. To increase the efficiency in handling cases of leaking private water pipes in future, we urge WSD to actively consider collating the drawings and information provided by consumers/agents upon their applications for water supply, so that its frontline staff can refer to such records when investigating incidents of water

leakage. Even though the drawings may not show accurately the most up-to-date locations of water pipes, they can at least provide some general information.

14. In response to our enquiries, WSD indicated that since 2014, it has been scanning and uploading to its computer system by phases water pipe drawings submitted by applicants after 2005. As at July 2015, WSD has scanned and uploaded more than 20,000 such drawings. The exercise is expected to be completed by end of 2016. WSD believed this measure would facilitate its frontline staff in locating the private water pipe networks in a more accurate and expeditious way, thereby reducing the time in handling such cases.

(5) Duration of Leakage Not Regarded a Major Factor in Assessing the Magnitude of Cases

15. WSD indicated that although the amount of fresh water lost was one important factor in determining the magnitude of a leakage incident and whether disconnection of water supply is necessary, it was not the only factor for consideration. However, we consider that even the leak is minor and the amount of fresh water lost is apparently small, it can run into a massive total if the problem persists over time. As shown in the cases cited in our investigation report, WSD had allowed some private water pipes to leak for more than a year. This is simply unacceptable. WSD, therefore, should take into account the duration of leakage as a major factor in assessing the magnitude of a case, so as to closely monitor the problem and take timely and decisive action to resolve it.

(6) Failure to Address the Problem of Complex Responsibility for Repairing Private Water Pipes

16. Under the Waterworks Ordinance (“the Ordinance”), registered agents are responsible for maintaining the communal water pipes and associated water supply facilities in private estates, while individual consumers are responsible for maintaining the water pipes within their own premises. Problem will naturally arise if a leakage occurs at the communal section of an estate’s water supply network and affects a number of domestic units, but no agent is available to arrange for repairs. Moreover, section 12(2) of the Ordinance stipulates that except in case of emergency, WSD officers are not empowered to enter any premises unless the Water Authority (“WA”) or a person authorised by him has first obtained the consent from the occupant of such premises or

a magistrate's warrant. Therefore, repairs of leaking private water pipes can be a complicated task.

17. According to WSD's internal instructions, if ten households or more are involved in a leakage in private water pipes, or the building concerned is without an owners' corporation/owners' committee/property management office, WSD staff will write to the local District Office ("DO") to inform the latter of the case and ask the latter to liaise and mediate with the registered consumers residing in the affected building, so that repair works can be arranged as soon as possible. However, as seen in a number of cases in the investigation report, WSD staff just routinely copied to the local DO the letters addressed to the consumers/agents, without stating clearly what kind of assistance is expected from the DO, or how the two departments can coordinate their work. Worse still, WSD staff seldom took the initiative to follow up with the DO on the progress of matters. We consider that WSD should work out a strategy and a more proactive approach to address the complex issues regarding the responsibility for repair and maintenance of private water pipes, such as formulating more specific arrangements on coordination with DOs under the Home Affairs Department ("HAD"), including engaging community leaders or representatives to facilitate the process, and stepping up public education on the maintenance responsibility of private water pipes.

18. WSD explained that based on its experience, when doing repairs of private water pipes for consumers, it would often get into disputes with them on various matters, such as the repair methods, works quality and standards, fees and charges, accident insurance for the works involved, compensation for articles demolished or damaged in the repair process as well as maintenance service subsequent to completion of repair works. It would be difficult to reach a consensus. Hence, WSD would try to urge the consumers to carry out the repairs themselves, rather than repairing on their behalf. We consider it proper in principle for WSD to adopt such an approach in general circumstances. However, in an emergency (such as when people's lives or property are at risk) or prolonged and serious leakage, or where complicated procedures are involved in the repair works (as in Case 5 in Chapter 5), WSD should be obliged to step in and take prompt action to stop the leakage. Where necessary, it should carry out the repair works first and recover the costs from the responsible parties later, so as to stop the loss of fresh water.

19. During our investigation, we looked up some information from foreign countries and noted that the laws in some jurisdictions empower the local water supply companies to enter private premises for repairing water pipes on behalf of the

consumers, with the costs covered by an annual fee prepaid by those consumers. We consider that WSD can make reference from such overseas practices. Where necessary, the Department should conduct a public consultation before considering if and how it will further explore the feasibility of such practices.

(7) Unwilling to Recover Repair Costs, thereby Encouraging Evasion of Responsibility

20. Section 17(3) of the Ordinance stipulates that WA can alter or repair an inside service system or a communal service system at the request of a consumer or agent, and the costs thereof shall be payable by the person at whose request such alteration or repair is carried out. Moreover, under section 17(4), if a consumer or agent fails to carry out the repairs or other works as specified in the Repair Notice issued by WA under section 16, WA may carry out the repairs or other works and the cost thereof shall be payable by the consumer or agent. However, before WSD issued the new guidelines on 18 May 2015, it did not recover the cost in each and every case. WSD contended that it would assess the amount to be recovered to see if it is sufficient to cover the administrative cost before deciding whether the cost should be recovered. The cases cited in the investigation report showed that WSD made no attempt at all to recover the relevant costs from the consumers and it had not even issued a demand note. According to information provided by WSD, in the past five years, there were three cases where the Department carried out repairs of private water pipes on behalf of the consumers due to emergency. WSD, however, did not recover the relevant repair costs in the end. Under the new guidelines, WSD will issue a demand note to consumers/agents after conducting repair works to recover the costs involved. Nevertheless, whether WSD will indeed recover the cost proactively after the issue of demand notes is yet to be observed.

21. We consider that WSD's failure to proactively recover the repair cost has indirectly encouraged consumers/agents to evade their responsibility. First of all, leakage from communal service pipes will not cause higher water charges for the residents. Unless their water supply is affected, there is no incentive for them to repair the leaking pipes. If WSD steps in and carries out the repair works but later decides not to recover the costs thereof from the residents concerned, this will only encourage more residents not to cooperate, and it is also unfair to those who abide by the law. The cases cited in the investigation report showed that it had cost WSD a lot of money and manpower in repairing the leaking pipes (including excavation, installation of valves,

addition of pipes, etc). It was unreasonable that WSD subsequently did not recover any costs from the residents concerned.

22. As regards repair works carried out in other non-emergency situations, WSD indicated that there were two such cases in the past five years and all the repair costs were recovered successfully. Those two cases were, however, initiated by the consumers who requested WSD to repair the pipes on their behalf, and they had signed an undertaking to acknowledge their responsibility for the costs. It was, of course, not at all difficult for WSD to recover the repair costs.

23. Under section 10(a) of the Ordinance, WA may disconnect a fire service or inside service if any charge in respect of the fire service or inside service is not paid. We consider that WSD should be more proactive and decisive in recovering repair costs. In case the consumers concerned are not cooperative, WSD should exercise its power to disconnect the water supply as a deterrent.

Recommendations

24. We note that since the commencement of our inquiry on this topic, WSD established a new monitoring mechanism in November 2014 by assigning a directorate officer to oversee the case progress of leaks of private water pipes and provide guidance for taking decisive actions such as urging consumers to fix the leaking water pipes. Since this Office declared direct investigation on this topic, WSD issued new guidelines in May this year to set out a clearer workflow and timeframe for handling private water pipe leakages. It has also stepped up efforts in taking enforcement actions. In short, WSD has taken a more proactive approach in following up private water pipe leakages.

25. Despite the above, The Ombudsman considers there to be room for further improvement and has made the following ten recommendations to **WSD**:

Improve Procedures and Efficiency in Handling Complaints about Leaking Private Water Pipes

- (1) To monitor and review promptly the implementation of the new internal guidelines issued in May 2015, and ensure that the magnitude of leakage is clearly defined and the mechanism for monitoring case progress is adequate.

- (2) To ensure that the frontline staff strictly adhere to the internal instructions, which include site inspection within five working days upon expiry of a Repair Notice. Where repair of the pipe concerned is yet to be carried out, a Disconnection Notice of water supply should be issued and disconnection should be arranged in accordance with the internal instructions, unless there are reasonable justifications not to do so, with approval by senior officers.
- (3) To strengthen staff training so that staff members are familiar with the instructions on handling of leakage cases, and acquire the methods and skills in handling complicated cases to avoid delay in action.
- (4) To step up the monitoring of installation or alteration works of water mains networks in private premises to ensure that consumers/agents obtain prior approval from WSD and submit the up-to-date layout of the networks to WSD for records, as well as collating information on these layouts for frontline staff's reference.
- (5) To consider following the practice of other countries, such as requiring prepayment of charges from consumers for repairing private water pipes in non-emergency situations to prevent persistent leakage and loss of fresh water. Public consultation may be conducted if necessary.

Assessment on Urgency of Water Mains Repairs

- (6) To include the duration of leakage as a major consideration when assessing the magnitude of leakage cases.
- (7) To establish the Water Intelligent Network as soon as practicable to collect data about water mains networks to facilitate more comprehensive and accurate estimates of the amount of water leakage from inside service networks throughout the territory. WSD should also actively install master meters or monitoring meters in private estates where no such meters are installed in order to estimate more effectively the loss of fresh water.

Urging Consumers to Assume Responsibility for Repairs

- (8) To formulate a feasible coordination plan with HAD, such as seeking the cooperation of community leaders/representatives to resolve the repair problems jointly with consumers.
- (9) To enhance public education on the responsibility of consumers and registered users for repairs of communal service, fire service and inside service under the prevailing Ordinance.
- (10) For cases where repairs have already been carried out for consumers, to consider adopting the same approach in recovering outstanding water charges from consumers, i.e. to issue demand notes and recover the relevant costs through legal proceedings. For consumers who have defaulted payments for a long period of time, WSD should consider exercising its power under the Ordinance to disconnect the water supply as a deterrent.

26. WSD has accepted the above recommendations, and is taking follow up actions. We thank WSD for its cooperation throughout the course of this investigation, and welcome its acceptance of our recommendations. We will continue to monitor the progress until WSD has implemented all our recommendations.

Office of The Ombudsman
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