CONTROLLING OFFICER'S REPLY

(Question Serial No. 1676)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

In 2013 and 2014, the leakage rates of water mains were 17% and 16% respectively. What were the respective quantities of fresh water and water costs involved in the leakage incidents in these 2 years? For the construction of stages 3 and 4 of the replacement and rehabilitation programme of water mains last year, was there any project delay or/and over-spending of the budgeted amount?

Asked by: Hon CHAN Hak-kan (Member Question No. 25)

Reply:

With service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure. The high water pressure together with ground settlement, ground upheaval, external loading and vibration makes our ageing water distribution network prone to leakage and bursting. Therefore, water main leaks and bursts are considered more as operational constraints; and it is not considered appropriate to deduce a cost for the water drained away.

In 2014, while the progress of the Stage 4 Replacement & Rehabilitation (R&R) works was on schedule, the Stage 3 R&R works was delayed by four months due to traffic constraints, works interface with other projects and other special circumstances. The respective expenditures for either stage are within budget.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1677)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is mentioned in Matters Requiring Special Attention in 2015-16 that the Department will "carry out a review study on the total water management strategy" and "continue to carry out investigation and studies on the use of reclaimed water for toilet flushing and other non-potable purposes in the north-eastern part of the New Territories including Sheung Shui and Fanling". What are the details and estimated completion dates of the above two studies?

Asked by: Hon CHAN Hak-kan (Member Question No. 26)

Reply:

We commenced a consultancy study for the review of the Total Water Management (TWM) Strategy in October 2014 for completion by mid 2017. The study is to review the TWM Strategy promulgated in 2008 including the water demand and supply management measures implemented, to formulate an updated strategy and to recommend new initiatives to strengthen our resilience and preparedness against uncertainties and challenges.

With regard to the water reclamation project, we have completed technical studies including water quality standard and pilot test on the production of reclaimed water using the treated effluent of the Shek Wu Hui sewage treatment works for flushing and other non-potable uses in the north-eastern part of the New Territories. We have started planning of the infrastructure and target to commence the supply of reclaimed water starting from 2022. We will conduct a study on the financial and legal aspects of the supply of reclaimed water. This study is expected to be completed by 2016.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1678)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (3) Customer Services

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding the performance measures under Programme (3), will the Government advise the Committee on the following:

1. What were the reasons for failing to achieve the targets of "issue of final bill upon closure of account within three days" and "refund of water deposit within nine days" in the past 2 years? What were the respective numbers of days and reasons for the longest delay in each year?

2. What were the reasons for failing to achieve the target of accuracy of water meters in the past 2 years? What were the numbers of cases of inaccuracy exceeding plus or minus 3% in these 2 years? What were the respective amounts involved in the most serious cases of overcharging or undercharging of water tariff? What is the expected date of achieving the target of having 100% of water meters with accuracy level within plus or minus 3%?

Asked by: Hon CHAN Hak-kan (Member Question No. 27)

Reply:

1. (a) Issue of final bill after closure of account within three days

In 2013 and 2014, of the 107 065 and 123 543 cases of closure of account by the registered consumers, the number of cases that could not achieve the target for issuance of final bills were 397 (0.37%) and 433 (0.35%) respectively. The cases requiring the longest time for issuance of final bills in 2013 and 2014 were 46 days and 23 days respectively. The reason for not achieving the target in these cases was mainly because they involved exceptionally high consumption that required further special meter reading and site inspection to verify the correctness of the billable amount before issuance of final bills.

(b) Refund of water deposit within nine days

In 2013 and 2014, of the 131 685 and 140 250 cases of refund of water deposits, the number of cases that could not achieve the target were 297 (0.23%) and 201 (0.14%) respectively. The cases requiring the longest time for refund of water deposits in 2013 and 2014 were 62 days and 44 days respectively. The reasons for not achieving the target in these cases were mainly because of mis-location of the relevant documents and incomplete submission made by the applicants for processing the refund.

2. Based on the consideration of cost-effectiveness, the water meters in use are mostly mechanical type as in other developed cities. Due to wear and tear, the accuracy of mechanical water meters will gradually deteriorate when they are put in operation. Since regular meter replacement is the most economical and effective way to maintain the accuracy level of the water meter fleet, we have embarked on an extensive meter replacement programme and have improved the compliance rate of water meter accuracy (within ±3%) from 92.7% in 2006 to 96.7% in 2014.

In 2012-13 and 2013-14, there were 343 and 237 water meters tested for accuracy respectively as requested by the customers, and 18 and 11 of them had inaccuracy exceeding ± 3%. For water meters tested to be inaccurate, adjustment of the water charges will be made to the concerned accounts according to Regulation 31 of the Waterworks Regulations. Therefore, there will be no over-charging or under-charging of water charges.

100% compliance of water meter accuracy is the ultimate target when there is further technology advancement such that it is cost-effective to use water meters that are free from mechanical wear and tear. We will continue to review the water meter replacement strategy and strive for continuous improvement of the accuracy of water meters.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2037)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

How many resources will be deployed by the Water Supplies Department for operating and maintaining fresh water supply and distribution systems in 2015-2016? Among them, how many will be used for replacing old underground water mains? What are the timetable for such work and the district distribution of the water main replacement works?

Asked by: Hon CHAN Han-pan (Member Question No. 40)

Reply:

In 2014-15, the recurrent expenditure for maintenance and operation of the distribution and supply systems funded by Head 194 is about $900 million. The estimated expenditure in 2015-16 is about the same as in 2014-15.

As for the Replacement and Rehabilitation (R&R) programme of water mains, it is funded by the Capital Works Reserve Fund under Head 709 and the estimated expenditure is $2,392 million in 2015-16. The R&R programme will be substantially completed by end 2015. The planned lengths of water mains to be replaced or rehabilitated in the 18 districts of Hong Kong in 2015-16 are shown as follows:

	District	Planned length of water mains to be replaced/rehabilitated in 2015-16 (km)
Hong Kong	Central & Western	11
	Wan Chai	13
	Eastern	13
	Southern	7
Kowloon	Kwun Tong	14
	Wong Tai Sin	5
	Kowloon City	13

	Yau Tsim Mong	9
	Sham Shui Po	7

	District	Planned length of water mains to be replaced/rehabilitated in 2015-16 (km)
New Territories	Sai Kung	23
	Sha Tin	8
	Tai Po	8
	North	26
	Yuen Long	34
	Tuen Mun	17
	Tsuen Wan	12
	Kwai Tsing	23
	Islands	7
	Total	250

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0684)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

There are about 7 800 kilometres of water mains in Hong Kong and most of them are laid underground. Although the Administration anticipates that the replacement and rehabilitation programme of water mains will be completed in this financial year, some water mains are still in need of emergency repairs from time to time. In this regard, will the Government advise this Committee on:

(1) The numbers of occasions when the Government needed to carry out emergency repair works on water mains, classifications of reasons, quantities of water loss (fresh water and salt water) and total time spent on the repair works in the past three years;

(2) The current establishment and expenditure for handling emergency and non-emergency repair works; whether outsourcing of repair works is involved, and if yes, the number of repairs and expenditure involved in the past three years; and

(3) The respective production costs for the loss of fresh water and salt water for flushing due to damage of water mains in the past three years? Please provide the relevant estimates.

Asked by: Hon CHAN Yuen-han (Member Question No. 17)

Reply:

(1) In the past three financial years (i.e. 2012-13, 2013-14 and 2014-15 (up to February 2015)), the number of water main bursts that called for emergency repair was 267, 241 and 156 respectively. The annual quantity of fresh and salt water drained away due to water main bursts was less than 0.02% of the total water supplied in the respective years. The time spent on the repair works was on average about 10.6 hours per burst case. Burst of

water mains is commonly due to a confluence of factors, including ageing of water mains, ground settlement or upheaval and external loading or vibration.

(2) The staff establishment as at February 2015 for handling both emergency and non-emergency repair works for the water supply network including isolation of burst water mains or leaking water mains, arranging temporary water supply, supervision of the repair works etc. is about 300 (including inspectors, works supervisors and artisans/workmen) and the corresponding staff cost is about $90 million in 2014-15. The repair works are carried out by term contractors. In the past three financial years, the number of emergency and non-emergency repair works was about 11 880, 9 470 and 8 940, and the associated expenditure were about $162 million, $140 million and $113 million respectively.

(3) With service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure. The high water pressure together with ground settlement, ground upheaval, external loading and vibration makes our ageing water distribution network prone to leakage and bursting. Therefore, water main leaks and bursts are considered more as operational constraints and it is not considered appropriate to deduce a cost for the water drained away.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)104

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1387)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

What were the Government expenditures on the maintenance of the dedicated aqueduct for Dongjiang (DJ) water in the past five years? Could the Government provide the leakage rates of the dedicated aqueduct for DJ water in the past five years for reviewing the effectiveness of the maintenance work?

Asked by: Hon FAN Kwok-wai, Gary (Member Question No. 32)

Reply:

The expenditures on the maintenance of the aqueducts for conveyance of Dongjiang water in the Hong Kong territory in the past five years were :

Financial year	2010-11	2011-12	2012-13	2013-14	2014-15
Cost ($ million)	17.4	14.0	12.6	13.2	13.7

In the past five years, there were only one to two cases per year involving minor leaks at the pipe joints of the water mains in the aqueducts. The leakage rates were negligible.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)105

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2279)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding the planning and investigation study for a desalination plant at Tseung Kwan O, will the Government advise this Committee on the following:

In "Matters Requiring Special Attention" in 2014-15, it is stated that the Government "will continue with the planning and investigation study for a desalination plant at Tseung Kwan O", while in "Matters Requiring Special Attention" in this year, it is stated that the Government will "take forward the design for a desalination plant and related infrastructure in stages at Tseung Kwan O". Does this imply that the investigation study for the desalination plant has been completed? When was the investigation completed? What is the estimated time for publishing the findings of the study?

It is stated that the Government will "take forward the design for a desalination plant and related infrastructure in stages at Tseung Kwan O". What are the details? Please provide the information using the table below.

Stage	**Item**	**Expected commencement date**	**Details of work**	**Expenditure involved**
1 (example)				
2				
3				
4				

Asked by: Hon KWOK Dennis (Member Question No. 19)

Reply:

We engaged a consultant to carry out a planning and investigation study for the construction of a desalination plant in Tseung Kwan O. The study commenced in December 2012 and is now largely completed.

The study has confirmed the technical feasibility including the environmental viability of the project. We reported the key findings and seek the support of the Legislative Council Panel on Development in March 2015 for proceeding to the next stage of the project for the review and design and associated site investigation works for the first stage of the proposed desalination plant.

The details of the next stage of the project are provided as follows: -

Stage	Item	Expected commencement date	Details of work	Expenditure involved
Review and Design	Water mains for delivery of water from desalination plant to service reservoirs (by in-house resources)	already commenced in Q4 of 2014	- Review of findings of the planning and investigation study related to the water mains - Carrying out associated site investigation works - Design of the water mains - Preparation of the tender document and assessment of tenders	$5 million
Review and Design	First Stage of the proposed Desalination Plant (by consultants)	Q4 of 2015	- Review of findings of the planning and investigation study and undertaking further impact assessments - Carrying out associated site investigation works - Preparation of design - Preparation of tender document	$155 million

			and assessment of tenders	

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)106

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2280)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

a) In the past 2 years (2013-14 and 2014-15), the number of projects under planning increased significantly from 19 items in 2013 to 29 items in 2014, and this year, it is estimated that there will be 30 items. Among the 30 items estimated for this year, how many have been commenced or are there any duplications with the items involved in the past 2 years, and if the project items of the past 2 years are included, what are the reasons for the slow progress in the planning of such items?

b) Please provide the details of each project under planning.

	Item	**Date of planning**	**Details of work / progress**	**Expenditure involved**	**Expected commencement date of works**
1 (example)					
2					
3					
4					
5					

Asked by: Hon KWOK Dennis (Member Question No. 20)

Reply:

a) The projects under planning are mostly at conceptual and preliminary planning stage and are yet to be included in the Public Works Programme (PWP). They are subject to change and refinement and will go through the processes including defining scope

of works, generation of technically and financially viable options, and preliminary impact assessment before submission for inclusion in the PWP. Depending on the complexity and urgency of the project, it will normally take about 2 to 3 years for planning and another 4 years for detailed feasibility study, investigation, design, public engagement and tendering before commencement of construction of work. Some projects may not proceed after preliminary planning while others may go through to the subsequent stages of project delivery. New projects may also be added each year to the planning list. Out of the 19 and 29 projects included in the planning lists of 2013-14 and 2014-15, 8 and 22 respectively have remained in the planning list of 2015-16.

b) The 30 projects under planning in 2015-16 are categorised into three groups as provided in the table below. They are subject to change and refinement.

Group	**Project under planning (Note)**	**Expenditure involved**	**Expected commencement date of works**
A	Provision of water supply to cope with land supply and new developments (23 projects)	In the order of $7,100 million (based on preliminary cost estimation)	Project programme to be determined during the planning process
B	Enhancement or improvement of existing water supply infrastructure including water mains, water treatment works, service reservoir and pumping station (5 projects)		
C	Implementation of new water resources including seawater desalination (2 projects)		

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2281)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

a) Apart from expanding the seawater flushing system and commissioning the desalination plant at Tseung Kwan O in 2020, the Government indicated that it planned to provide reclaimed water in the North East New Territories (NENT), and promote "grey water reuse" and "rainwater harvesting". The study of the supply of reclaimed water in NENT has also been reflected in "Matters Requiring Special Attention" in this year. In late November last year, this Committee was informed of the progress of the study that the tertiary treated effluent from the Shek Wu Hui Treatment Works would be converted into reclaimed water for supplying to the NENT New Development Areas, Sheung Shui and Fanling for flushing and non-potable uses. Today, four months later, what are the progress and details of the study? What is the estimated time for completion of the study? Please advise on the breakdown of the estimated expenditure on the study.

b) What are the specific measures for and progress of the promotion of "grey water reuse" and "rainwater harvesting"? Please provide the information in detail.

c) Apart from the items mentioned above, has the Administration taken any other measures to develop sustainable water resource management? If yes, what are the details? If no, what are the reasons?

Asked by: Hon KWOK Dennis (Member Question No. 22)

Reply:

a) With regard to the water reclamation project, we have completed the technical studies including water quality standard and pilot test for production of reclaimed water using the treated effluent of the Shek Wu Hui sewage treatment works for flushing and other non-potable uses in the north-eastern part of the New Territories. We have started

planning of the infrastructure and target to supply reclaimed water starting from 2022. We will also conduct a study on the financial and legal aspects of the supply of reclaimed water. This study is targeted for completion by 2016. The estimated expenditure on this study in 2015-16 is $4 million.

b) With regard to the use of grey water recycling and rainwater harvesting systems, we have completed the studies on establishing technical and water quality standards. We will provide more detailed guidelines on the use of recycled water in government buildings. Furthermore, to promote wider use of recycled water in private sector, we will work in collaboration with the Hong Kong Green Building Council in the review of the standard for assessing green buildings in respect of the weighting for the use of recycled water.

c) Apart from the above, we have been implementing a number of measures to cope with the increase in water demand due to population and economic growth, and to enhance the resilience of our water sources to climate change impacts. The measures include progressive establishment of the Water Intelligent Network to monitor the conditions of the water supply networks to minimise water loss, and stepping up the initiatives of water conservation.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2282)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The Government has reduced the number of items under "Matters Requiring Special Attention" from 5 last year (2014-15) to 2 this year, retaining the items of "monitor radiation levels in raw and treated fresh water at radiation screening centres" and "execute a water safety plan for the Department according to the WHO Guidelines" only. What are the reasons for the deletion? Does this mean that the Government will only complete the items mentioned? If no, which parts of the estimates can reflect the deleted work items? Are there any changes in the forms of such work? How will the work be performed?

Asked by: Hon KWOK Dennis (Member Question No. 24)

Reply:

The items taken out from the "Matters requiring Special Attention" in the Controlling Officer's Report of the Water Supplies Department (WSD) in 2015-16 include -

1. continue to ensure that the quality of treated fresh water supplied to consumers conforms to current international standards.
2. continue with the regular water quality surveys and monitoring at all source points, in various treatment stages and throughout the entire supply and distribution systems.
3. continue to publish water quality data through the department's website.

These items have become a standing arrangement of the department or part of our routine activities. The details of the work for item 1 and item 2 and related performance measures are provided in paragraphs 8 to 10 of the Controlling Officer's Report for Head 194.

WSD will continue to monitor water quality regularly from all source points on an ongoing basis to ensure that the quality of freshwater supplied to consumers conforms to international standards. WSD will also continue to publish water quality data on the department's website at half-yearly intervals.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)109

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0769)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding "to plan and develop water resources and to design and construct water supply systems" mentioned in the Aim of the Programme, will the Government advise this Committee on:
(1) The proportions of the sources of fresh water supply in Hong Kong, and the consumptions and unit costs of various water resources in the past three years; and
(2) The progress of the study of water reclamation and estimated implementation timetable?

Asked by: Hon KWOK Wai-keung (Member Question No. 33)

Reply:

(1) The proportions of the sources of fresh water supply in Hong Kong, the respective water consumptions and unit costs in the past three financial years are as follows:

	2012-13			**2013-14**			**2014-15 (Up to Jan 2015)**		
	Consu-mption (million cubic metre)	**%**	**Cost ($/cubic metre)**	**Consu-mption** (million cubic metre)	**%**	**Cost ($/cubic metre)**	**Consu-mption** (million cubic metre)	**%**	**Cost[#] ($/cubic metre)**
From water collected locally	218	23.4	4.0	339	36.2	4.0	242	29.8	4.2
From Dongjiang	715	76.6	8.4*	598	63.8	8.6*	569	70.2	9.1*

water									
Total quantity of fresh water supply	**933**	**100**	**7.9**	**937**	**100**	**8.1**	**811**	**100**	**8.4**

[#] Based on 2014-15 financial year projections.

* Based on the water supply ceiling of 820 million cubic metres a year under the agreement.

(2) We are planning the use of reclaimed water in the north-eastern part of the New Territories including Sheung Shui, Fanling and new development area for toilet flushing and other non-potable uses. We will also conduct a study on the financial and legal aspects of the supply of reclaimed water. The study is targeted for completion by 2016.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2769)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: Not specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is mentioned in the Budget that the Government will start working on the design of a desalination plant at Tseung Kwan O and the associated infrastructure in phases this year. It is expected that the desalination plant will commence operation in 2020 and the annual output will account for five to ten per cent of Hong Kong's fresh water consumption. Will the Government advise on the latest estimated construction cost of the desalination plant; and the reduction in the quantity of Dongjiang water purchased in Hong Kong and the total amount of public money saved upon the commissioning of the desalination plant?

Asked by: Hon LAM Tai-fai (Member Question No. 26)

Reply:

We have largely completed a planning and investigation study for the construction of a desalination plant in Tseung Kwan O. Based on the study, the first stage of the plant and associated works (for the first stage output capacity of 135 000 cubic metres per day) accounts for about five per cent of Hong Kong's fresh water consumption. We plan to seek funding in 2015 for the review of the latest desalination technology, detailed design and associated site investigation works for the first stage of the proposed desalination plant. The cost estimate of the works will be determined at the design stage.

In regard to the quantity of Dongjiang (DJ) water to be purchased, we will in due course carry out a detailed analysis based on the fresh water demand forecast and the water supply from local yield as well as from the desalination plant upon its commissioning with a view to meeting the needs of Hong Kong with 99% reliability in water supply. At this stage, it is too early to predict the quantity of DJ water to be purchased for Hong Kong by that time.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0272)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Does the Water Supplies Department have any plan to conduct studies on the control of fresh water use in government departments in the coming year? What is the expenditure involved?

Asked by: Hon LAU Wong-fat (Member Question No. 14)

Reply:

Following the completion of the water efficiency audit (WEA) studies with the Leisure and Cultural Services Department (LCSD) and the Food and Environmental Hygiene Department (FEHD), we will continue the WEA study with the Correctional Services Department (CSD) in the coming year. The Water Supplies Department has issued the best water-using guidelines to LCSD and FEHD and will issue similar guidelines to CSD upon completion of the WEA study.

The expenditure involved in the WEA study with CSD is estimated to be $1.5 million in 2015-16.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1866)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

According to Paragraph 122 of the Budget Speech, to minimise water loss, the Government will progressively establish Water Intelligent Network by installing sensors in the water supply networks to monitor their conditions, as well as examine other techniques, such as data mining, to predict water main bursts for early identification and handling of defective water mains. Please advise on the expenditure on and implementation timetable for each measure; and the expected percentage reduction in water loss upon the implementation of these measures.

Asked by: Hon LEE Wai-king, Starry (Member Question No. 26)

Reply:

The Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will make use of some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks. We will in parallel explore the latest data mining technique in predicting burst of water mains for assisting in the early identification of defective water mains for repair and/or replacement.

In regard to the development of the WIN, WSD is conducting studies and trials and will continue to set up DMAs. We will also explore the applications of the data mining techniques in pipe failure prediction using in-house resources at the initial stage. The estimated expenditure for engaging solution providers/equipment vendors to conduct studies and trials and employing contractors to set up DMAs is $150 million in 2015-16. Upon completion of the studies and trials, WSD will ascertain the timetable for the full

implementation of WIN. The studies will also look at the reduction in leakage rate that it can achieve.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2512)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

As mentioned on page 856 of Volume I of the Estimates, the Water Supplies Department will "ensure that test samples taken from treatment works, service reservoirs, connection points, consumers' taps, etc., conform to the standards stipulated in the WHO Guidelines". Regarding this work, could the Department advise this Committee on the following:

(1) What are the standards stipulated by the WHO?

(2) Are there any obvious differences in the water quality standards and test results among factories, commercial buildings and domestic buildings? If yes, what are the differences?

(3) At which of the components of the water supply chain (i.e. the treatment works, service reservoir, connection point and consumers' tap) is the best and the worst water quality found?

Asked by: Hon LEONG Kah-kit, Alan (Member Question No. 12)

Reply:

(1) The latest edition of the WHO's "Guidelines for Drinking-water Quality" (WHO 2011) has established health-based guideline values for a total of 92 parameters, including 89 chemical, one bacteriological and two radiological parameters to ensure the safety of the drinking water supply for the protection of public health.

(2) There is no difference in the water quality standard amongst different types of buildings. According to the monitoring results, the water quality of the water supply in Hong Kong complies fully with the WHO 2011 and there is no difference in the water quality amongst different types of buildings.

(3) According to the monitoring results, the quality of the water leaving water treatment works and at the various source points complies fully with the WHO 2011. There is no difference of significance in the water quality amongst different sampling locations. However, the quality of water at consumers' taps may sometimes be affected by the condition of the water storage tanks and water pipes within their premises or lot boundaries. WSD has since July 2002 launched the "Fresh Water Plumbing Quality Maintenance Recognition Scheme", which has been re-titled to "Quality Water Supply Schemes for Buildings – Fresh Water and Flushing Water" in March 2015 to encourage the building owners and property managers to carry out regular cleansing of their water storage tanks and proper maintenance of their inside service to preserve good water quality at taps.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)114

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2517)

Head: (194) Water Supplies Department

Subhead (No. & title): Not Specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The work of the Water Supplies Department includes "operating and maintaining fresh water supply and distribution systems" and "operating and maintaining salt water supply and distribution systems". Will the Department advise this Committee on the following:

(1) In 2014-15, how many water main burst incidents had occurred due to the ageing of fresh water mains and salt water mains for flushing? For each burst water main, how many years had it been used and what was its originally expected lifespan?

(2) What measures has the Administration taken to address the problems of bursting and leakage of fresh water mains and salt water mains for flushing in 2015-16? What are the expenditure and manpower involved?

(3) Please provide the total lengths, existing ages, average ages, median ages and maintenance costs in 2014-15 of the fresh water mains and salt water mains for flushing in the territory.

Total length of fresh water mains: _____

Total length of salt water mains for flushing: _____

Fresh water mains	Proportion to total length	Maintenance cost in 2014-15 (Hong Kong dollars)
Below 5 years		
5 to 10 years		
10 to <15 years		

15 to <20 years		
20 to <25 years		
25 to <30 years		
30 to <35 years		
35 to <40 years		
40 to <45 years		
45 to <50 years		
50 years or above		

Average age: _____

Median age: _____

Salt water mains for flushing	Proportion to total length	Maintenance cost in 2013-14 (Hong Kong dollars)
Below 5 years		
5 to 10 years		
10 to <15 years		
15 to <20 years		
20 to <25 years		
25 to <30 years		
30 to <35 years		
35 to <40 years		
40 to <45 years		
45 to <50 years		
50 years or above		

Average age: _____

Median age: _____

Asked by: Hon LEONG Kah-kit, Alan (Member Question No. 5)

Reply:

(1) Water main burst is commonly due to a confluence of factors, including ageing of water mains, ground settlement or upheaval and external loading or vibration. The numbers of fresh and salt water main bursts in 2014-15 (up to February 2015) were 72 and 84 respectively. The numbers of years for which the water mains had been used before burst are shown in the table below-

Years of water main used before burst	Numbers of water main bursts in 2014-15 (up to February 2015)	
	Fresh water main	Salt water main
Below 5 years	1	1
5 to <10 years	0	3
10 to <15 years	2	4
15 to <20 years	0	4
20 to <25 years	3	1
25 to <30 years	3	10
30 years or above	63	61
Total	72	84

The water supply networks are made up of pipelines of different materials. The service life of the water mains varies with the type of pipe materials, the ground conditions and the type of water they carry. Most of the burst water mains had been in use for nearly or more than 30 years before burst and were reaching the end of the typical service lives.

(2) We have been taking a multi-pronged approach to tackle the water main burst and leakage problem including leakage detection, pressure management and implementation of the Replacement and Rehabilitation (R&R) Programme for water mains. In 2015-16, the expenditure on implementing all these measures is estimated to be about $2,550 million. Some of these works are implemented by consultants. The number of in-house staff involved for implementation of the measures is about 100.

The current R&R Programme of about 3 000 km of water mains will be substantially completed by the end of 2015. To enable continuous monitoring on the health conditions of the water supply networks, the Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will also make use of the some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks.

In regard to the development of WIN, WSD is conducting studies and trials and will continue to set up DMAs. The estimated expenditure for engaging solution providers/equipment vendors to conduct studies and trials and employing contractor to set up DMAs is $150 million in 2015-16. Upon completion of the studies and trials, WSD will ascertain the timetable for the full development of WIN.

(3) The total lengths, ages, average ages and median ages of fresh water mains and salt water mains of WSD in the territory are provided below -

Total length of fresh water mains: about 6 300 kilometres (km)

Total length of salt water mains for flushing: about 1 500 km

Age of fresh water mains	Proportion to total length
Below 5 years	14%
5 to <10 years	20%
10 to <15 years	16%
15 to <20 years	12%
20 to <25 years	9%
25 to <30 years	8%
30 years or above	21%
Total	100%

Average age: approximately 19 years
Median age: approximately 15 years

Age of salt water mains for flushing	Proportion to total length
Below 5 years	13%
5 to <10 years	21%
10 to <15 years	17%
15 to <20 years	15%
20 to <25 years	11%
25 to <30 years	8%
30 years or above	15%
Total	100%

Average age: approximately 18 years
Median age: approximately 15 years

In 2014-15, the expenditure on maintenance and repair of water mains is about $220 million.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)115

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2911)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

1. What were the daily per capita consumptions in Hong Kong in the past five years?

2. Has the Government compared the above figures with the global daily per capita consumption and to which level (e.g. developed country, developing country, etc.) is Hong Kong comparable in terms of daily per capita consumption? If no, what are the reasons?

3. What were the government expenditures on subsidising water charges and the purchasing power parities of the water charges in Hong Kong when compared with countries with the same levels of daily per capita consumption in the past five years? Please provide the figures using the table below.

Year	Amount of government subsidy on water charges ($)	Purchasing power parity

4. Has the Government made reference to the 12th Five-Year Plan of the Ministry of Water Resources of the People's Republic of China when implementing seawater desalination? If no, what are the policy targets for the planning of the desalination plant?

Asked by: Hon LEUNG Kenneth (Member Question No. 4.02)

Reply:

1. The daily per capita domestic water consumption in Hong Kong in the past five years are as follows:

Financial Year	Daily Per Capita Domestic Water Consumption (Litres/day) *
2009-10	184.0
2010-11	180.4
2011-12	181.3
2012-13	182.0
2013-14	183.5

* Per capita domestic water consumption is the total of the per capita domestic fresh water consumption (about 70%) and the estimated per capita domestic flushing water consumption (about 30%).

2. According to the International Water Association International Statistics 2014, the per capita domestic water consumption (including flushing) in some major cities are listed below for reference.

Cities / Countries	Daily Per Capita Domestic Water Consumption
Gabon	143
Beijing, China	150
Singapore	154
London, UK	163
Sao Paulo State, Brazil	176
Sydney, Australia	200
Tokyo, Japan	225
Seoul, South Korea	286
Taipei, Taiwan	340
Los Angeles, USA	466

Notes: The daily per capita domestic water consumption in a city/country depends on a number of factors including the availability of water resources, the water using habit of the residents, the household size and the local climate conditions. Gardening may also be common in some cities which will significantly increase its daily per capita domestic water consumption.

3. The Waterworks Operating Accounts have been in deficit for many years. The deficit represents the excess of the total operating costs over the total income, which includes two notional items, i.e. contribution from rates and contribution from government on free allowance to consumers. The amounts of deficit in the past five years are given in the table below.

Financial Year	Deficit ($ million)
2009-10	649.1
2010-11	955.3
2011-12	1,025.3
2012-13	1,007.7
2013-14	930.9

The Water Supplies Department has no information about the purchasing power parity of water charges in Hong Kong and other countries.

4. Hong Kong is not under the regulatory framework of the 12th Five-Year Plan. However, having considered the relevant guiding principles on water development and being a responsible partner to other cities in the Pearl River Delta, Hong Kong has investigated and explored the alternative water resource by seawater desalination, to cope with the climate change and the keen demand for fresh water resources in the region.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3152)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

What are the project estimates, staff establishment and detailed timetable for Water Intelligent Network? Please advise on the details of the expenditure on the investigation study, project design, construction, cost of sensors and manpower.

Asked by: Hon LEUNG Kenneth (Member Question No. 4.07)

Reply:

The Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will also make use of some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks.

In regard to the development of WIN, WSD is conducting studies and trials and will continue to set up DMAs. The estimated expenditure for engaging solution providers/equipment vendors to conduct studies and trials and employing contractor to set up DMAs is $150 million in 2015-16. Upon completion of the studies and trials, WSD will ascertain the timetable for the full implementation of WIN.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3113)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The ageing of water mains increases the number of water main bursts and leaks which not only waste the precious water resources, but also cause much inconvenience to the public. In this regard, could the Government advise this Committee on the following:

1. What were the quantities of water loss due to water main bursts and leaks in the past 3 years, and the amounts of expenditure involved?

2. What were the progresses of the replacement of aged water mains in the past 3 years, and the amounts of resources allocated for such work? Please list out each expenditure item in detail.

3. Will the Government increase the resources and manpower for expediting the replacement of aged water mains and reducing wastage of water resources? If yes, what are the details? If no, what are the reasons?

Asked by: Hon LEUNG Mei-fun, Priscilla (Member Question No. 48)

Reply:

1. In 2012, 2013 and 2014, the water leakage rate was 18%, 17% and 16% respectively, and the annual quantity of fresh water drained away due to water main bursts was less than 0.02% of the total water supplied in the respective year. With service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure. The high water pressure together with ground settlement, ground upheaval, external loading and vibration makes our ageing water distribution network prone to leakage and bursting. Therefore, water main leaks and bursts are considered more as operational constraints and it is not considered appropriate to deduce a cost for the water drained away.

2. In the past three financial years, the length of water mains replaced or rehabilitated and the corresponding expenditures are given in the table below:

Financial year	Length of water mains replaced or rehabilitated (km)	Expenditure ($ million)		
		Construction works	Employment of consultants including site staff for works supervision	Total
2011-12	235	1,710	267	1,977
2012-13	295	1,882	315	2,197
2013-14	320	2,344	408	2,752

3. The Replacement and Rehabilitation (R&R) of about 3 000 km water mains programme was originally planned for implementation in stages over a 20-year period from 2000 to 2020. Since 2005, we have redeployed more resources and compressed the works programme to advance the target completion date of the entire project by five years, i.e. completion of the programme within 15 years by 2015. The R&R programme is about 91% completed with 2 730 km of water mains replaced/rehabilitated as at February 2015. The programme is anticipated to be substantially completed by the end of 2015.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)118

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1071)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The Government announced the establishment of Water Intelligent Network in the water supply networks of Hong Kong by installing sensors on underground water mains to monitor water loss. In this regard, could the Government advise this Committee on:

1. The estimated time for commencement of the preliminary study and expenditure involved; and

2. Whether the Government will consider co-operating with academia and the business sector to develop the monitoring techniques in this respect; if yes, the details; and if not, the reasons for that?

Asked by: Hon LO Wai-kwok (Member Question No. 14)

Reply:

1. The Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will also make use of the some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks.

   In regard to the development of WIN, WSD has been liaising with the solution providers/equipment vendors for commencement of the studies and trials progressively from the first quarter of 2015. The estimated expenditure for engaging solution providers/equipment vendors to conduct the studies and trials is $4 million in 2015-16.

2. Technologies related to DMA are very mature. For the development of WIN, WSD is working with solution providers/equipment vendors to implement studies and trials on a number of intelligent network management systems and high end sensors for data acquisition and analysis with a view to enhancing network visibility for early identification of network anomalies. We are also collaborating with a local university on exploring a theme-based study on smart urban water supply system.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)119

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1074)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The Government will start working on the design of a desalination plant at Tseung Kwan O and the associated infrastructure in phases this year. Some groups are concerned about the water quality of the site because a large quantity of noctiluca scintillan has been found in a seawater sample collected. They are worried that the close proximity between the desalination plant and the landfill may affect the safety of drinking water in Hong Kong. Could the Government advise on:

1. Whether tests of the quality of the seawater concerned have been conducted; if yes, the results;

2. What improvement measures will be taken if the water quality does not comply with the safety standards of drinking water; and

3. Whether the Government will consider producing "NEWater" apart from seawater desalination; if yes, the details; and if not, the reasons for that?

Asked by: Hon LO Wai-kwok (Member Question No. 18)

Reply:

1. We have carried out seawater sampling and laboratory testing over a period of 12 months near the proposed site for the desalination plant in Tseung Kwan O to characterise the seawater quality. Based on the seawater characterisation results, there is no sign of contamination of the seawater by leachate leakage and the seawater quality is suitable for desalination to produce potable water in compliance with the latest edition of the World Health Organisation's "Guidelines for Drinking-water Quality" (WHO 2011).

2. We will keep close monitoring of the seawater quality during the operation of the proposed desalination plant by sampling and testing and actively control the treatment process to ensure that the desalinated water produced from the plant complies with WHO 2011. In the event that the desalinated water quality does not comply with the standard, the supply from the desalination plant will be temporarily suspended and fresh water from other sources will be deployed for supply to the customers. The treatment process will be critically reviewed and adjusted to deal with the seawater quality and the desalinated water will be tested to ensure full compliance with WHO 2011 before resuming supply to the customers.

3. Apart from seawater desalination, we are actively pursuing the use of reclaimed water as an alternative water resource for non-potable applications. In this regard, we have completed technical studies including water quality standard and pilot test on the use of treated effluent of the Shek Wu Hui sewage treatment works for production of reclaimed water for supplying to the north-eastern part of the New Territories for flushing and other non-potable uses. We have started the planning of the infrastructure and target to supply reclaimed water starting from 2022. We will also conduct a study on the financial and legal aspects of the supply of reclaimed water. The study is targeted for completion by 2016.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1081)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

What items are included in the 30 projects under planning in the Estimates of the Water Supplies Department in 2015? What are the estimated expenditure on and the scheduled commencement date of works for each item?

Asked by: Hon LO Wai-kwok (Member Question No. 27)

Reply:

The 30 projects under planning are categorised into three groups as provided in the table below. They are mostly at conceptual and preliminary planning stage and are yet to be included in the Public Works Programme. They are subject to change and refinement.

Group	**Project under planning**	**Expenditure involved**	**Expected commencement date of works**

A	Provision of water supply to cope with land supply and new developments (23 projects)	In the order of $7,100 million (based on preliminary cost estimation)	Project programme to be determined in the planning process
B	Enhancement or improvement of existing water supply infrastructure including water mains, water treatment works, service reservoir and pumping station (5 projects)		
C	Implementation of new water resources including water reclamation and seawater desalination (2 projects)		

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0914)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (3) Customer Services

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is mentioned in the Programme that there will be an increase of 26 new posts in 2015-2016. In this regard, will the Government advise this Committee on the following:

(1) What are the details of the processing of applications for salt water supply for flushing and conversion of temporary mains water for flushing to salt water supply for flushing in the North West New Territories mentioned in the Programme, and the staff establishment and expenditure involved?

(2) It is also mentioned in the Programme that the new posts are for replacement of water meters. What is the current staff establishment in the Department for such task? What is the water meter replacement programme in 2015-2016? What were the details of the cases of inaccurate water meters or suspected unauthorised use of water meters found by direct investigations, reports received, etc. in the past three years?

Asked by: Hon MAK Mei-kuen (Member Question No. 36)

Reply:

(1) A salt water supply system for flushing in the North West New Territories has been completed in early 2015. As the area is currently using temporary mains water for flushing, the Water Supplies Department (WSD) will set up a dedicated team in 2015-16 for carrying out the work for conversion to salt water supply for flushing in the area. The team is for processing new applications from the buildings for salt water supply including engagement of consumers, vetting of plumbing proposals, site inspection of plumbing works, arrangement for making salt water supply connections to the buildings, etc. The team will consist of 4 technical staff with ranks ranging from waterworks inspector to consumer services inspector. Apart from the in-house team, consultants will be engaged to assist in carrying out the works for the conversion

to salt water supply for flushing in the area and it is anticipated that the consultancy agreement will commence in April 2015 at an estimated cost of $17 million.

(2) About 80% of the water meter replacement works are implemented through contractors under the annual water meter replacement programme whilst the remaining 20% of the water meter replacement works are carried out by WSD's in-house resources of 50 technical staff consisting of 34 civil service staff and 16 non-civil service contract staff with ranks ranging from chief technical offier to workman. In 2015-16, 16 civil service posts (4 assistant waterworks inspectors, 6 consumer services inspectors and 6 works supervisor II) will be created in WSD to replace the 16 existing non-civil service contract posts of the same ranks for the water meter replacement works.

In 2015-16, WSD plans to replace about 200 000 water meters, which have reached the end of their service lifes.

The total number of water meters, which were found to be inaccurate or defective, in 2012-13, 2013-14 and 2014-15 (up to end January 2015) are 6 295, 6 905 and 5 610 respectively. There is no reported case in relation to unauthorised use of water meter in the past three years.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2418)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

(a) What is the progress of the planning and investigation study for the desalination plant at Tseung Kwan O at present? Apart from seawater desalination, are there any specific and feasible measures to reduce the reliance on Dongjiang water?
(b) Please compare the costs of water produced by desalination (per cubic metre) between Hong Kong and overseas countries (e.g. Singapore, the UK, the USA, Australia, Canada, etc.) and explain the differences.
(c) Please provide the estimated expenditures on Dongjiang water (including total supply quantities, total water costs and average water costs per cubic metre) in the past 3 years and in 2015-16.
(d) Please provide the quantities of the discharge of fresh water to the sea resulting from overflow from reservoirs and the total expenditures involved in the past 3 years.

Asked by: Hon MO Claudia (Member Question No. 27)

Reply:

(a) The planning and investigation study for the construction of a desalination plant in Tseung Kwan O (TKO) has been largely completed. The study has confirmed the technical feasibility including the environmental viability of the project.

Apart from seawater desalination, we have been implementing a number of water demand and supply management measures to cope with the increase in water demand due to population and economic growth, and to enhance the resilience of our water sources to climate change impacts. The measures include extending the salt water supply networks for flushing purposes, taking forward the development of the reclaimed water supply system to the north-eastern part of the New Territories for flushing and other non-potable uses, enhancing water leakage control and encouraging grey water recycling /rainwater harvesting

in new government developments. We have also been stepping up the effort on water conservation with an aim to reducing the water demand.

(b) The estimated unit water production cost of the proposed desalination plant in TKO is about $12-13 per cubic metre ($m^3$) (at 2013 price level) including the distribution and customer services costs.

According to the information from the International Desalination Association published in 2010, the unit production costs (not including the distribution and customer services costs) of desalinated water of some countries are as follows-

Country	Unit production cost (HK$/$m^3$)
Singapore (Singspring)	6.1
USA	6.2 – 8.3
Spain (Barcelona)	8.9
Australia	9.3 – 23.7

The variations in the unit production cost of the desalinated water in different countries are attributed to a number of factors such as price levels of construction and energy, scale of the desalination plant, the required desalinated water quality, etc.

The estimated water production cost (not including the distribution and customer services costs) at 2010 price level of the proposed desalination plant in TKO is $8.3/ m^3 to $9.1/$m^3$ which is comparable with those of the above countries.

(c) The expenditures on purchasing Dongjiang (DJ) water in the past three years and the estimated expenditures in 2015 and 2016 are as follows –

DJ water	**2012**	**2013**	**2014**	**2015**	**2016**
Annual supply ceiling quantity (million m^3)	820	820	820	820	820
Purchase price ($ million)	3,538.7	3,743.3	3,959.34	4,222.79	4,491.52
Average water cost ($/ m^3)	4.3	4.6	4.8	5.1	5.5

(d) Overflow quantities from reservoirs in the past three years were 15.4 million m^3 (2012), 40.2 million m^3 (2013) and 23.1 million m^3 (2014). The overflow was from locally collected rainwater in small and medium reservoirs during heavy rainstorms and there was no expenditure incurred.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)123

CONTROLLING OFFICER'S REPLY

(Question Serial No. 2714)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Please advise on the road sections in Hong Kong where sensors are installed at water mains and the proportion of such water mains to the entire water supply network; the specific plan and timetable for establishing Water Intelligent Network by the Government; and the present situation and amount of financial resources involved in Water Intelligent Network.

Asked by: Hon QUAT Elizabeth (Member Question No. 43)

Reply:

The Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will make use of some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks.

In regard to the development of WIN, WSD is conducting studies and trials and will continue to set up DMAs. The estimated expenditure for engaging solution providers/equipment vendors to conduct studies and trials and employing contractor to set up DMAs is $150 million in 2015-16. Upon completion of the studies and trials, WSD will ascertain the timetable for the full implementation of WIN.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0095)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational expenses

Programme: Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The Water Supplies Department stated that the number of non-directorate posts will be increased by 27 to 4 484 posts as at 31 March 2016. Please inform this Council of the nature of work, ranks and salaries of these new posts.

Asked by: Hon Abraham SHEK Lai-him (Member Question No. 19)

Reply:

Details of the 27 non-directorate posts to be created in the Water Supplies Department in 2015-16 are as follows -

Nature of Work	Rank	Number of Posts	Notional Annual Mid-point Salary Value of the Rank ($)
To deliver the water mains laying works in association with the Tseung Kwan O desalination plant	Engineer/ Assistant Engineer	1	673,860
To process new applications for salt water supply for flushing and conversion of temporary mains water for flushing to salt water supply for flushing in the North West New Territories	Waterworks Inspector	1	594,180
	Assistant Waterworks Inspector	1	373,440
	Consumer Services Inspector	2	278,520

Nature of Work	Rank	Number of Posts	Notional Annual Mid-point Salary Value of the Rank ($)
To replace aged water meters	Assistant Waterworks Inspector	4	373,440
	Consumer Services Inspector	6	278,520
	Works Supervisor II	6	247,200
To strengthen the provision of quality customer services in the Customer Enquiry Centres and Customer Accounts Section of the Customer Services Branch	Assistant Clerical Officer	6	232,920

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0114)

Head: (194) Water Supplies Department

Subhead (No. & title): Not Specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The Water Supplies Department engaged a consultant to carry out a study for the setting up of a seawater desalination plant and it was expected the study shall be completed by early 2015. In this connection, will the Government inform this Committee: the progress of the study and whether it can provide the details about the cost-effectiveness of seawater desalination in Hong Kong; since the reverse osmosis technology is an energy intensive process, what are the plans to enhance energy efficiency so as to lower the cost?

Asked by: Hon Abraham SHEK Lai-him (Member Question No. 45)

Reply:

We engaged a consultant to carry out a planning and investigation study for the construction of a desalination plant in Tseung Kwan O (TKO). The study commenced in December 2012 and is now largely completed.

The study has confirmed the technical feasibility including the environmental viability of the project. It has also completed a preliminary design of the plant with due emphasis on an optimal whole life cycle. The estimated unit water production cost of the proposed desalination plant is about $12 to $13 per cubic metre (at 2013 price level) which is in comparable order with the range of unit cost for producing fresh water by seawater desalination using reverse osmosis technology overseas. As climate change will increase the likelihood of consecutive droughts and affect the water resources available in Dongjiang as well as the local yield, we need to develop the alternative water resource by seawater desalination which is not susceptible to climate change to safeguard our water security.

We plan to seek funding in 2015 for the review of the latest desalination technology, detailed design and associated site investigation works for the first stage of the proposed desalination plant. During the design stage of the project, we will look into details of

various options of reducing the cost of desalination. We will adopt the latest state-of-the-art desalination technology as appropriate including optimal pre-treatment process, thinner membrane, larger sized reverse osmosis modules and recovery system for greater energy efficiency.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3128)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is stated in the Programme that the Government will carry out investigation and studies on the use of reclaimed water for toilet flushing and other non-potable purposes in the North East New Territories. In this regard, will the Government advise this Committee on:

(1) The progress of the studies; the expected achievement upon the adoption of such technology; the staff establishment involved and the expenditure on the studies in 2014-2015; and

(2) Whether there is any plan to implement a pilot scheme in 2015-2016 to assess the actual effectiveness of the operation, if yes, what the details and estimates are; and whether the Administration has any plan to extend the scheme to other districts, if yes, what the details are, and if no, whether there is any plan to increase the staff establishment so as to continue to carry out the investigation and studies, and what expenditure will be involved?

Asked by: Hon TANG Ka-piu (Member Question No. 24)

Reply:

(1) We have completed technical studies including water quality standard and pilot test for production of reclaimed water using treated effluent of the Shek Wu Hui sewage treatment works for flushing and other non-potable uses in the north-eastern part of the New Territories. We have started the planning of the infrastructure and target to supply reclaimed water starting from 2022. We anticipate that it will save up to 21 million cubic meter of fresh water each year. We will also conduct a study on the financial and legal aspects of the supply of reclaimed water. The study is targeted for completion by 2016. In 2014-15, 0.5 in-house professional staff was assigned for the work on the proposed reclaimed water supply.

(2) The Government has conducted two pilot schemes on reclaimed water in Ngong Ping and Shek Wu Hui. Our conclusion is that both schemes indicate that the production of reclaimed water from treated sewage effluent for non-potable uses is technically feasible. There is currently no plan to conduct further pilot schemes in 2015-16. However, we will continue to use the existing in-house resources to explore opportunities for cost-effective use of reclaimed water for non-potable purposes in other districts.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)127

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0408)

Head: (194) Water Supplies Department

Subhead (No. & title): Not Specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is mentioned in the Budget Speech that the Government will start working on the design of a desalination plant at Tseung Kwan O and the associated infrastructure in phases this year. It is expected that the desalination plant will commence operation in 2020 and the annual output will account for five to ten per cent of Hong Kong's fresh water consumption. In this regard, could the Government advise on:

1. The latest estimated construction cost and breakdown of the expenditure involved;
2. The cost comparison between producing fresh water by desalination and purchasing Dongjiang water; and
3. The specific plan for reducing the cost of desalination?

Asked by: Hon TIEN Pei-chun, James (Member Question No. 6)

Reply:

1. We have largely completed a planning and investigation study for the construction of a desalination plant in Tseung Kwan O. Based on the study, the first stage of the plant and associated works (for the first stage output capacity of 135 000 cubic metres per day) accounts for about five per cent of Hong Kong's fresh water consumption. We plan to seek funding in 2015 for the review of the latest desalination technology, detailed design and associated site investigation works for the first stage of the proposed desalination plant. The cost estimate of the works will be determined at the design stage. Breakdown of the estimated cost of the plant will be available upon completion of the design in 2017.

2. The estimated unit water production cost of the proposed desalination plant is about $12-13 per cubic metre (at 2013 price level). The unit water production cost using Dongjiang water is $8.6 (at 2013-14 price level).

3. During the design stage of the project, we will look into details of various options of reducing the cost of desalination. We will adopt the latest state-of-the-art desalination technology as appropriate including optimal pre-treatment process, thinner membrane, larger sized reverse osmosis modules and advanced recovery system for greater energy efficiency.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 0409)

Head: (194) Water Supplies Department

Subhead (No. & title): Not Specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is mentioned in the Budget Speech that the Government will progressively establish Water Intelligent Network by installing sensors in the water supply networks to monitor their conditions, so as to minimise water loss. Could the Government advise on the details of the project including the estimated expenditure involved, districts covered and completion date of works, as well as how the project ties in with the replacement and rehabilitation programme of water mains which is still in progress?

Asked by: Hon TIEN Pei-chun, James (Member Question No. 7)

Reply:

The current Replacement and Rehabilitation (R&R) Programme of about 3 000 km of water mains will be substantially completed by the end of 2015. To enable continuous monitoring on the health conditions of the water supply networks, the Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will also make use of the some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks.

In regard to the development of WIN, WSD is conducting studies and trials and will continue to set up DMAs. The estimated expenditure for engaging solution providers/equipment vendors to conduct studies and trials and employing contractors to set up DMAs is $150 million in 2015-16. Upon completion of the studies and trials, WSD will ascertain the timetable for the full implementation of WIN.

Prior to the WIN being fully put in place, the existing water supply networks will continue to age and deteriorate and it is still necessary to replace or rehabilitate those aged water mains with higher risk of failure in the interim. As a transitional arrangement, we will continue to identify water mains of higher risk for replacement and rehabilitation in order to sustain the healthiness of the water supply networks. In 2015-16, WSD will commission consultants to undertake investigation and design for replacement and rehabilitation of 21 km of water mains and the estimated expenditure is about $4 million in 2015-16.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)129

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3232)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding "continue to oversee the maintenance and improvement of the water supply infrastructure, including the watermains replacement and rehabilitation programme", the Secretary for Development, Mr Paul Chan, has indicated in his blog that since 2000, the Water Supplies Department has been carrying out a 15-year territory-wide water mains replacement and rehabilitation (R&R) programme to renew 3 000 kilometres of water mains in stages. Regarding the actual estimates for 2011-12, 2012-13 and 2013-14, revised estimate for 2014-2015 and estimate for 2015-16, please advise this Committee on:

(1) The timetable and expenditure involved in the territory-wide R&R programme; and

(2) The reasons for the most difficult aspect of the entire programme which impeded the progress of works.

Asked by: Hon TIEN Puk-sun, Michael (Member Question No. 64)

Reply:

(1) In the past three financial years (2011-12, 2012-13 and 2013-14), the lengths of water mains completed under the Replacement & Rehabilitation (R&R) programme of water mains and the corresponding actual expenditures are given in the table below:

Financial year	Length of water mains replaced/ rehabilitated (km)	Actual expenditure ($ million)		
		Works	Employment of consultants including site staff for works supervision	Total
2011-12	235	1,710	267	1,977
2012-13	295	1,882	315	2,197

2013-14	320	2,344	408	2,752

In the current and next financial years (2014-15 and 2015-16), the target lengths of water mains to be completed under the R&R programme and the corresponding forecast expenditures are given in the table below:

Financial year	Target length of water mains to be replaced/rehabilitated (km)	Forecast expenditure ($ million)		
		Works	Employment of consultants including site staff for works supervision	Total
2014-15	365	2,093	360	2,453 #
2015-16	250	2,088	304	2,392 *

(# Revised Estimates in 2014-15
* Draft Estimates in 2015-16)

(2) The major difficulties that affect the progress of R&R works include traffic constraints, construction noise permit restrictions, interfaces with other projects, congested underground utilities, protection zones of old and valuable trees and objections from stakeholders.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3097)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is stated in the Programme that the Government will carry out a review study on the total water management strategy. In this regard, will the Government advise this Committee on:

(1) The detailed plan for different measures taken at present to encourage the public to save water, and the review on the effectiveness of and indicators for these measures; and

(2) The additional expenditure and staff establishment involved in each water-saving programme in 2015-2016; whether there are any new measures for enhancing the promotion and effectiveness of water conservation?

Asked by: Hon WONG Kwok-hing (Member Question No. 29)

Reply:

(1) The Water Supplies Department (WSD) has been implementing a multi-pronged approach to promote water conservation in both domestic and non-domestic sectors using hardware and software measures.

In regard to domestic consumption, WSD launched a large scale campaign, namely "Let's Save 10L Water" in March 2014. The public are encouraged to sign a commitment certificate on-line to pledge their support for using water wisely and save 10 litres water consumption per day. Each participating household is entitled to receive a pair of complimentary flow controllers for water taps from WSD to help conserve water. The original target for distribution of flow controllers was 30 000 households but flow controllers were distributed to over 135 000 households as at end February 2015. In tandem, WSD extended the Voluntary Water Efficiency Labelling Scheme to cover flow

controllers in August 2014 in addition to showers for bathing, water taps, washing machines and urinal equipment.

Moreover, WSD commenced a pilot project in August 2014 to install flow controllers free of charge at both water taps and showers of 16 selected public housing estates with an overall target of 25 000 households. As at end February 2015, WSD has installed flow controllers to about 21 800 households in 15 estates.

In regard to non-domestic consumption, WSD has been carrying out water efficiency audits and developing the best water-using guidelines for selected government facilities and commercial trades such as hotels, restaurants and laundries. In addition, WSD commenced a 2-year programme in September 2014 to install flow controllers in schools and government buildings.

WSD will conduct a domestic water consumption survey in 2015 to assess the effectiveness of the public education and promotion activities on water conservation.

(2) WSD plans to implement a number of new water conservation initiatives in 2015-16. The major initiatives include the Water Conservation Integrated Education Programme (IEP) for primary schools and the Water Conservation Week:

(i) The IEP aims at working in collaboration with the Subsidised Primary School Council and the Hong Kong Aided Primary School Heads Association to develop tailor-made education kit for primary school studies and train the teachers of participating primary schools to use the kit to facilitate pupils' in-depth learning on water conservation.

(ii) The Water Conservation Week is planned to be held in November 2015, comprising a host of activities such as exhibition, conference, workshop, carnival, etc. During the Water Conservation Week, stakeholders from green groups, non-governmental organisations, youth groups, educational institutions, hotel and catering industry groups, and the Advisory Committee on Water Resources and Quality of Water Supplies, etc. will join hands to promote water conservation to different target groups and the community.

The estimated expenditure of implementing the above new water conservation initiatives together with the on-going initiatives is about $15.2 million in 2015-16. In regard to the manpower resources, the team responsible for the work related to the promotion on water conservation has 16 staff, consisting of engineers, executive officer, public relations managers and officers.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3270)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is mentioned in Paragraph 122 of the Budget Speech that "to minimise water loss, we shall progressively establish Water Intelligent Network by installing sensors in the water supply networks to monitor their conditions. We shall also examine other techniques, such as data mining, to predict water main bursts for early identification and handling of defective water mains". In this regard, will the Government advise this Committee on the following:

(1) What are the estimates for conducting the technical study in 2015-16 (including the staff establishment, overseas duty visits and co-operation with local academic institutions), the scope of the study, and the timetables for the study and implementation?

(2) What is the current distribution of underground fresh water mains with service lives of 25 to 30 years and 30 years above in Hong Kong? Please tabulate the lengths and service lives of such water mains in various districts.

Asked by: Hon WONG Kwok-kin (Member Question No. 21)

Reply:

(1) The Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will also make use of some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks.

In regard to the development of WIN, WSD is working with the solution providers/equipment vendors to implement studies and trials progressively from the first quarter of 2015 on a number of intelligent network management systems and high end sensors for data acquisition and analysis with a view to enhancing network visibility for early identification of network anomalies. We are also collaborating with a local university on exploring a theme-based study on smart urban water supply system. The estimated expenditure for engaging solution providers/equipment vendors to conduct studies and trials is $4 million in 2015-16.

WSD will in parallel explore the latest data mining technique in predicting burst of water mains for assisting in the early identification of defective water mains for repair and/or replacement using in-house resources at the initial stage.

In 2015-16, the number of staff involved in the above studies and trials is 1.5 professional/technical officers.

(2) The lengths in kilometres (km) of fresh water mains with ages between 25 and 30 years, and over 30 years in different districts of Hong Kong are listed below:

District	25-30 yrs	>30 yrs
Central & Western	16	105
Wan Chai	11	99
Eastern	24	77
Southern	19	94
Yau Tsim Mong	6	81
Sham Shui Po	10	59
Kowloon City	9	108
Kwun Tong	27	55
Wong Tai Sin	15	24
Sai Kung	35	78
Sha Tin	38	59
Tai Po	48	44
North	57	102
Tuen Mun	47	69
Yuen Long	86	139
Tsuen Wan	35	44
Kwai Tsing	32	77
Islands	23	83
Total	538	1 397

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 1409)

Head: (709) Capital Works Reserve Fund: Waterworks

Subhead (No. & title): Not specified

Programme: Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

(1) What is the progress of Subhead 9192WC "Water supply to Pak Shek Kok reclamation area, Tai Po – stage 2 phase 1"? How will the expenditure be spent in 2015-16? Can the entire project be completed on the date as forecast when the budget is approved?

(2) What is the progress of Subhead 9237WF "Mainlaying along Fanling Highway and near She Shan Tsuen – stage 2"? How will the expenditure be spent in 2015-16? Can the entire project be completed on the date as forecast when the budget is approved?

(3) What is the progress of Subhead 9334WF "Expansion of Tai Po water treatment works and ancillary raw water and fresh water transfer facilities – part 2 works"? How will the expenditure be spent in 2015-16? Can the entire project be completed on the date as forecast when the budget is approved?

(4) What is the progress of Subhead 9338WF "Mainlaying along Fanling Highway and near She Shan Tsuen, stage 1"? How will the expenditure be spent in 2015-16? Can the entire project be completed on the date as forecast when the budget is approved?

(5) What is the progress of Subhead 9344WF "In-situ reprovisioning of Sha Tin water treatment works – South Works – design and site investigation"? How will the expenditure be spent in 2015-16? Can the entire project be completed on the date as forecast when the budget is approved?

(6) What is the progress of Subhead 9345WF "Planning and investigation study of desalination plant at Tseung Kwan O"? How will the expenditure be spent in 2015-16? Can the entire project be completed on the date as forecast when the budget is approved?

(7) What is the progress of Subhead 9046WS "Uprating of Sha Tin salt water supply system"? There was no expenditure for 2014-15. What were the reasons? How will the expenditure be spent in 2015-16?

Asked by: Hon FAN Kwok-wai, Gary (Member Question No. 48)

Reply:

According to Rule 49 of the Finance Committee Procedures, special meetings of the Finance Committee are convened to examine the annual Estimates of Expenditure prepared by the Government in support of the Appropriation Bill.

Expenditure charged to the Capital Works Reserve Fund do ***not*** *form part of the Appropriation Bill. As such, questions relating to expenditure under the Fund are* ***not*** *relevant to the examination of the Estimates of Expenditure or the Appropriation Bill.*

(1) The works of 9192WC were substantially completed in April 2014. The expenditure in 2015-16 is allowed for the completion of the final account.

(2) The works of 9237WF are about 20% complete. The expenditure in 2015-16 will be incurred on mainlaying works. According to our latest forecast, the project will be completed on schedule.

(3) The works of 9334WF are about 35% complete. The expenditure in 2015-16 will be incurred mainly on the construction of the superstructure for the new process buildings and the installation of mechanical and electrical equipment in the Tai Po Water Treatment Works. According to our latest forecast, the project will be completed on schedule.

(4) The works of 9338WF were substantially completed in December 2014. The expenditure in 2015-16 is allowed for the completion of the final account.

(5) The design work of 9344WF had taken longer time than originally forecast mainly due to a longer time taken to address the risk of potential hazard arising from the use of chlorine in the water treatment works. The expenditure in 2015-16 will be mainly incurred on the outstanding design work.

(6) The planning and investigation work of 9345WF has been substantially completed. The expenditure in 2015-16 is allowed for the finalization of the final account.

(7) The last construction contract under 9046WS was substantially completed in August 2012. No expenditure was incurred in 2014-15 pending completion of the assessment of final measurement of the works and contractual claims. The assessment is expected to be completed in 2015-16, and expenditure will hence be incurred on the completion of final account.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4942)

Head: (194) Water Supplies Department

Subhead (No. & title): Not Specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

How effective are the Total Water Management Strategy implemented by the Government at present, and its mainlaying works in association with the replacement of fresh water with salt water supply for flushing?

It is noted that more cost effective desalination technologies have emerged in the market. Some local businessmen have even invested in the desalination technology of Israel. Will the Government adopt the new technologies in the construction of the desalination plant?

Asked by: Hon CHAN Chi-chuen (Member Question No. 235)

Reply:

Under the Total Water Management (TWM) strategy promulgated in 2008, we have been implementing a number of water demand and supply management measures. Water demand management measures include expanding the salt water supply network for flushing, enhancing water leakage control including replacement and rehabilitation of aged water mains, and stepping up water conservation initiatives. Water supply management measures include carrying out studies on new water resources such as seawater desalination and water reclamation.

We have completed the construction of the salt water flushing supply system in Pokfulam and the north-western New Territories and will carry out the conversion of flushing supply to consumers in these districts from fresh water to salt water in stages such that the overall coverage of the salt water supply network would increase from 80% to 85%. The programme to replace and rehabilitate aged water mains, which is expected to further reduce the water mains leakage rate to 15% by 2015, will be substantially completed this year. We have also completed technical studies including water quality standard and the pilot test for production of reclaimed water using treated effluent of the Shek Wu Hui sewage

treatment works for flushing and other non-potable uses in the north-eastern part of the New Territories. We have started planning of the infrastructure and target to commence the supply of reclaimed water starting from 2022. We have largely completed the planning and investigation study for the construction of a desalination plant in Tseung Kwan O (TKO). We plan to seek funding in 2015 for the review of the latest desalination technology, detailed design and associated site investigation works for the first stage of the proposed desalination plant with output capacity of 135 000 cubic metres per day with a view to commencing its operation in 2020.

We commenced a consultancy study for the review of the TWM Strategy in October 2014 for completion by mid 2017. The study is to review the TWM Strategy promulgated in 2008 including the water demand and supply management measures implemented, to formulate an updated strategy and to recommend new initiatives to strengthen our resilience and preparedness against uncertainties and challenges.

During the design stage of the proposed desalination plant at TKO, we will look into details of various options of reducing the cost of desalination. We will adopt the latest state-of-the-art desalination technology as appropriate including optimal pre-treatment process, thinner membrane, larger sized reverse osmosis modules and advanced recovery system for greater energy efficiency.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 7081)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: Not specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Please tabulate the amounts of water consumption of the Government Secretariat, Government offices and departmental buildings in the past 3 years. Does the Government intend to take any measures to reduce unnecessary water consumption?

Asked by: Hon CHAN Chi-chuen (Member Question No. 176)

Reply:

The total water consumption of government facilities (including offices, swimming pools, sports centres, parks, prisons, etc.) in 2012, 2013 and 2014 was maintained at a steady level of about 41 million cubic metres (mcm) each year. Amongst others, the water consumption of the Central Government Offices in the three years was 0.026 mcm, 0.028 mcm and 0.026 mcm respectively.

The Water Supplies Department (WSD) has been implementing software and hardware measures for enhancing the water use efficiency in government facilities.

On the software side, WSD has completed water efficiency audit (WEA) studies with the Leisure and Cultural Services Department (LCSD) and the Food and Environmental Hygiene Department (FEHD) and will continue the WEA study with the Correctional Services Department (CSD) in the coming year. WSD has issued the best water-using guidelines to LCSD and FEHD and will issue similar guidelines to CSD upon completion of the WEA study.

For the hardware measures, WSD has completed retrofitting works to replace about 51 500 plumbing appurtenances with water saving devices in 630 government facilities and schools. WSD has also commenced a plan to install about 100 000 flow controllers onto existing taps and showers in other government facilities and schools.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3525)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

According to Programme 1, the water main leakage rate reached 16% in 2014. What were the reasons? Please tabulate the quantities of fresh water leakage in cubic metres by 18 districts. The Government has proposed the establishment of Water Intelligent Network to improve the above problem. What are the progress, details and expenditure involved?

Asked by: Hon CHAN Hak-kan (Member Question No. 56)

Reply:

With service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure. The high water pressure together with ground settlement, ground upheaval, external loading and vibration makes our ageing water distribution network prone to leakage and bursting. Therefore, water main leaks and bursts are considered more as operational constraints. Leakages for individual districts are not available as the measurement of the leakage of our water supply network is not district based.

The Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will make use of the some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks.

In regard to the development of WIN, WSD is conducting studies and trials and will continue to set up DMAs. The estimated expenditure for engaging solution providers/equipment vendors to conduct studies and trials and employing contractor to set

up DMAs is $150 million in 2015-16. Upon completion of the studies and trials, WSD will ascertain the timetable for the full implementation of WIN.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3904)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

In the summer last year, several water main burst incidents had occurred in areas near Wo Yi Hop Road, affecting the traffic of that district. In this regard, could the Government advise on whether it will consider replacing the aged water mains in that district; if yes, the manpower, expenditure and details involved; and if no, the reasons for that?

Asked by: Hon CHAN Han-pan (Member Question No. 67)

Reply:

The 15-year Replacement and Rehabilitation (R&R) of water mains programme has covered the R&R of aged water mains in Kwai Tsing District including areas near Wo Yi Hop Road. Up to February 2015, the progress of the R&R works in Kwai Tsing District is 82% completed with 124 km of water mains replaced or rehabilitated.

The estimated expenditure of the R&R works in Kwai Tsing District in 2014-15 is about $298 million, of which $44 million is for the engagement of consultants including the employment of resident site staff for site supervision of the construction works.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)251

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6028)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

(1) How many cases of underground salt water main bursts have occurred since January 2014? Please list in chronological order these cases by the location of occurrence, cause of the water main burst and damage caused by such burst (e.g. road subsidence).

(2) Referring to the above question, what are the length of the salt water mains replaced due to water main bursts and the expenditure involved?

Asked by: Hon CHAN Ka-lok, Kenneth (Member Question No. 354)

Reply:

(1) The number of salt water main bursts from 1 January 2014 up to 28 February 2015 is 100. The cause of the water main bursts is commonly due to a confluence of factors, including ageing of water mains, ground settlement or upheaval and external loading or vibration. The main consequences of the salt water main bursts are interruption of flushing water supply and traffic whilst road subsidence might occur in isolated cases. The information of the salt water main bursts in chronological order on location, interruption of flushing water supply and traffic is shown in the table below:

No.	Date	Location	Flushing Water Supply Interrupted (Y/N)	Traffic Interrupted (Y/N)
1	Jan 2014	Kansu Street Near Ferry Street	Y	Y
2		Tai Wing Avenue No.3	Y	N
3		Chung Nga Road, Tai Po	Y	N
4	Feb 2014	Sheung Yuet Road Near Wang Tai Road	N	N

No.	Date	Location	Flushing Water Supply Interrupted (Y/N)	Traffic Interrupted (Y/N)
5		Wong Tai Sin Road Near Shatin Pass Road	Y	Y
6		To Kwa Wan Road Near Lok Shan Road	N	Y
7		J/O Tai Wo Road and Yuen Shin Road, Tai Po	Y	N
8	Feb 2014	Pine Tree Hill Road No.7	Y	N
9		Ting Kok Road Near Ha Hang Government Staff Quarters, Ha Hang	Y	N
10		C/W of Pak Wan Street J/O Pak Tin Street	Y	Y
11	Mar 2014	Connaught Road Central J/O Pottinger Street (C/W)	Y	Y
12		C/W of Beech Street Near Ivy Street	Y	Y
13		Nam Wan Road Near L/P N8858	Y	N
14		Cha Kwo Ling Road Near Yau Tong Road	Y	Y
15		Austin Road Near Temple Street	Y	Y
16		Tai Ha Street Near L/P FA4792, Kwai Chung	Y	Y
17	Apr 2014	Container Port Road Near Kwai Fung Crescent, Kwai Chung	Y	Y
18		F/P Chik Wan Street, Tai Wai	Y	N
19		C/W Of Castle Peak Road J/O Tonkin Street.	Y	Y
20		Sau Mau Ping Road Near Sau Fung Street	N	N
21		Third Street Near Anthony's Catholic Church	N	Y
22		Fleming Road Near Harbour Road (F/P) Wan Chai	Y	Y
23		100 Texaco Road, Kwai Chung	N	Y
24	May 2014	Kwai Hing Road Near Wo Tong Tsui Street, Kwai Chung	Y	Y
25		Bus Terminus of Chun Shek Estate	Y	N
26		J/O Ting Kok Road and Fung Yuen Road Near L/P AB2816B, Tai Po	Y	N
27		Mei Tin Road, Tai Wai	Y	Y
28		Temple Street Near Hi Lung Lane	Y	Y
29		Fung Shue Wo Road Near L/P W4053, Tsing Yi	N	Y
30		Wang Kwong Road Near Kai Wah Street	Y	Y
31		Pak Tai Street Near Mok Cheong Street	Y	N
32	Jun 2014	Sha Kok Street	Y	Y
33		Kwai Chung Road Near L/P FA6279, Kwai Chung	Y	Y
34		Inside Paul Y Site At Yuk Wah Street Near Tsz Wan Shan Road	Y	N
35		Near L/P N6426, On Pong Road, Tai Po	Y	Y
36		Yuen Chau Kok Road Near Regal Riverside Hotel, Shatin	Y	N
37		39 Tsing Yi Road, Tsing Yi	Y	Y
38		Near Jockey Club Ti-I College Fo Tan	Y	N
39	Jul 2014	Saigon Street Near Ferry Street	Y	Y
40		Connaught Road Central J/O Gilman Street, Central	Y	Y
41		Robinson Road No. 80, Mid-Level, Central	Y	N
42		Sha Tin Centre Street Near Scenery Court and HK Red Cross Bradbury Shatin Centre, Shatin	Y	Y

No.	Date	Location	Flushing Water Supply Interrupted (Y/N)	Traffic Interrupted (Y/N)
43		Hong Ning Road Near Hip Wo Street	Y	Y
44		Che Kung Miu Road Near Hing Keng Estate, Tai Wai	N	N
45		Tsun Yip Street Near Hoi Bun Road	Y	Y
46		Ting Lai Road Near L/P EA7476, Tai Po	Y	Y
47		Wo Yi Hop Road Near L/P FB2893, Kwai Chung	N	Y
48	Aug 2014	Granville Road Near Chatham Road South	Y	Y
49		Mid-Level, No.13-27 & 58-68 Bonham Road	Y	N
50		Po Hong Road F/P Near L/P EB:0185 flower bed, Tseung Kwan O	Y	N
51		Fu Ning Street Near Chi Chun House	Y	Y
52		Wang Kwong Road Near Kai Cheung Road	N	Y
53		Queen Elizabeth Hospital Road Near Gascoigne Road	Y	Y
54		Wai Yip Street Near Siu Yip Street	Y	Y
55		Kwai Fuk Road Near L/P FA9716, Kwai Chung	Y	Y
56		C/W of Tonkin Street Near Cheung Sha Wan Rd.	Y	Y
57		On Wah Street Near On Tak Road	Y	Y
58	Sep 2014	Lei Yue Mun Road Near Lei On Court	Y	Y
59		Po Lam Road Near Po Tat Estate	N	N
60		Tuen Mun Heung Sze Mui Road Near L/P DD0067 Siu Lun Court	Y	Y
61		Wang Kwong Road Near Kai Wah Street	N	Y
62		Queen Elizabeth Hospital Road Near Gascoigne Road of F/P	Y	N
63	Oct 2014	Boundary Street J/O Waterloo Road	Y	N
64		O/S No. 61 Carpenter Road	Y	Y
65		Siu Yip Street J/O Tai Yip Street	Y	Y
66		W/B Carpenter Road Near Hau Wong Road	Y	Y
67		King's Park Rise No.23	Y	N
68	Nov 2014	Wang Kwong Road Near Kai Wah Street	N	Y
69		Cha Kwo Ling Road Near Lei Yue Mun Road	N	Y
70		Ting Kok Road Near Lamp Post DE0234, Tai Po	Y	Y
71		Hoi Bun Road Near Kei Yip Street	Y	Y
72		King's Park Rise No.23	Y	N
73		B/L of 186 Fuk Wing Street	Y	N
74		Tsun Yip Street J/O Hung To Road	Y	Y
75		Near L/P AB2465 Wang Chiu Road	Y	N
76		Kwai Fuk Road Near L/P DC0093, Kwai Chung	Y	Y
77	Nov 2014	Fat Kwong Street Near Chung Hau Street (Site)	Y	N
78	Dec 2014	Yuen Wo Road Near Sha Tin Sports Ground, Shatin	Y	N
79		Kwei Chow Street Near Yuk Yat Street	Y	N
80		Sheung Ning Road Near L/P EA1432, Tseung Kwan O	Y	N

No.	Date	Location	Flushing Water Supply Interrupted (Y/N)	Traffic Interrupted (Y/N)
81		Waterloo Road No.72	Y	N
82		L/P 34972, Chai Wan Road, Chai Wan	Y	Y
83		Near No.12, Dai Kwai Street, Tai Po	Y	N
84		Tung Choi Street No.7	N	Y
85		Siu Yip Street Near Tai Yip Street	Y	N

No.	Date	Location	Flushing Water Supply Interrupted (Y/N)	Traffic Interrupted (Y/N)
86		Dundas Street Near Portland Street	N	N
87		Sheung Yee Road Near Wang Chiu Road	N	Y
88	Jan 2015	Mody Road No.48	Y	N
89		Near L/P N6671, On Po Road, Tai Po	Y	N
90		Mong Kok Road No.39	Y	Y
91		Near No.11 Tsing Yi Heung Sze Wui Road, Tsing Yi	N	N
92		Pak Hoi Street Near Canton Road	Y	Y
93		E/B Choi Hung Road Near Rhythm Garden	Y	Y
94		Near No 31-32, Chui Yi Street, Tai Po	Y	N
95		Opp L/P 26178, Aberdeen Main Road, Aberdeen	Y	N
96		Connaught Road Central Near Gilman Street C/W, Central	Y	Y
97	Feb 2015	Tsun Wen Road Near L/P FB9415	Y	Y
98		Canton Road Near Haiphong Road	Y	N
99		Waterloo Road No.1	Y	Y
100		No.51 Container Port Road, Kwai Chung	Y	Y

(2) Among these 100 salt water mains bursts, we have replaced about 400m burst salt water mains during urgent repair works and the expenditure is about $12 million.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6440)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

(1) Please advise on the number of water main burst and leakage cases last year by district in accordance with the demarcation of District Councils, the estimated total quantity of fresh water lost and leakage rate in connection with such incidents, and the expenditure on urgent repairs of these water mains.

(2) What are the details of the work plans and estimated expenditure involved in the implementation of the Total Water Management Strategy for water loss management?

Asked by: Hon CHAN Ka-lok, Kenneth (Member Question No. 393)

Reply:

(1) The numbers of water main burst and leakage cases in 2014 by district in accordance with the demarcation of District Councils are tabulated below –

District	Burst	Leakage
Central and Western	5	560
Eastern	3	421
Islands	6	345
Kowloon City	15	553
Kwai Tsing	17	380
Kwun Tong	28	486
North	4	811
Sai Kung	4	670
Sha Tin	18	441

District	Burst	Leakage
Sham Shui Po	6	318
Southern	3	381
Tai Po	16	557
Tsuen Wan	4	417
Tuen Mun	4	484
Wan Chai	4	402
Wong Tai Sin	5	187
Yau Tsim Mong	19	522
Yuen Long	12	1 887
Total	173	9 822

In 2014, the leakage rate of fresh water mains was 16% and the water drained away due to water main bursts was less than 0.02% of the total water supplied. The expenditures on urgent repairs of the above-mentioned water main burst and leakage cases in 2014 were about $133 million.

(2) The current Replacement and Rehabilitation (R&R) Programme of about 3 000 km of water mains will be substantially completed by the end of 2015 and the estimated expenditure of the works in 2015-16 will be $2,392 million. To enable continuous monitoring on the health conditions of the water supply networks, the Water Supplies Department (WSD) plans to progressively establish the Water Intelligent Network (WIN) by installation of sensors for setting up District Metering Areas (DMAs) in the water supply networks. There will be about 2 000 DMAs over the entire territory under WIN. WSD will also make use of some 650 existing DMAs for establishment of WIN. A computer system will be put in place to enable intelligent (and where necessary real-time) network performance analysis of the data collected from the sensors for monitoring the conditions of the water supply networks. We will in parallel explore the latest data mining technique in predicting burst of water mains for assisting in the early identification of defective water mains for repair and/or replacement.

In regard to the development of WIN, WSD is conducting studies and trials and will continue to set up DMAs. WSD will also explore the applications of the data mining techniques in predicting burst of water mains using in-house resources at the initial stage. The estimated expenditure for engaging solution providers/equipment vendors to conduct studies and trials and employing contractors to set up DMA is $150 million in 2015-16. Upon completion of the studies and trials, WSD will ascertain the timetable for the full implementation of WIN.

Prior to the WIN being fully put in place, the existing water supply networks will continue to age and deteriorate and it is still necessary to replace or rehabilitate those aged water mains with higher risk of failure in the interim. As a transitional arrangement, we will continue to identify water mains of higher risk for replacement and rehabilitation in order to sustain the healthiness of the water supply networks. In 2015-16, WSD will commission

consultants to undertake investigation and design for replacement and rehabilitation of 21 km of water mains and the estimated expenditure is about $4 million in 2015-16.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6441)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (2) Water Quality Control

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

What was the number of complaints on fresh water quality (e.g. strange odour) received from the public by the Water Supplies Department last year? Please provide information on the number of cases, reason for poor quality of fresh water, and follow-up action taken by the Department and the expenditure involved with a breakdown by type of complaints.

Asked by: Hon CHAN Ka-lok, Kenneth (Member Question No. 394)

Reply:

The number of enquiries and complaints on fresh water quality received by the Water Supplies Department last year are tabulated below:

Type	Number of cases	Possible Reasons
Dirty and discoloured water	2 104	(a) Corrosion of water pipes in the complainant's premises or plumbing system of the concerned building; (b) Lack of proper/frequent cleansing of water storage tanks of the concerned building; or (c) After resuming water supply from suspension, the sediments inside water mains may be stirred up resulting in slightly high turbidity in water supply. However, these sediments will not pose risk to health or safety of water supply.

Taste and odour in water	210	(a) Lack of proper/frequent cleansing of water storage tanks of the concerned building; or (b) The presence of small amount of residual chlorine in the water supply may sometimes cause taste and odour complaints or enquiries from users. It is necessary to maintain a small amount of residual chlorine in the water supply so as to keep it free from bacteria. It will not pose risk to health and will disappear when the water is boiled.

The Department endeavours to deal with all enquiries and complaints on water quality expeditiously by site inspection, investigation, water sampling and testing as appropriate. In 2014, about 250 staff of various ranks (including engineers, inspectors, consumer services inspectors and works supervisors) were involved in dealing with enquiries and complaints on water quality. As they are also responsible for carrying out other work on customer services, there is no separate breakdown of the staff cost for dealing with the enquiries and complaints on water quality. Other expenditure for dealing with the enquiries and complaints on water quality such as the cost of the chemical for testing the water samples is insignificant.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6480)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The Water Supplies Department has proposed to relocate the Harcourt Road Fresh Water Pumping Station to Hong Kong Park and has engaged a heritage consultant to conduct a heritage impact assessment in this connection. Please provide information on the name of the consultant engaged, the consultant's fee and the work covered by the contract. What is the mechanism for selecting the consultant?

Asked by: Hon CHAN Ka-lok, Kenneth (Member Question No. 722)

Reply:

The consultant of the heritage impact assessment for the project for relocation of Harcourt Road Fresh Water Pumping Station was AGC Design Limited (AGC) and the consultancy fee was $280,000. The scope of the consultancy included baseline study, impact assessment, development of methodology, mitigation measures and conservation proposal for heritage sites affected by the project. The consultants were selected in accordance with the Stores and Procurement Regulations. The Water Supplies Department identified five consultants who satisfied the basic requirements and they were invited to submit bids. The basic requirements included the consultants having at least five years experience in conducting heritage impact assessment and preparing the associated report(s) for approval by Antiquities Advisory Board, and being an expert in local heritage. The consultancy was awarded to AGC who was the most competitive bidder.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4507)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

It is stated in the Indicators under this Programme that the leakage rate of water mains in 2015 is 15%. In this regard, could the Government advise this Committee on the following:

(1) What were the quantity of fresh water lost due to water main leaks last year, and the amount of expenditure involved?

(2) What were the operational expenses for handling water main leaks last year?

(3) If the water main leakage rate is 15%, what will be the quantity of fresh water lost due to leakage, and the amount of expenditure involved?

(4) What are the estimated expenditures on the operational expenses, staff establishment and annual emoluments of the Leakage Management Section under the purview of the Water Supplies Department in 2015-16?

Asked by: Hon CHAN Wai-yip, Albert (Member Question No. 105)

Reply:

(1) & (3) With service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure. The high water pressure together with ground settlement, ground upheaval, external loading and vibration makes our ageing water distribution network prone to leakage and bursting. Therefore, water main leaks and bursts are considered more as operational constraints and it is not considered appropriate to deduce a cost for the water drained away.

(2) In handling water main leaks, we have been taking a multi-pronged approach including leakage detection, pressure management and implementation of the Replacement and Rehabilitation Programme for water mains which involves an expenditure of $2,558 million in 2014-15.

(4) In 2015-16, the estimated expenditure (other than staff cost) of the Leakage Management Section is $15 million. The Section has 63 staff comprising engineers, inspectors and the supporting staff and their annual emoluments are $22 million in 2015-16.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)256

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4508)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational Expenses

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The Government has indicated earlier that it will conduct a study on an upward adjustment of water charges. In this regard, could the Government advise this Committee on the staff establishment for the study on the upward adjustment of water charges and the annual estimated expenditure involved in 2015-16?

Asked by: Hon CHAN Wai-yip, Albert (Member Question No. 106)

Reply:

The department carried out a review on the water tariff by its internal manpower resources on a sharing basis. The manpower and expenditure in 2015-16 for such purpose cannot be separately identified and estimated.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4707)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

In the past years, the quota for Dongjiang water was much higher than the actual consumption of fresh water. In this regard, could the Government advise this Committee on the following:

(1) What were the annual quantities of fresh water delivered to Hong Kong under the Dongjiang (DJ) water supply agreement and the amounts of actual consumption of fresh water in the past three years?

(2) What is the estimated quantity of fresh water delivered to Hong Kong under the DJ water supply agreement and the actual consumption of fresh water in 2015-16? What are the reasons for stipulating a water supply quantity which is much higher than the actual consumption when signing the DJ water supply agreement?

(3) How will the Administration handle unused fresh water which cannot be stored in reservoirs? What was the expenditure involved in handling unused fresh water last year?

(4) It is understood that the Hong Kong Government determines the water supply quantity in the DJ water supply agreement according to the assessment of the demand for water resources conducted by the Development (2) Division under the purview of the Development Branch of the Water Supplies Department (WSD). Could the Administration advise this Committee on the respective estimates for the major tasks, operational expenses, staff establishment and annual emoluments of the Development (2) Division under the purview of the Development Branch of the WSD in 2015-16?

Asked by: Hon CHAN Wai-yip, Albert (Member Question No. 107)

Reply:

(1) In the past three years (2012 to 2014), the actual supplied quantities of Dongjiang (DJ) water and the fresh water consumptions are shown in the table below -

Year	Actual supplied quantity of DJ water (million cubic metre)	Fresh water consumption (million cubic metre)
2012	709	935
2013	612	933
2014	724	959

(2) For DJ water supply from 2015 to 2017, we have procured the water right to import DJ water to meet our actual needs up to 820 million cubic metres (mcm) each year. The actual quantity of DJ water supplied to Hong Kong in 2015-16 will depend on the local yield collected and the water consumption during the year which cannot be ascertained at the moment.

DJ water supply agreements have adopted the "package deal lump sum" approach to ensure a reliable and flexible supply of DJ water to meet the actual needs of Hong Kong. Under this approach, we procure a water right in the form of an annual supply ceiling quantity and we are able to import DJ water as needed up to the ceiling quantity each year. This approach secures a reliable supply of fresh water for Hong Kong and avoids wastage of the DJ water resources. The annual supply ceiling quantity is determined by a detailed analysis with a view to maintaining water supply round-the-clock even under extreme drought condition with a return period of 1 in 100 years. In 2011, the local yield collected was only 103 mcm and we imported 818 mcm DJ water to meet the needs of Hong Kong during the year which was close to the annual supply ceiling quantity of 820 mcm. It should also be noted that the annual supply ceiling quantity is lower than the forecast water consumption as part of the consumption is met by the local yield collected.

(3) Under the "package deal lump sum" approach, we will only import DJ water as needed each year up to the annual supply ceiling quantity. There was no surplus DJ water and neither overflow nor wastage of DJ water occurred in the past year. Therefore no expenditure was incurred for handling surplus DJ water.

(4) The major tasks of the Development (2) Division under the purview of the Development Branch of Water Supplies Department in 2015-16 include (a) planning of various water resources including water reclamation and seawater desalination, (b) overseeing the review of the Total Water Management, (c) making long-term water demand forecasts and reviewing consumption characteristics, (d) system planning of water supply networks and formulating system planning proposals into capital works projects for implementation, and (e) conducting opinion surveys on customers and undertaking statistical analysis and research. For 2015-16, the estimated recurrent expenditure of the Division is about $7 million. Its establishment comprises 40 staff

(mainly professional and technical staff) and the associated annual staff cost is $27 million.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5332)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

1. What were the specific expenditures on purchasing Dongjiang water and the specific quantities of Dongjiang water purchased in the past 5 years? What were the specific expenditures on treating Dongjiang water in the past 5 years? What were the quantities and values of Dongjiang water discharged into the sea without being used in the past 5 years? What are the estimated expenditure on purchasing Dongjiang water and the estimated quantity of Dongjiang water purchased in 2015-2016? What is the estimated expenditure on treating Dongjiang water?

Asked by: Hon KWOK Ka-ki (Member Question No. 170)

Reply:

In the past five years, we procured the water right to import up to 820 million cubic metres (mcm) of Dongjiang (DJ) water each year and the annual expenditures are shown in the following table -

Year	Expenditure on purchasing DJ water ($ million)
2010	3,146.00
2011	3,344.00
2012	3,538.70
2013	3,743.30
2014	3,959.34

In the past five years, there was neither discharge nor overflow of DJ water into the sea.

We have procured the water right to import up to 820 mcm of DJ water each year under the

new DJ water supply agreement for 2015 to 2017. In 2015 and 2016, the estimated expenditures on purchasing DJ water will be $4,222.79 million and $4,491.52 million respectively.

The inflow to water treatment works include both the locally collected fresh water and DJ water. We do not have separate breakdown on the expenditure for treating DJ water.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 5366)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Please advise on the Government expenditures on and prices for purchasing Dongjiang (DJ) water in the past 5 years; the Government expenditure on and price for purchasing DJ water in 2015-2016; the expiry date of the current contract for purchasing DJ water; whether the Government holds regular discussions with the Mainland on the quantity and price of DJ water purchased, and if yes, the details.

Asked by: Hon KWOK Ka-ki (Member Question No. 185)

Reply:

In the past five years, the prices and expenditures on purchasing Dongjiang (DJ) water are shown in the following table -

Year	Price and expenditure on purchasing DJ water ($ million)
2010	3,146.00
2011	3,344.00
2012	3,538.70
2013	3,743.30
2014	3,959.34

For 2015 and 2016, the prices and expenditures on purchasing DJ water will be $4,222.79 million and $4,491.52 million respectively.

The current agreement on the supply of DJ water is from 2015 to 2017. It is due to expire at the end of 2017. We will usually conduct negotiation with the Guangdong authorities

on the water quantity and price of DJ water to be purchased under the new agreement about one year before the expiry of the current agreement.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 6103)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Had the Government conducted any studies on the construction of desalination facilities in the past five years? If yes, what were the details and specific expenditures? What is the estimated expenditure on the study of the construction of desalination facilities in 2015-2016? If the study findings show that the cost of seawater desalination is lower than that of purchasing Dongjiang water, will the Government review the sources of water supply in Hong Kong and construct the desalination facilities immediately?

Asked by: Hon KWOK Ka-ki (Member Question No. 202)

Reply:

The Water Supplies Department (WSD) engaged a consultant to carry out a planning and investigation study for the construction of a desalination plant in Tseung Kwan O (TKO). The study commenced in December 2012 and is now largely completed. The study has confirmed the technical feasibility including the environmental viability of the project. The 2014-15 Revised Estimate and the 2015-16 Original Estimate of the project are at $15.723 million and $5.074 million respectively.

The estimated unit water production cost of the proposed desalination plant is about $12-13 per cubic metre ($m^3$) (at 2013 price level) which is higher than the unit water production cost using Dongjiang water at $8.6 per m^3 (at 2013-14 price level). Nevertheless, it is necessary for us to develop the alternative water resource of seawater desalination which is not susceptible to climate change to safeguard the water security. We plan to seek funding in 2015 for the review of the latest desalination technology, detailed design and associated site investigation works for the first stage of the proposed desalination plant in TKO with output capacity of 135 000 m^3 per day with a view to commencing operation of the plant in 2020.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3956)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding water supply and water resources management, will the Government advise on:

1. The annual expenditures, quantities and price increases in connection with the purchase of Dongjiang water from the Chinese Government in the past 5 years; and
2. The quantities of fresh water discharged to the sea due to overflow from reservoirs in the past 5 years with breakdown by reservoir?

Asked by: Hon LEUNG Kenneth (Member Question No. 4.24)

Reply:

1. In the past five years (2010 to 2014), we have procured the water right to import Dongjiang (DJ) water to meet our actual needs up to 820 million cubic metres each year. The annual expenditures for purchase of DJ water and the price increases are shown in the following table -

Year	Expenditure on purchasing DJ water ($ million)	Percentage increase in water price (%)
2010	3,146.00	-
2011	3,344.00	6.3%
2012	3,538.70	5.8%
2013	3,743.30	5.8%
2014	3,959.34	5.8%

2. The quantities of overflow from reservoirs* from 2010 to 2014 are as follows -

Year	Overflow quantity from reservoir/reservoir group (million cubic metre)								
	Aberdeen	Kowloon	Shek Pik	Tai Tam	Tai Lam Chung	Lower Shing Mun	Plover Cove	High Island	Total
2010	3.7	4.0	5.5	11.8	0	0	0	0	25.0
2011	0.3	0.0	0	0	0	0	0	0	0.3
2012	1.3	1.6	0.9	10.0	1.6	0	0	0	15.4
2013	3.3	5.2	15.7	15.4	0.6	0	0	0	40.2
2014	4.0	2.3	0	12.9	3.9	0	0	0	23.1

Note:

* We have not measured the overflow at Pok Fu Lam Reservoir due to its very small capacity (only contributing 0.03% of the total reservoir capacity in Hong Kong).

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3707)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

The aim of the Water Supplies Department is to plan and develop water resources and to design, construct, maintain and operate water supply systems in order to provide round-the-clock supplies throughout the year to meet the demands of the territory.

However, there is frequent occurrence of bursting of old fresh water mains aged over 20 to 30 years in many developed areas of the Kowloon District due to the ageing problem, causing road subsidence and flooding, and in turn resulting in disruptions to the traffic and damages to the property of the public. In this regard, I demand the Water Supplies Department to provide the details of the bursting of fresh water mains and salt water mains for flushing in the Kowloon West District (including Sham Shui Po, Yau Tsim Mong and Kowloon City) in the past 3 years using the table below.

Date and time	Location	Duration (hours)	Type of pipe (fresh water / salt water for flushing)	Age of water mains	Are there any claims made by the public / commercial tenants due to sewer bursting; if yes, what is the amount of claims?	Estimated date of next comprehensive replacement of the pipe involved

Asked by: Hon MO Claudia (Member Question No. 57)

Reply:

There are a total of 175 water main burst cases in Sham Shui Po, Yau Tsim Mong and Kowloon City districts over the past three years (2012-13, 2013-14 and 2014-15 up to February 2015) as detailed below -

No.	Date and Time	Location	Duration of Water Supply Interruption (hr)	Type of Water Main	Age of Water Main (see note 1)	Included in R&R (Y/N) (see note 2)
1	3/4/2012 5:58	Princess Margaret Road near Pui Ching Road	7.75	FRESH	Unknown	Y
2	10/4/2012 15:16	Chung Hau Street near King's Park F/W S/R	7.75	SALT	Unknown	Y
3	12/4/2012 3:19	Austin Road No.103 C/W	23.25	SALT	27	Y
4	24/4/2012 2:54	Mong Kok Road near Nathan Road	15.5	SALT	Unknown	Y
5	27/4/2012 10:54	Site Tai Nan West Street near Cheung Sha Wan Road	1.58	FRESH	Unknown	Y
6	8/5/2012 13:30	F/P of 10 Cheung Yee Street	5.42	FRESH	Unknown	Y
7	8/5/2012 14:40	C/W of Cheung Yee Street near Tai Nam West Street	9.75	FRESH	Unknown	Y
8	16/5/2012 0:49	Mong Kok Road near Portland Street	Not affected	SALT	Unknown	Y
9	27/5/2012 19:21	B/L of 353-355 Castle Peak Road	0.97	FRESH	3	Y
10	1/6/2012 1:57	Shek Kip Mei Street near Woh Chai Street L/P AF3592	4.5	FRESH	Unknown	Y
11	1/6/2012 12:23	C/W of Tonkin Street near Un Chau Street	45.5	SALT	42	Y
12	2/6/2012 14:31	Site of Tai Kok Tsui Road near Ivy Street	7.55	SALT	Unknown	Y
13	4/6/2012 3:24	Fat Tseung Street near The Sparkle	19.5	SALT	Unknown	Y
14	5/6/2012 5:02	Mong Kok Road near Nathan Road	Not affected	FRESH	Unknown	Y
15	5/6/2012 5:02	Mong Kok Road near Nathan Road	Not affected	SALT	Unknown	Y
16	5/6/2012 16:25	Changsha Street B/L of No.30	3.75	SALT	2	Y
17	6/6/2012 4:04	C/W of Lai Fat Street near Fat Cheung Steet	7.48	FRESH	24	N
18	8/6/2012 6:47	C/W 163 Hai Tan Street	Not affected	FRESH	Unknown	Y
19	8/6/2012 13:56	C/W of 205 Castle Peak Road	26.17	SALT	Unknown	Y
20	13/6/2012 2:13	Tong Mi Road near Lai Chi Kok Road	Not affected	SALT	Unknown	Y
21	13/6/2012 4:21	C/W 157 Tai Kok Tsui Road	17.5	SALT	Unknown	Y
22	13/6/2012 6:44	Argyle Street near Luen Wan Street	6.33	FRESH	Unknown	Y
23	17/6/2012 23:13	Waterloo Road No.68	2.42	SALT	30	Y
24	21/6/2012 11:25	Pitt Street No.1	3.08	SALT	21	N
25	29/6/2012 1:17	C/W 75 Tai Po Road	Not affected	FRESH	25	Y
26	30/6/2012 16:54	C/W of Nam Cheong Street near Chak On Estate	15.17	SALT	Unknown	Y
27	1/7/2012 4:28	Mong Kok Road J/O Sai Yee Street	16.5	SALT	Unknown	Y
28	9/7/2012 4:12	Kansu Street J/O Woo Sung Street	12.75	SALT	Unknown	Y
29	20/7/2012 18:01	38 Chi Kiang Street	5.75	FRESH	Unknown	Y
30	30/7/2012 14:49	O/S Beacon Hill Intermediate Level FW/SR	7.17	SALT	11	N
31	1/8/2012 13:07	17 Mok Cheong Street	6.25	FRESH	Unknown	Y
32	7/8/2012 16:21	Tak Man Street near Man Tai Street	5.5	FRESH	Unknown	Y
33	10/8/2012 1:36	Hillwood Road No.23 C/W	12	SALT	Unknown	Y
34	14/8/2012 9:05	9, Shung King Street	2.42	FRESH	26	N
35	31/8/2012 3:48	Fu Ning Street near Shing Tak Street	9.17	SALT	Unknown	Y
36	5/9/2012 16:53	Tai Nan West Street near Cheung Shun Street	11.5	FRESH	Unknown	Y
37	5/9/2012 16:54	Tai Nan West Street near Cheung Shun Street	Not affected	SALT	Unknown	Y
38	10/9/2012 6:12	Fu Ning Street No.21	5	FRESH	Unknown	Y
39	20/9/2012 16:32	F/P of Tong Yam Street near Ample Building	2	SALT	Unknown	Y
40	23/9/2012 14:40	C/W of Lai Fat Street near Lai Hong Street	14.08	SALT	25	N
41	29/9/2012 19:50	Slope of Caritas Medical Centre near Wai Chun Block	21.1	SALT	Unknown	Y
42	11/10/2012 18:34	O/S of No. 59-65, Beacon Hill Road	4.92	SALT	4	Y
43	17/10/2012 9:12	Winslow Street near Chatham Road North (MTR Site)	Not affected	FRESH	Unknown	Y
44	17/10/2012 15:34	Beacon Hill Intermediate Level Salt Water S/R	4.75	SALT	10	Y
45	28/10/2012 7:06	Lancashire Road O/S House No.32 near La Salle Road	Not affected	SALT	Unknown	Y
46	1/11/2012 22:44	5 Lok Shan Road	Not affected	SALT	13	N
47	7/11/2012 5:31	F/P of Woh Chai Street near Nam Cheong Street	6.5	SALT	Unknown	Y
48	8/11/2012 11:44	Bowring Street near Pilkem Street F/P	10.33	SALT	25	N
49	12/11/2012 12:15	Fat Tseung Street near Cheung Sha Wan Road	19.42	SALT	42	Y
50	16/11/2012 9:48	Site of C/W Nam Cheong Street near Lai Chi Kok Road	Not affected	SALT	Unknown	Y
51	19/11/2012 6:54	Cameron Road No.60	6.5	FRESH	Unknown	Y
52	21/11/2012 8:43	Chung Hau Street No.55	9.5	SALT	Unknown	Y
53	21/11/2012 12:59	C/W of Verbena Road near Peony Road	4.37	FRESH	26	Y
54	28/11/2012 14:41	Jordan Road (XRL Site, 811B)	Not affected	FRESH	Unknown	N
55	5/12/2012 3:16	Ko Shan Road near Kiang Hsi Street	Not affected	FRESH	Unknown	Y
56	10/12/2012 5:47	C/W of Nan Cheong Street near Yee Kuk Street	15.17	SALT	Unknown	Y
57	12/12/2012 2:23	Cheung Shun Street near Cheung Sha Wan Plaza	10.58	SALT	Unknown	Y
58	14/12/2012 20:26	Fat Kwong Street near Sheung Foo Street	Not affected	SALT	Unknown	Y
59	20/12/2012 14:47	42 Tak Man Street	3.25	FRESH	Unknown	Y
60	23/12/2012 8:03	C/W of Tonkin Street near Po On Road	36.28	SALT	Unknown	Y

No.	Date and Time	Location	Duration of Water Supply Interruption (hr)	Type of Water Main	Age of Water Main (see note 1)	Included in R&R (Y/N) (see note 2)
61	24/12/2012 10:17	Princess Margaret Road near Pui Ching Road	25.58	SALT	Unknown	Y
62	28/12/2012 6:11	C/W of King Lam Street near Tai Nan West Street	7.58	SALT	Unknown	Y
63	8/1/2013 16:05	Hung Hom Road near Fat Kwong Street	Not affected	SALT	12	N
64	18/1/2013 11:58	O/S No. 140 Junction Road	7.75	SALT	26	N
65	31/1/2013 5:04	C/W of Pei Ho Street near Tai Po Road	18.83	SALT	26	Y
66	6/2/2013 5:22	Bulkeley Street near Kun Yam Street	Not affected	SALT	Unknown	Y
67	6/2/2013 12:59	Ma Tau Wai Road near Lok Shan Road	Not affected	SALT	20	Y
68	22/2/2013 2:13	Ma Tau Wai Road near Fat Kwong Street	9.42	SALT	25	Y
69	4/3/2013 21:13	Gascoigne Road J/O Jordan Road	13.25	SALT	26	N
70	6/3/2013 5:37	Kwun Chung Street / Bowring Street	6.42	SALT	Unknown	Y
71	20/3/2013 4:43	Mok Cheong Street near Tam Kung Road, To Kwa Wan	9.5	FRESH	Unknown	Y
72	20/3/2013 4:43	Mok Cheong Street near Tam Kung Road, To Kwa Wan	10	SALT	Unknown	Y
73	24/3/2013 21:05	Tak Shing Street near Cox's Road	14.33	SALT	23	N
74	25/3/2013 0:06	No. 193, Tai Kok Tsui Road, Kowloon.	Not affected	FRESH	Unknown	Y
75	28/3/2013 4:41	Kansu Street J/O Woo Sung Street, Yau Ma Tei, Kowloon	8.75	SALT	Unknown	Y
76	8/4/2013 17:13	Lung Cheung Road near PH(S)2379	Not affected	FRESH	Unknown	Y
77	12/4/2013 3:33	Ma Tau Chung Road near Mok Cheong Street	10.17	SALT	Unknown	Y
78	17/4/2013 10:23	Luen Wan Street near Argyle Street	6.5	FRESH	Unknown	Y
79	21/4/2013 5:39	Canton Road No.178	6.58	FRESH	28	Y
80	22/4/2013 4:36	Hereford Road near Cambridge Road	14.33	SALT	Unknown	Y
81	10/5/2013 20:50	Slope at No.10 Beacon Hill Road, Kowloon Tong.	14	FRESH	30	Y
82	13/5/2013 10:52	No.242 Argyle Street near Stirling Road	Not affected	FRESH	Unknown	Y
83	19/5/2013 5:59	Queen Elizabeth Hospital Path near Gascoigne Road	4	SALT	62	Y
84	29/5/2013 6:09	XRL Site CC820, Yuet Lun Street, Lai Chi Kok.	2.77	FRESH	Unknown	Y
85	30/5/2013 21:10	C/W of 157 Kweilin Street	Not affected	SALT	Unknown	Y
86	3/6/2013 14:02	Tak Ting Street near Tak Hong Street	Not affected	SALT	14	N
87	6/6/2013 16:12	C/W of Cheung Yee Street near Tai Nan West Street	Not affected	FRESH	Unknown	Y
88	8/6/2013 6:44	Fu Ning Street near Argyle Street	6.25	SALT	Unknown	N
89	9/6/2013 6:36	C/W of Lai Chi Kok Road near Maple Street	Not affected	SALT	Unknown	Y
90	10/6/2013 3:01	Argyle Street near Sai Yee Street	Not affected	FRESH	Unknown	Y
91	10/6/2013 3:19	Fat Kwong Street near Shung Shing Street	15.92	SALT	Unknown	Y
92	11/6/2013 8:18	B/L of 191-203 Cheung Sha Wan Road	3.37	FRESH	7	Y
93	16/6/2013 19:33	C/W of 7-19 Bedford Road	6.5	FRESH	Unknown	Y
94	17/6/2013 8:04	C/W of 127 Cheung Sha Wan Road	Not affected	FRESH	Unknown	Y
95	18/6/2013 13:44	Chatham Road South near Observatory Road	10.75	SALT	Unknown	Y
96	26/6/2013 11:01	Mok Cheong Street near 8 Degrees Hotel, To Kwa Wan, Kowloon	8.58	FRESH	Unknown	Y
97	27/6/2013 17:24	C/W of Cheung Sha Wan Road J/O Cheung Lai Street	Not affected	SALT	Unknown	Y
98	15/7/2013 18:42	Ko Shan Road No.7	7	FRESH	33	Y
99	10/8/2013 5:23	C/W of Playing Field Road near Nathan Road	Not affected	SALT	Unknown	Y
100	17/8/2013 20:35	19 Cheung Shun Street, Cheung Sha Wan.	7.75	FRESH	Unknown	Y
101	26/8/2013 9:47	C/W of Cheung Sha Wan Road J/O Tonkin Street	Not affected	SALT	Unknown	Y
102	3/9/2013 4:23	F/P of Nam Cheong Street	Not affected	SALT	Unknown	Y
103	11/9/2013 5:46	Ma Tau Wai Road No. 294-312	Not affected	SALT	Unknown	Y
104	12/9/2013 2:40	Portland Street near Argyle Street	11.5	SALT	16	Y
105	13/9/2013 2:51	Argyle Street No. 153	Not affected	SALT	Unknown	Y
106	15/9/2013 23:32	C/W of no.13 Bedford Road	6.92	FRESH	Unknown	Y
107	20/9/2013 2:51	Tsing Chau Street near Ma Tau Wai Road	13.42	SALT	Unknown	Y
108	25/9/2013 17:13	Site of Yen Chow Street J/O Sham Mong Road	Not affected	FRESH	2	N
109	26/9/2013 2:17	Cheung Yee Street, Cheung Sha Wan, Kowloon	6.58	FRESH	Unknown	Y
110	28/9/2013 11:41	C/W of Fat Tseung Street near Cheung Sha Wan Fire Station	24.42	SALT	Unknown	Y
111	29/9/2013 20:06	C/W of Kweilin Street near Un Chau Street	6.92	SALT	Unknown	Y
112	2/10/2013 4:48	Ma Tau Wai Road near Kiang Su Street	Not affected	SALT	Unknown	Y
113	4/10/2013 21:03	Yee Kuk St. near Wang Cheong Factory Est., Cheung Sha Wan	6.33	FRESH	Unknown	Y
114	7/10/2013 21:34	Jordan Road near Cox's Road	8.75	SALT	23	Y
115	9/10/2013 15:45	To Kwa Wan Road near Lok Shan Road	Not affected	SALT	14	N
116	9/10/2013 22:20	C/W of Tonkin Street near Shun Ning Road	14.33	SALT	Unknown	Y
117	21/10/2013 20:49	Pine Tree Hill Road near Hillwood Road	4	SALT	Unknown	Y
118	28/10/2013 14:11	Nga Tsin Wai Road near Hau Wong Road	Not affected	FRESH	Unknown	Y
119	30/10/2013 18:07	Nga Tsin Wai Road near Hau Wong Road	Not affected	FRESH	Unknown	Y
120	4/11/2013 23:03	Hung Hom Road near Hok Yuen Street East	Not affected	SALT	12	N
121	6/11/2013 0:06	Hung Hom Road near Peninsula Square	Not affected	SALT	14	N
122	15/11/2013 2:47	C/W of Kweilin Street near Tai Po Road	Not affected	SALT	Unknown	Y
123	16/11/2013 18:20	No. 30 Good Shepherd Street, Ho Man Tin, Kowloon	11.13	FRESH	Unknown	Y
124	16/11/2013 19:00	Good Shepherd Street No.38	11.33	SALT	Unknown	Y
125	20/11/2013 21:24	W/B Nga Tsin Wai Road near Nga Tsin Long Road	5.33	SALT	Unknown	Y
126	24/12/2013 10:56	Ma Tau Wai Road No.264	5	SALT	0.3	N
127	27/12/2013 1:27	Good Shepherd Street No.38	6.33	FRESH	Unknown	Y
128	28/12/2013 8:44	Bulkeley Street near Gillies Avenue South	Not affected	SALT	Unknown	Y
129	31/12/2013 6:27	C/W of Tai Kok Tsui Road near Chung Wui Street	25.5	SALT	Unknown	Y
130	6/1/2014 3:44	Kansu Street near Ferry Street	14.5	SALT	28	Y

No.	Date and Time	Location	Duration of Water Supply Interruption (hr)	Type of Water Main	Age of Water Main (see note 1)	Included in R&R (Y/N) (see note 2)
131	14/1/2014 4:14	Princess Margaret Road No.83	Not affected	FRESH	Unknown	Y
132	8/2/2014 11:07	O/S No. 142 Boundary Street	Not affected	FRESH	Unknown	Y
133	15/2/2014 3:00	Waterloo Road near Ferry Street	Not affected	FRESH	Unknown	Y
134	17/2/2014 12:42	8 Cheong Hang Road	6.75	FRESH	Unknown	Y
135	18/2/2014 11:44	To Kwa Wan Road near Lok Shan Road	Not affected	SALT	15	N
136	22/2/2014 9:17	Pine Tree Hill Road No.7	8.08	SALT	Unknown	Y
137	25/2/2014 12:16	C/W of Pak Wan Street J/O Pak Tin Street	7.83	SALT	Unknown	Y
138	4/3/2014 2:23	C/W of Beech Street near Ivy Street	16.08	SALT	Unknown	Y
139	5/3/2014 7:48	C/W of Cheung Yee Stree near Cheung Mou Street	5.58	FRESH	Unknown	Y
140	6/3/2014 2:04	Tai Nan West Street near Cheung Shun Street, Cheung Sha Wan	26.83	FRESH	Unknown	Y
141	26/3/2014 20:07	Austin Road near Temple Street	32.75	SALT	29	Y
142	8/4/2014 15:10	C/W of Castle Peak Road J/O Tonkin Street	14	SALT	Unknown	Y
143	19/5/2014 5:49	Temple Street near Hi Lung Lane	4.75	SALT	29	Y
144	29/5/2014 10:13	Pak Tai Street near Mok Cheong Street	10.25	SALT	Unknown	Y
145	18/6/2014 3:38	No.70 Mody Road, Tsim Sha Tsui	17.08	FRESH	Unknown	Y
146	27/6/2014 4:19	Nos.118-120 Argyle Street, Mong Kok	10.33	FRESH	Unknown	Y
147	3/7/2014 21:24	Saigon Street near Ferry Street	19.93	SALT	Unknown	Y
148	14/7/2014 4:54	Wylie Path No.4	8.35	FRESH	31	Y
149	1/8/2014 22:29	Granville Road near Chatham Road South	16.55	SALT	28	Y
150	16/8/2014 8:45	Fu Ning Street near Chi Chun House	23.33	SALT	Unknown	Y
151	22/8/2014 5:25	Queen Elizabeth Hospital Road near Gascoigne Road	20.85	SALT	Unknown	Y
152	28/8/2014 5:58	33 Mei King Street	Not affected	FRESH	Unknown	Y
153	30/8/2014 7:00	C/W of Tonkin Street near Cheung Sha Wan Road	17.83	SALT	Unknown	Y
154	27/9/2014 6:37	Queen Elizabeth Hospital Road near Gascoigne Road of F/P	8.67	SALT	Unknown	Y
155	1/10/2014 3:46	Boundary Street J/O Waterloo Road	8	SALT	12	N
156	4/10/2014 10:39	O/S No. 61 Carpenter Road	10.5	SALT	14	Y
157	20/10/2014 9:45	W/B Carpenter Road near Hau Wong Road	13	SALT	14	Y
158	31/10/2014 22:12	King's Park Rise No.23	57.42	SALT	Unknown	Y
159	16/11/2014 6:25	King's Park Rise No.23	87.83	SALT	Unknown	Y
160	18/11/2014 13:32	B/L of 186 Fuk Wing Street	4.67	SALT	7	N
161	28/11/2014 8:39	Fat Kwong Street near Chung Hau Street (Site)	7	SALT	Unknown	Y
162	29/11/2014 4:10	Nathan Road No.81	6.67	FRESH	Unknown	Y
163	2/12/2014 7:22	Kwei Chow Street near Yuk Yat Street	14	SALT	Unknown	Y
164	2/12/2014 13:19	6 Kwei Chow Street	7.97	FRESH	Unknown	Y
165	3/12/2014 17:40	Baker Street near Po Loi Street	9	FRESH	34	Y
166	6/12/2014 8:42	Waterloo Road No.72	3.45	SALT	16	Y
167	17/12/2014 3:35	Tung Choi Street No.7	Not affected	SALT	Unknown	Y
168	18/12/2014 3:40	Dundas Street near Portland Street	Not affected	SALT	16	Y
169	22/12/2014 8:13	Sheung Yee Road near Wang Chiu Road	Not affected	SALT	Unknown	Y
170	3/1/2015 13:50	Mody Road No.48	6.83	SALT	6	Y
171	6/1/2015 5:42	Mong Kok Road No.39	20.17	SALT	Unknown	Y
172	14/1/2015 3:41	Pak Hoi Street near Canton Road	25.42	SALT	32	Y
173	9/2/2015 3:52	Canton Road near Haiphang Road	16.75	SALT	38	Y
174	13/2/2015 7:43	Waterloo Road No.1	14.17	SALT	Unknown	Y
175	13/2/2015 7:45	Waterloo Road No.1	11.92	FRESH	Unknown	Y

Note 1: "Unknown" denotes no record of age of the water main, which should be over 30 years. Out of the 175 cases, there are 22 cases with age of water main between 20 and 30 years, and 130 cases over 30 years.

Note 2: R&R denotes the Replacement and Rehabilitation programme of water mains. Water mains included in the R&R programme will be substantially completed by the end of 2015. For water mains not included in the R&R programme, they will be closely monitored and leak detection will be conducted for them to reduce the risk of main burst.

Among the 175 cases, we have received four claims for damages. Two of the claims have not mentioned the claimed amount. The claimed amounts for the other two cases are $8,000 and $1,000,000 respectively. None of these claims is found justified after investigation.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

DEVB(W)263

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3374)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding the replacement and rehabilitation programme of water mains, could the Government advise on the following:

1. What is the estimated quantity of works to be completed this year?

2. It is expected that about 3 000 kilometres of aged water mains will be replaced and rehabilitated within 15 years under the programme. Is the programme completed on schedule at present? If yes, what are the details? If no, what are the reasons?

Asked by: Hon SHEK Lai-him, Abraham (Member Question No. 78)

Reply:

1. According to the current progress of works, it is expected to complete 250 km of water mains in 2015-16 under the Replacement & Rehabilitation (R&R) programme of water mains.

2. The R&R programme is about 91% completed with 2 730 km of water mains replaced or rehabilitated as at February 2015. The programme is anticipated to be substantially completed by the end of 2015 as originally scheduled.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 7042)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding the replacement and rehabilitation programme of water mains, could the Government advise on whether there were any statistics on the quantities of fresh water lost due to water main bursts and leaks in the recent 10 years; if yes, of the details; if not, the reasons for that?

Asked by: Hon SHEK Lai-him, Abraham (Member Question No. 78)

Reply:

With service reservoirs located at high altitude for water supply to premises at different levels, water mains at lower altitudes are operating under a relatively high water pressure. The high water pressure together with ground settlement, ground upheaval, external loading and vibration makes our ageing water distribution network prone to leakage and bursting. Therefore, water main leaks and bursts are considered more as operational constraints.

The quantity of fresh water drained away due to main bursts is between 0.01% to 0.02% over the past 10 years and the fresh water main leakage rates in this period are tabulated as follows:

Year	Fresh Water Main Leakage Rate
2005	23.6 %
2006	23 %
2007	22.5 %

2008	21.8 %
2009	21 %
2010	20 %
2011	19 %
2012	18 %
2013	17 %
2014	16 %

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3465)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

1. What is the additional expenditure involved in the use of fresh water for flushing in the North District at present when compared with salt water flushing in general?

2. The project on the use of reclaimed water for flushing in the North New Territories has been planned for years. What are the manpower and expenditure involved this year? What is the percentage of the use of reclaimed water for flushing in Hong Kong and the New Territories at present? What is the estimated time for the full extension of the use of reclaimed water for flushing in the North New Territories?

Asked by: Hon TONG Ka-wah, Ronny (Member Question No. 90)

Reply:

1. The Northern District is an inland area far away from the sea. This geographic constraint makes installing a salt water supply system for the district very costly and less economical than using fresh water for flushing. Therefore, no additional expenditure is required for the supply of fresh water for flushing when compared with salt water for flushing for the district.

2. At present, either fresh water or salt water is supplied for flushing in Hong Kong. However, we are actively pursuing the viability of supplying reclaimed water to the north-eastern part of the New Territories for flushing and other non-potable uses. We have completed technical studies including water quality standard and pilot test on the use of treated effluent of the Shek Wu Hui sewage treatment works for production of the reclaimed water. We have started planning of the infrastructure and target to supply reclaimed water starting from 2022. Upon implementation, we anticipate that up to 21 million cubic metres fresh water could be saved which is equivalent to about 2% of our annual fresh water consumption. We will also conduct a study on the financial and

legal aspects of the supply of reclaimed water. This study is targeted for completion by 2016. In 2015-16, the estimated expenditure on this study is $4 million and 0.5 in-house professional is assigned for the work related to reclaimed water supply.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4583)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational expenses

Programme: Not specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

On engagement of "outsourced workers", please provide the following information:

	2015-16 (the latest position)
Number of outsourced service contracts	( )
Total expenditure for outsourced service providers	( )
Duration of service for each outsourced service provider	( )
Number of workers engaged through outsourced service providers	( )
Details of the positions held by outsourced workers (e.g. customer service, property management, security, cleansing and information technology)	
Monthly salary range of outsourced workers • $30,001 or above • $16,001 - $30,000 • $8,001 - $16,000 • $6,501 - $8,000 • $6,240 - $6,500 • less than $6,240	 ( ) ( ) ( ) ( ) ( ) ( )
Length of service of outsourced workers • 15 years or above • 10 - 15 years • 5 - 10 years • 3 - 5 years • 1 - 3 years • less than 1 year	 ( ) ( ) ( ) ( ) ( ) ( )

	2015-16 (the latest position)
Percentage of outsourced workers against the total staff in the department	( )
Percentage of expenditure for outsourced service providers against the total staff costs in the department	( )
Number of workers who received severance payment / long service payment / contract gratuity	( )
Amount of severance payment / long service payment / contract gratuity paid	( )
Number of workers with severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Amount of severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Number of workers with paid meal break Number of workers without paid meal break	( ) ( )
Number of workers working 5 days per week Number of workers working 6 days per week	( ) ( )

Percentages in ( ) denote comparison with 2014-15

Asked by: Hon WONG Kwok-hing (Member Question No. 93)

Reply:

The Water Supplies Department uses a wide range of outsourced services, such as cleansing and security, information technology support, etc. The requested information for 2014-15 is provided below. As the requirement for outsourced services fluctuates with changing service needs, we are unable to provide information for 2015-16.

(a) Number of outsourced service contracts

2014-15 (as at 31.12.2014)
39 (-4.9%)

(b) Total expenditure for outsourced service providers

2014-15 (up to 31.12.2014) ($ million)
55.6 (-7.6%)

(c) Duration of outsourced service contracts

Duration of service	2014-15 (as at 31.12.2014) Number of contracts
6 months or less	0 (-)
Over 6 months to 1 year	22 (-8.3%)
Over 1 year to 2 years	12 (-7.7%)
Over 2 years	5 (+25%)
Total:	**39 (-4.9%)**

(d) Total number of workers engaged through outsourced service providers Note

2014-15 (as at 31.12.2014)
286 (+0.4%)

Note : Only those contracts with specified number of staff to be provided are counted.

(e) Number of outsourced workers against their work nature

Nature of service contracts	2014-15 (as at 31.12.2014) Number of workers
Security	104 (0%)
Cleansing	54 (0%)
Information Technology	17 (+6.3%)
Drivers	103 (0%)
Logistics (Store support)	8 (0%)
Total:	**286 (+0.4%)**

(f) Salaries of outsourced workers

After the implementation of the Statutory Minimum Wage (SMW) on 1 May 2011, for service contracts on security and cleansing, contractors are required to pay their workers wages not lower than the prevailing SMW.

For other service contracts, we specify and require only the service to be provided. We do not have information about the salaries of the workers employed by the contractors.

(g) Length of service of outsourced workers

The mode of using outsourced workers is that government departments and the contractor enter into a service contract under which the contractor will supply manpower as and when required. As long as the requirements of the government departments (in terms of the number of outsourced workers and the qualifications

and/or experience required from outsourced workers) are satisfied, the contractor may arrange any of their employees to work in the departments or arrange replacement outsourced workers during the contract period for different reasons. Therefore, we do not have information on the years of service of outsourced workers who are employees of the contractors and are at the disposal of the latter.

(h) Percentage of outsourced workers against the total staff in the Department

2014-15 (as at 31.12.2014)
6.3%

(i) Percentage of expenditure for outsourced service providers against the total staff costs in the Department

2014-15 (up to 31.12.2014)
5.1%

(j) Severance payment / long-service payment / contract gratuity paid to outsourced workers

The department entered into contracts with the outsourced contractors for provision of services as required by the department during the contract period. The contractual relationship of the outsourced workers is with the outsourced contractors which have to fulfil the obligations of employers under the relevant laws including the Employment Ordinance (Cap. 57) and Mandatory Provident Fund Schemes Ordinance (Cap. 485). We do not have information on the severance payment / long service payment / contract gratuity paid by the contractors to their workers.

(k) Meal break for outsourced workers

The outsourced workers are employed by the outsourced contractors, and whether the meal break is paid or not is governed by the employment contract between the two parties. We do not have information on this matter.

(l) Number of outsourced workers against working days

Working days	2014-15 (as at 31.12.2014) **Number of workers**
5 working days per week	151 (+0.7%)
6 working days per week	135 (0%)
Total:	**286 (+0.4%)**

Percentages in ( ) denote comparison with 2013-14 (as at 31.3.2014) except where the relevant figure in 2013-14 is zero.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4584)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational expenses

Programme: Not specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

On engagement of "agency workers", please provide the following information:

	2015-16 (the latest position)
Number of contracts with employment agencies	( )
Contract sum paid to each employment agency	( )
Duration of service for each employment agency	( )
Number of agency workers	( )
Details of the positions held by agency workers	
Monthly salary range of agency workers • $30,001 or above • $16,001 - $30,000 • $8,001 - $16,000 • $6,501 - $8,000 • $6,240 - $6,500 • less than $6,240	 ( ) ( ) ( ) ( ) ( ) ( )
Length of service of agency workers • 15 years or above • 10 - 15 years • 5 - 10 years • 3 - 5 years • 1 - 3 years • less than 1 year	 ( ) ( ) ( ) ( ) ( ) ( )
Percentage of agency workers against the total staff in the department	( )

	2015-16 (the latest position)
Percentage of expenditure for employment agencies against the total staff costs in the department	( )
Number of workers who received severance payment / long service payment / contract gratuity	( )
Amount of severance payment / long service payment / contract gratuity paid	( )
Number of workers with severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Amount of severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Number of workers with paid meal break Number of workers without paid meal break	( ) ( )
Number of workers working 5 days per week Number of workers working 6 days per week	( ) ( )

Percentages in ( ) denote comparison with 2014-15

Asked by: Hon WONG Kwok-hing (Member Question No. 94)

Reply:

The information in respect of the use of agency workers for 2014-15 is provided below. This information excludes services provided under term contracts centrally administered by the Office of the Government Chief Information Officer. As the requirement for and number of agency workers used fluctuate with changing service needs, we are unable to provide information for 2015-16.

(a) The number of contracts with employment agencies (EAs)

2014-15 (as at 30.9.2014)
12 (+33.3%)

(b) Contract sum and duration of services

Contract sum	2014-15 (as at 30.9.2014) Number of contracts
Less than $0.5 million	0 (-100.0%)
$0.5 million to $1 million	2 (+100.0%)
Over $1 million	10 (+42.9%)
Total:	**12 (+33.3%)**

Duration of services	2014-15 (as at 30.9.2014) Number of contracts
6 months or less	0 (-100.0%)
Over 6 months to 1 year	12 (+50.0%)
Over 1 year to 2 years	0 (-)
Over 2 years	0 (-)
Total:	**12 (+33.3%)**

(c) Number of workers against their job categories

	2014-15 (as at 30.9.2014)
Number of workers	80 (+8.1%)

Job categories of workers	2014-15 (as at 30.9.2014) Number of workers
Backend office support	0 (-100.0%)
Technical services	80 (+11.1%)
Total:	**80 (+8.1%)**

(d) Monthly salary range of agency workers

With the implementation of the Statutory Minimum Wage (SMW) since 1 May 2011, bidders are required to pay their agency workers salaries not lower than the average monthly wages for "General Worker for all selected industries" in the Quarterly Report for December 2010, unless it is overtaken by the prevailing SMW plus one paid rest day in every period of seven days. As at 30 September 2014, the minimum monthly wage specified in the contracts was $8,397.

(e) Length of service of agency workers

The mode of using agency workers is that a government department and an EA enter into a service contract under which the agency will supply manpower as and when required. As long as the requirements of the government department (in terms of the number of agency workers and the qualifications and/or experience required from agency workers) are satisfied, the EA may arrange any of their employees to work in the department or arrange replacement agency workers during the contract period for different reasons. Therefore, we do not have information on the years of service of agency workers who are employees of the EAs and are at the disposal of the latter.

(f) Percentage of workers against the total number of staff in the Department

2014-15 (as at 30.9.2014)
1.8%

(g) Percentage of expenditure for EAs against the total staff costs in the Department

2014-15 (up to 30.9.2014)
0.9%

(h) Severance payment / long service payment / contract gratuity paid to agency worker by employment agency

The department entered into contracts with the EAs for provision of services as required by the department during the contract period. The contractual relationship of the agency workers is with the EAs which have to fulfil the obligations of employers under the relevant laws including the Employment Ordinance (Cap. 57) and Mandatory Provident Fund Schemes Ordinance (Cap. 485). We do not have information on the severance payment/ long service payment/ contract gratuity paid by the EAs to their workers.

(i) Meal break for workers

The agency workers are employed by the EAs, and whether the meal break is paid or not is governed by the employment contract between the two parties. We do not have information on this matter.

(j) Number of workers against working days [Note]

Working days	2014-15 (as at 30.9.2014)
	Number of workers
5 working days per week	71 (+9.2%)
6 working days per week	0 (-)
Total:	**71 (+9.2%)**

Note: For full-time workers only.

Percentages in ( ) denote comparision with 2013-14, except where the relevant figure in 2013-14 is zero.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 4585)

Head: (194) Water Supplies Department

Subhead (No. & title): (000) Operational expenses

Programme: Not specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Regarding the employment of "non-civil service contract (NCSC) staff", please provide the following information:

	2015-16 (the latest position)
Number of NCSC staff	( )
Details of the positions held by NCSC staff	
Total expenditure on salaries for NCSC staff	( )
Monthly salary range of NCSC staff	
• $30,001 or above	( )
• $16,001 - $30,000	( )
• $8,001 - $16,000	( )
• $6,501 - $8,000	( )
• $6,240 - $6,500	( )
• less than $6,240	( )
Length of service of NCSC staff	
• 15 years or above	( )
• 10 - 15 years	( )
• 5 - 10 years	( )
• 3 - 5 years	( )
• 1 - 3 years	( )
• less than 1 year	( )
Number of NCSC staff successfully appointed as civil servants	( )
Percentage of NCSC staff against the total staff in the department	( )

	2015-16 (the latest position)
Percentage of staff costs for NCSC staff against the total staff costs in the department	( )
Number of NCSC staff who received severance payment / long service payment / contract gratuity	( )
Amount of severance payment / long service payment / contract gratuity paid	( )
Number of NCSC staff with severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Amount of severance payment / long service payment / contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF	( )
Number of NCSC staff with paid meal break Number of NCSC staff without paid meal break	( ) ( )
Number of NCSC staff working 5 days per week Number of NCSC staff working 6 days per week	( ) ( )

Percentages in ( ) denote comparison with 2014-15

Asked by: Hon WONG Kwok-hing (Member Question No. 95)

Reply:

Information on the employment of full-time non-civil service contract (NCSC) staff for 2014-15 is provided below. As the requirement for and number of NCSC staff fluctuate with changing service needs, we are unable to provide information for 2015-16.

(a) Number of NCSC staff against their job nature

Job nature	**2014-15** (as at 31.12.2014)
	Number of NCSC staff
Professional	7 (-30%)
Technical & inspectorate	23 (-14.8%)
General administration	79 (-9.2%)
Total:	**109 (-12.1%)**

(b) Total expenditure on salary of NCSC staff

2014-15 (up to 31.12.2014) ($ million)
25.5 (+9.0%)

(c) Number of NCSC staff against their salaries and length of service

Monthly salary	**2014-15** (as at 31.12.2014)
	Number of NCSC staff
$30,001 or above	21 (-4.5%)
$16,001 to $30,000	36 (-7.7%)
$8,001 to $16,000	52 (-17.5%)
$6,501 to $8,000	0 (-)
$6,240 to $6,500	0 (-)
Less than $6,240	0 (-)
Total:	**109 (-12.1%)**

Length of services	**2014-15** (as at 31.12.2014)
	Number of NCSC staff
15 years or above	0 (-)
10 years to less than 15 years	27 (+8%)
5 years to less than 10 years	10 (-23.1%)
3 years to less than 5 years	28 (+211.1%)
1 year to less than 3 years	32 (-20%)
Less than 1 year	12 (-67.6%)
Total:	**109 (-12.1%)**

(d) Number of NCSC staff appointed as civil servants (Note 1)

2014-15 (up to 31.12.2014)
8 (+166.7%)

Note 1: Including information on appointment of NCSC staff as civil servant within Water Supplies Department (WSD) only. The said NCSC staff have joined the civil service through an open, fair and competitive process.

(e) Percentage of NCSC staff against the total number of staff in the Department

2014-15 (as at 31.12.2014)
2.4 %

(f) Percentage of staff costs for NCSC staff against the total staff costs in the Department

2014-15 (up to 31.12.2014)
2.2%

(g) Number of NCSC staff who received severance payment/long service payment/contract gratuity

2014-15 (up to 31.12.2014)
96 (-7.7%)

(h) Amount of severance payment/long service payment/contract gratuity paid

2014-15 (up to 31.12.2014) **($ million)**
$1.9 (-13.6%)

(i) Number of NCSC staff with severance payment/long service payment/contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF (Note 2)

2014-15 (up to 31.12.2014)
0

(j) Amount of severance payment/long service payment/contract gratuity offset by the accrued benefits attributable to employer's contributions to MPF (Note 2)

2014-15 (up to 31.12.2014) **($ million)**
0

Note 2: According to the Civil Service Bureau's guidelines on employment of NCSC staff, the contract gratuity for NCSC staff, plus the government's MPF contributions in respect of the NCSC staff, should not be more than 10% (for non-skilled jobs) or 15% (for skilled jobs) of the total basic salary drawn during the contract period. The government will not make reference to accrued benefits in calculating contract gratuity for NCSC staff.

(k) Number of NCSC staff against meal break

Meal break	**2014-15** (as at 31.12.2014)
	Number of NCSC staff
Paid meal break	92 (-8.9%)
Unpaid meal break	17 (-26.1%)
Total:	**109 (-12.1%)**

(l) Number of NCSC staff against working days per week (Note 3)

Working days	**2014-15** (as at 31.12.2014)
	Number of NCSC staff
5 working days per week(Note3)	109 (-12.1%)
6 working days per week	0 (-)
Total:	**109 (-12.1%)**

Note 3: Including staff who are rostered to work shift for 5 days or less in a week.

Percentages in ( ) denote comparison with 2013-14, except where the relevant figure in 2013-14 is zero.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3796)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

What were the quantities of water supply under the Dongjiang (DJ) water supply agreement and the actual quantities of water delivered in the past 10 years? What were the expenditures involved? What would be the amounts of savings achieved if DJ water was supplied according to the actual quantities of water delivered in the past 10 years?

In view of the public's doubts about the payment for excess quantities of DJ water, will the Government consider taking new measures to address the public's concern, which include using the average water consumption in the past 5 years as the benchmark for the quantity of water supply, and levying charges according to the actual amount of water consumption in excess of the benchmark? If yes, what are the details? If no, what are the reasons?

Asked by: Hon WU Chi-wai (Member Question No. 92)

Reply:

In the past ten years, the ceiling of the annual supply quantities in the Dongjiang (DJ) water supply agreements, the actual supplied quantities of DJ water and the associated expenditures are shown in the table below –

Year	Annual supply ceiling quantity in the supply agreement (million cubic metres)	Actual supplied quantity (million cubic metres)	Expenditure ($ million)
2005	820	771	2,529.70
2006	820	617	2,494.80
2007	820	715	2,494.80
2008	820	653	2,494.80

Year	Annual supply ceiling quantity in the supply agreement (million cubic metres)	Actual supplied quantity (million cubic metres)	Expenditure ($ million)
2009	820	725	2,959.00
2010	820	681	3,146.00
2011	820	818	3,344.00
2012	820	709	3,538.70
2013	820	612	3,743.30
2014	820	724	3,959.34

The local yield is inadequate to meet the fresh water demand in Hong Kong. It also fluctuates significantly and is unreliable. In order to safeguard our water security, we need to procure a water right in the form of an annual ceiling of supply quantity in the DJ water supply agreement with a view to maintaining water supply round-the-clock even under the extreme drought condition with a return period of 1 in 100 years.

Moreover, Hong Kong and Guangdong (GD) are under the same climatic setting (rainfall pattern, temperature, etc.). When our local yield reduces during drought years, the quantity of DJ water available for distribution will also dwindle. If we adopt the "payment on actual supply quantity" approach, the GD side considers that they will have difficulty to guarantee that the water supply quantity requested by Hong Kong can be met particularly in drought years given the keen demand for the limited DJ water resources. We will be exposed to a risk of inadequate water supply to Hong Kong during drought years unless we set a "reserved quantity" for possible need during drought years in the DJ water supply agreement and pay for it. However, such arrangement is effectively the same as the "package deal lump sum" approach we have adopted for the DJ water supply agreements since 2006.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3797)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

What is the progress of the study on the desalination plant at Tseung Kwan O at present? What is the expenditure involved? What are the expected dates of commencement and implementation of works? What will be the proportion of fresh water brought to Hong Kong?

Asked by: Hon WU Chi-wai (Member Question No. 93)

Reply:

We engaged a consultant to carry out a planning and investigation study for the construction of a desalination plant in Tseung Kwan O (TKO). The study commenced in December 2012 and is now largely completed. The actual (A) and estimated (E) expenditure for the study in 2013-14, 2014-15 and 2015-16 are $4.5 million (A), $10.9 million (A) and $9.8 million (E) respectively.

We plan to seek funding in 2015 for the review and design and associated site investigation works for the first stage of the proposed desalination plant. Subject to approval of the Finance Committee, we plan to commence the design in late 2015 with a view to starting the construction in 2017 for commencing the operation of the plant in 2020.

The output capacity of the first stage of the proposed desalination plant is 135 000 cubic metres per day which is about five per cent of the fresh water consumption in Hong Kong.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 3462)

Head: (709) Capital Works Reserve Fund – Waterworks

Subhead (No. & title): (9358WF) In-situ reprovisioning of Sha Tin water treatment works (South Works) – advance works

Programme: Not Specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Subhead 9358WF In-situ reprovisioning of Sha Tin water treatment works (South Works) – advance works

Question A: The advance works of in-situ reprovisioning of Sha Tin water treatment works (South Works) and main works of in-situ reprovisioning of Sha Tin water treatment works are implemented in phases. What are the estimates for the main works? What is the estimated time for completion?

Question B: Has the Administration conducted the feasibility study, environmental impact assessment and quantitative impact assessment for Sha Tin water treatment works? If yes, what are the manpower and expenditure involved? If no, what are the reasons?

Asked by: Hon TONG Ka-wah, Ronny (Member Question No. 87)

Reply:

According to Rule 49 of the Finance Committee Procedures, special meetings of the Finance Committee are convened to examine the annual Estimates of Expenditure prepared by the Government in support of the Appropriation Bill.

*Expenditure charged to the Capital Works Reserve Fund does **not** form part of the Appropriation Bill. As such, questions relating to expenditure under the Fund are **not** relevant to the examination of the Estimates of Expenditure or the Appropriation Bill.*

The detailed design for the main works of the in-situ reprovisioning of Sha Tin water treatment works (South Works) is in progress and a more accurate cost estimate and detailed implementation programme will be determined near the completion of the detailed design.

The consultancy on the in-situ reprovisioning of Sha Tin water treatment works (South Works) includes the feasibility study and environmental impact assessment for the project which includes qualitative and quantitative impact assessment in aspects of air quality, noise, water quality, waste management, terrestrial ecology, landscape and visual, cultural heritage, land contamination and hazard to life. The consultancy fee is about $17.4 million.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. 7071)

Head: (709) Capital Works Reserve Fund: Waterworks

Subhead (No. & title): (9358WF) In-situ reprovisioning of Sha Tin water treatment works (South Works) – advance works

Programme: Not specified

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Subhead 9358WF under Head 709 in the Estimates for 2015 is "In-situ reprovisioning of Sha Tin water treatment works (South Works) – advance works". Has the Government conducted any studies on the relocation of the South Works of Sha Tin water treatment works to caverns? If yes, what are the manpower and expenditure involved?

Asked by: Hon TONG Ka-wah, Ronny (Member Question No. 88)

Reply:

According to Rule 49 of the Finance Committee Procedures, special meetings of the Finance Committee are convened to examine the annual Estimates of Expenditure prepared by the Government in support of the Appropriation Bill.

*Expenditure charged to the Capital Works Reserve Fund do **not** form part of the Appropriation Bill. As such, questions relating to expenditure under the Fund are **not** relevant to the examination of the Estimates of Expenditure or the Appropriation Bill.*

Unlike other government facilities being considered for relocation to caverns such as sewage treatment works, service reservoirs, etc., there are major technical concerns in accommodating the Sha Tin Water Treatment Works (WTW) inside caverns. There is potential hazard arising from the accumulation of chlorine inside the caverns due to the use and storage of chlorine in the WTW. Besides, the Sha Tin WTW is at a strategic location and connected with a network of major raw water tunnels and treated water mains, and it is difficult to find a suitable site to reprovision the WTW in caverns. As such, no project specific study has been carried out on the relocation of the South Works of Sha Tin WTW to caverns.

- End -

Examination of Estimates of Expenditure 2015-16 Reply Serial No.

S-DEVB(W)03

CONTROLLING OFFICER'S REPLY TO ORAL QUESTION

(Question Serial No. SV018)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

Pursuant to reply no. DEVB(W)122, the Administration is requested to provide follow-up information on the agreement with the Mainland authorities regarding the supply of fresh water and the management of fresh water overflow from reservoirs.

Asked by: Hon Claudia MO

Reply:

Since 2006, the Dongjiang (DJ) water supply agreements made with the Guangdong authority have adopted a flexible supply arrangement with provision for adjusting the daily supply rate according to our need to facilitate better control on the storage level of our large reservoirs. Overflow since then has been greatly reduced as compared to the period before 2006. The average overflow quantity over the past five years (2010 to 2014) is about 21 million cubic metres per annum, equivalent to about 2% of total fresh water supply. During this period, no DJ water was overflown from reservoirs. Comparing with the average overflow of 94 million cubic metres per annum for the 10-year period before 2006 (1996 to 2005), the reduction is about 78%.

Cases of recent overflow have mostly occurred in the reservoirs with small and medium capacities during heavy rainstorms. To reduce the overflow from Tai Tam Group of Reservoirs in wet season, Tai Tam Upper Reservoir has supplied raw water to augment the salt water supply system for Wan Chai area since June 2014. We have also considered different options including expanding the reservoir storages with a view to reducing overflow from these small and medium reservoirs. However, these options are found not cost-effective and will have severe ecological impact and in some cases heritage impact on the downstream areas.

Nevertheless, we will continue to review the situation with a view to further reducing the quantity of overflow from reservoirs.

- End -

CONTROLLING OFFICER'S REPLY

(Question Serial No. S0072)

Head: (194) Water Supplies Department

Subhead (No. & title): Not specified

Programme: (1) Water Supply: Planning and Distribution

Controlling Officer: Director of Water Supplies (Enoch T.S. LAM)

Director of Bureau: Secretary for Development

Question:

According to DEVB(W)130, what are the estimated number and percentage of households to be provided with flow controllers for water taps in Hong Kong this year? What is the estimated time for extending such project to non-domestic units? Also, when will the project be fully extended to cover all public housing tenants in the territory?

Asked by: Hon WONG Kwok-hing

Reply:

As at end February 2015, flow controllers have been distributed to over 135 000 households under the "Let's Save 10L Water" campaign, which is equivalent to about 5% of the total number of domestic consumers. In the meantime, the Water Supplies Department (WSD) will evaluate the campaign's effectiveness to determine the way forward, including the possible arrangement for non-domestic consumers.

While the pilot project to install flow controllers at the 16 selected public housing estates is coming to an end, analysis of the corresponding water consumption data is underway in order to evaluate the effectiveness of the project for considering its any further extension.

- End -