

**Replies to questions raised by Finance Committee Members in
Examining the Estimates of Expenditure 2009-10**

Controlling Officer : Director of Water Supplies

Reply Serial No.	Question Serial No.	Name of Member	Head	Programme
Initial Written Question				
DEVB(W)106	0074	Hon. CHAN Tanya	194	Water Supply: Planning and Distribution
DEVB(W)107	0517	Hon. PAN Pey-chyou	194	Water Supply: Planning and Distribution
DEVB(W)108	0518	Hon. PAN Pey-chyou	194	Water Supply: Planning and Distribution
DEVB(W)109	0519	Hon. PAN Pey-chyou	194	Customer Services
DEVB(W)110	0520	Hon. PAN Pey-chyou	194	Customer Services
DEVB(W)111	0629	Hon. WONG Kwok-hing	194	Water Supply: Planning and Distribution
DEVB(W)112	0630	Hon. WONG Kwok-hing	194	Water Supply: Planning and Distribution
DEVB(W)113	1640	Hon. WONG Yung-kan	194	Water Supply: Planning and Distribution
DEVB(W)114	1641	Hon. WONG Yung-kan	194	Water Supply: Planning and Distribution
DEVB(W)115	2326	Hon. LAU Kin-ye, Miriam	194	Customer Services
DEVB(W)116	2579	Hon. KAM Nai-wai	194	Customer Services
DEVB(W)117	2580	Hon. KAM Nai-wai	194	Water Supply: Planning and Distribution
DEVB(W)118	2581	Hon. KAM Nai-wai	194	Water Supply: Planning and Distribution

**Replies to questions raised by Finance Committee Members in
Examining the Estimates of Expenditure 2009-10**

Controlling Officer : Director of Water Supplies

Reply Serial No.	Question Serial No.	Name of Member	Head	Programme
Initial Written Question				
DEVB(W)119	2582	Hon. KAM Nai-wai	194	Water Supply: Planning and Distribution
DEVB(W)120	2583	Hon. KAM Nai-wai	194	Water Supply: Planning and Distribution
DEVB(W)121	2584	Hon. KAM Nai-wai	194	Water Supply: Planning and Distribution

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead : 000 Operating Expenses

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

Some water mains in Hong Kong leak frequently and need to be replaced urgently. Can the Department advise the following:

- (a) the number of projects under planning, design or construction in the replacement of water mains, their total value and the number of job vacancies created by the projects.
- (b) Will the Department provide suitable resources to speed up the progress of the water mains replacement projects? If so, what are the relevant details and what is the number of job vacancies expected to be increased? If not, what are the reasons?

Asked by : Hon. CHAN Tanya

Reply :

- (a) The Department is taking forward the Replacement and Rehabilitation of Water Mains (R&R) Programme to replace and rehabilitate 3 000 km of water mains. The programme is being implemented in four stages as follows. The total estimated cost is \$19.2 billion in money-of-the-day (MOD) prices creating about 7 200 job vacancies.

	Length (km)	Status	Estimated Cost (\$ billion) (in MOD prices)
Stage 1	600	Under construction	3.7
Stage 2	750		3.2
Stage 3	800		5.6
Stage 4	850	Under design	6.7
Total	3 000		19.2

(b) The R&R programme was originally planned for implementation over a 20-year period from 2000 to 2020. Since 2005, we have redeployed more resources to advance the completion of the programme by 5 years, i.e. completion by 2015. As a result, some of the job vacancies arising from the programme were created earlier. We will continue to review the works progress and make every endeavour to bring forward the completion of the programme as far as practicable.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply : Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

In the matters requiring special attention in 2009-10, it is indicated that the Department will plan and develop water resources and supply systems. Please advise whether the current studies on and uses of reclaimed water and desalination are included?

Asked by : Hon. PAN Pey-chyou

Reply :

Studies on and uses of reclaimed water and desalination are included in our planning and development of water resources and supply systems.

We have already carried out two pilot tests on use of reclaimed water for toilet flushing and other non-potable applications in Ngong Ping and Shek Wu Hui. We will explore the opportunities for the provision of reclaimed water to Sheung Shui and Fanling areas for toilet flushing and other non-potable uses. As regards the desalination, we are keeping abreast of the latest technological development in seawater desalination including the technology of reverse osmosis.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

19 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Reply Serial No.

DEVB(W)108

Question Serial No.

0518

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

If there are studies on and uses of reclaimed water and desalination, what were the results in 2008-09? What are the contents and expenditure of the programmes in 2009-10?

Asked by : Hon. PAN Pey-chyou

Reply :

The use of reclaimed water has been studied in pilot schemes at Ngong Ping and Shek Wu Hui. We have reviewed the study results in February 2009. Preliminary indications are that the non-potable use of reclaimed water was technically feasible. We will explore in 2009-10 the provision of reclaimed water to Sheung Shui and Fanling areas for toilet flushing and other non-potable uses.

In regard to desalination, we completed a pilot plant study in 2007 which demonstrated that seawater desalination using reverse osmosis technology was technically feasible in Hong Kong. However, the present day technology involves high capital costs and high electricity consumption. We will closely monitor the advancement of the reverse osmosis technology that could enhance its viability.

There is no additional expenditure required for the above tasks in 2009-10 as we will deploy existing in-house resources to carry out the work.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Reply Serial No.

DEVB(W)109

Question Serial No.

0519

Head : 194 Water Supplies Department

Subhead :

Programme : (3) Customer Services

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

In the matters requiring special attention in 2009-10, it is indicated that the Department will implement the water meter replacement programme for replacement of aged water meters, please advise:

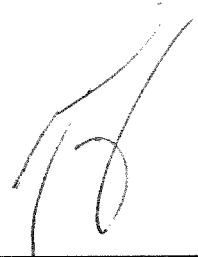
Is there any programme to replace the water meters for all the customers in Hong Kong? What is the content of the programme, progress in 2008-09 and planning for 2009-10?

Asked by : Hon. PAN Pey-chyou

Reply :

The Department has started a water meter replacement programme in 2006-07 to replace 1.27 million of 15 mm diameter meters which have been in use for over 12 years. The programme is targeted for completion by 2010-11. Up to end 2007-08, 600 000 water meters have been replaced. The Department would further replace 250 000 water meters in 2008-09 and another 260 000 water meters in 2009-10.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

19 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (3) Customer Services

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

In the matters requiring special attention in 2009-10, it is indicated that the Department will implement meter replacement programme for replacement of aged meters. What was the overall accuracy of water meters in 2008-09? What was the number of cases of overcharging or undercharging of water tariff due to inaccuracy of water meters?

Asked by : Hon. PAN Pey-chyou

Reply :

Due to mechanical wear and tear, aged water meters may become less accurate in registering the amount of water used. In 2008, the overall accuracy of meters was 93.6%. Out of the 6.7 million water bills issued by the Department for 2008-09 up to end February 2009, 514 cases disputed the accuracy of the meters and requested for meter testing. The meters were subsequently tested in the Department's accredited testing laboratory. There were 35 cases of inaccuracy of the water meters which required downward adjustment of the bill amounts. Whilst three cases are being handled, the remaining 476 cases did not involve inaccuracy of the water meters requiring bill adjustments.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

19 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

- (a) In the indicators under this programme, the amount of fresh water supplied in 2008 increased substantially by 5.26 million cubic metre than that in 2007. What was the reason?
- (b) Why does the Department expect that the water consumption will decrease by 154 000 cubic metre in 2009? Has the expected result of the promotion of water conservation been included?
- (c) Please list the water conservation measures, the contents of the publicity campaign and the associated estimated expenditure used by the Department in 2009-10.

Asked by : Hon. WONG Kwok-hing

Reply :

- (a) The quantity of fresh water supplied in 2008 showed an increase of about 0.55% (or 5.26 million cubic metres) over that in 2007. This was largely attributed to population growth which showed an increase of 0.7% over the period.
- (b) We forecast that fresh water consumption in 2009 will be of the order of 956 million cubic metres. This is similar to the actual consumption in 2008, i.e. 956.154 million cubic metres. The difference is due to rounding off.

In forecasting fresh water consumption in 2009, we have taken into account the past consumption trend, population forecast and economic growth as well as other factors such as reduction of water mains leakage in water mains and promotion of water conservation.

- (c) The water conservation measures in 2009-10 will include the retrofitting of government buildings and schools with water-saving devices and development and implementation of a Water Efficiency Labelling Scheme to facilitate consumers to choose water saving devices. The publicity campaign will focus on promoting to the public, particularly primary students, the tips for saving water in daily life and the use of water-saving devices. It will also convey information about water scarcity around the world. The associated estimated expenditure for 2009-10 is \$65 million.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

19 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

- (a) In the indicators under this programme, the leakage rate of water mains in 2007 and 2008 was 22.5% and 21.8% respectively. What are the reasons? How much water was wasted due to leakage of water mains?
- (b) In the matters requiring special attention in 2009-10, it is indicated that the Department will implement the construction works of stages 1, 2 and 3 of the replacement and rehabilitation programme of water mains. What are the progress and completion dates of these stages of the works?
- (c) Upon the completion of the works, how much does the Department expect the leakage and leakage rate of water mains to decrease?
- (d) Please list the expenditure and manpower required for the construction works of stages 1, 2, and 3 of the replacement and rehabilitation programme of water mains in 2009-10.

Asked by : Hon. WONG Kwok-hing

Reply :

- (a) It is common practice to express water leakage in terms of its rate. The decrease of leakage rate from 22.5% in 2007 to 21.8% in 2008 is attributed to the replacement and rehabilitation of aged water mains. Up to end 2008, about 690 km of aged water mains have been replaced or rehabilitated.
- (b) Stages 1, 2 and 3 of the replacement and rehabilitation programme are currently under construction for completion in March 2010, June 2011 and December 2013 respectively. The percentages of works completed under Stages 1 and 2 are 83% and 31% respectively, while stage 3 of the programme has just commenced.

- (c) The replacement and rehabilitation programme has in total four stages, and the last stage will be completed by 2015. By then we anticipate the leakage rate will be reduced to 15%.
- (d) The estimated expenditure for the construction works of Stages 1, 2 and 3 of the replacement and rehabilitation programme in 2009-10 is about \$1,566 million, of which \$241 million is for the employment of consultants including site staff for supervision of the replacement and rehabilitation programme.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

At present, how many remote villages in the New Territories are still not yet provided with metered water supply? What is the programme for provision of metered water supply to these villages?

Asked by : Hon. WONG Yung-kan

Reply :

There remains 19 villages in very remote parts of the New Territories not yet provided with metered water supply. Stream or ground-water of acceptable quality is available in such villages. Because of their remoteness and small population, it is not cost-effective to provide metered water supply and as such there is at present no programme for its provision to all the villages. Government will continue monitoring the water quality of the existing water sources. The situation will be reviewed as necessary.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

19 March 2009

Examination of Estimates of Expenditure 2009-10
**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Reply Serial No.

DEVB(W)114

Question Serial No.

1641

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

How much resources will be reserved for inspection and maintenance of slopes and water mains which may affect these slopes in 2009-10? How much resources will be spent on improvement to sub-standard slopes for the same year?

Asked by : Hon. WONG Yung-kan

Reply :

We have earmarked a total of \$56 million in 2009-10 for inspection and maintenance of slopes maintained by the Water Supplies Department (WSD) and buried water mains which may affect these slopes. In addition, we will spend about \$70 million in 2009-10 on improvement to slopes maintained by the WSD.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

19 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (3) Customer Services

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

- (a) In the item “the accuracy of water meters”, the accuracy rate of water meters was 93.6% in 2008, what was the total number of commercial and non-commercial customers involved in the water meters which did not meet the accuracy standard? Of the five most serious cases of overcharging and undercharging of water tariff in these two types of customers, what were the amounts overcharged and undercharged respectively?
- (b) Regarding the implementation of the replacement programme for aged water meters to enhance the overall accuracy of water meters, what is the plan and estimated expenditure in 2009-10?
- (c) Apart from the water meters replacement programme, what other measure will the Department implement to improve the accuracy of water meters in 2009-10?

Asked by : Hon. LAU Kin-yee, Miriam

Reply :

- (a) The “accuracy of water meters” refers to the percentage of domestic and non-domestic water meters that register readings within plus or minus 3% of the actual consumption. There were 525 cases in 2008 of customers disputing the accuracy of the meters and requested for meter testing. The meters were then tested in the Department’s accredited testing laboratory. 48 cases involved inaccuracy of the water meters and none of them involved underbilling. Of the five most serious cases for domestic and non-domestic customers, the amounts overbilled are as shown in the table below.

Type of Customers	Case No.	Amount Overbilled (\$)
Domestic	1	8,697
	2	7,070
	3	3,853
	4	2,825
	5	2,671
Non-domestic	1	24,178
	2	21,027
	3	16,668
	4	12,700
	5	8,306

- (b) WSD plans to replace 260 000 aged water meters in 2009-10 and the total estimated expenditure is around \$40 million.
- (c) Due to mechanical wear and tear, aged water meters become less accurate in registering the amount of water used. Replacement of aged water meters is the most cost effective way to improve their accuracy.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (3) Customer Services

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

Regarding the accuracy of water meters, please advise this committee of the number of cases involving the inaccuracy of water meters in financial year 2008-09 and the amount involved.

Asked by : Hon. KAM Nai-wai

Reply :

Out of the 6.7 million water bills issued by the Department for 2008-09 up to end February 2009, 514 cases disputed the accuracy of the meters and requested for meter testing. The meters were subsequently tested in the Department's accredited testing laboratory. There were 35 cases of inaccuracy of the water meters which required downward adjustment of the bill amounts and the total amount of adjustment was \$137,678. Another three cases are being handled. The remaining 476 cases did not involve inaccuracy of the water meters requiring bill adjustments.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

19 March 2009

Examination of Estimates of Expenditure 2009-10
CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION

Reply Serial No.

DEVB(W)117

Question Serial No.

2580

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

Regarding the replacement and rehabilitation programme of water mains, please advise:

- (a) the number of projects completed and the length of water mains replaced in 2008; and the number of projects expected to be completed and the length of water mains expected to be replaced in 2009;
- (b) the expected completion date of the entire replacement and rehabilitation programme of water mains and the total expenditure involved.

Asked by : Hon. KAM Nai-wai

Reply :

- (a) The replacement and rehabilitation (R&R) programme of water mains is being implemented through a number of contracts. In 2008, six contracts were completed and a total length of about 274 km of water mains was replaced and rehabilitated. In 2009, two contracts are expected to be completed and a total length of about 380 km of water mains will be replaced and rehabilitated.
- (b) The entire R&R programme is expected to be completed by 2015 at a total estimated cost of \$19.2 billion in money-of-the-day prices.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

Regarding the fresh water supply in Hong Kong, please provide the following information:

- (a) In the annual fresh water supply for the past two years (i.e. 2007 and 2008), what were the percentages of Dongjiang water and the fresh water supplied from local reservoirs respectively? And the figures on the overflow of water from the reservoirs each year;
- (b) Regarding the raw water supply agreement signed with the Mainland, was there any occasion where the supply exceeded the demand in the past three years (i.e. 2006 to 2008)? If yes, what are the details? Is there any measure to improve the situation?

Asked by : Hon. KAM Nai-wai

Reply :

- (a) The proportion of our sources of water supply are tabulated below:

Year	2007	2008
Supply by Dongjiang water	75.2%	68.3%
Local supply	24.8%	31.7%

At the time of heavy downpours, overflow of rain-water collected at reservoirs may occur. The estimated quantities of overflow in million cubic meters (mcm) for 2007 and 2008 are as shown below:

Year	2007	2008
Estimated overflow from reservoirs (mcm)	10	92

- (b) The agreement for supply of Dongjiang water allows flexibility in water supply to meet our needs. There was no occasion where the supply exceeded the demand in the past three years (i.e. 2006 to 2008).

Signature:

A handwritten signature in black ink, consisting of several loops and a long vertical stroke, positioned above a horizontal line.

Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Reply Serial No.

DEVB(W)119

Question Serial No.

2582

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

In the increased estimates for 2009-10, please provide the breakdown of the expenditure involved for the purchase of water under agreement, the filling of vacancies, the contract maintenance work and other operational expenses respectively.

Asked by : Hon. KAM Nai-wai

Reply :

Provision for Programme (1) in 2009-10 Estimates is \$451.6 million higher than the revised estimates for 2008-09. It is mainly due to the increased provision for the following items:

	\$ million
Purchase of water	413.8
Filling of vacancies	12.4
Contract maintenance	13.1
Other operating expenses	12.3
Total	<u>451.6</u>

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supplies : Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

Please provide details of 22 projects that are under design in 2009 and provide the breakdown of expenditure involved for each project.

Asked by : Hon. KAM Nai-wai

Reply :

The 22 projects under design in 2009 include (a) laying of new water mains, (b) replacement and rehabilitation of water mains, (c) improvement of fresh and salt water supply systems, and (d) upgrading works to slopes adjacent to waterworks installations. The expenditure for works involved for these projects in 2009-10 is estimated to be \$715 million. A breakdown of the expenditure is shown below -

	No. of Projects	Estimated Cost in 2009-10 (\$ million)
(a) laying of new water mains	9	130.0
(b) replacement and rehabilitation of water mains	2	564.0
(c) improvement of fresh and salt water supply systems	4	12.5
(d) upgrading works to slopes adjacent to waterworks installations	<u>7</u>	<u>8.5</u>
	22	715.0

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009

**CONTROLLING OFFICER'S REPLY TO
INITIAL WRITTEN QUESTION**

Head : 194 Water Supplies Department

Subhead :

Programme : (1) Water Supply: Planning and Distribution

Controlling Officer : Director of Water Supplies

Director of Bureau : Secretary for Development

Question :

Please provide details of 19 projects that are under planning in 2009 and provide estimated expenditure involved for each project.

Asked by : Hon. KAM Nai-wai

Reply :

The 19 projects under planning in 2009 include water supply schemes to new developments as well as upgrading of existing waterworks installations, such as water treatment works, pumping stations and water mains. The estimate of \$7,717.7 million provided in the Printed Estimate in 2009 is the total estimated order of costs of these projects. Their respective expenditure profile will be worked out in due course upon completion of the detailed design of the projects.

Signature:



Name in block letters:

L T MA

Post Title:

Director of Water Supplies

Date:

20 March 2009