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24 February 2012

By E-mail

Mr Derek Lo
Clerk to Panel (Economic Development)
1 Legislative Council Complex
1 Legislative Council Road
Central
Hong Kong

Dear Mr Lo,

Panel on Economic Development
Follow-up to special meeting on 7 February 2012
2012 electricity tariff review

I refer to your letter of 10 February 2012 attaching the letter from Hon Starry Lee requesting for information related to the captioned subject, and attach the replies from the two power companies for your further action please.

Yours sincerely,

(Ms Vyora Yau)
for Secretary for the Environment

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Question 1: Provide a table comparing the power companies' forecast and actual system maximum demands for 2009-2013

Reply: 2009-2013 System Maximum Demand – Forecast versus Actual

System Maximum Demand (MW)	2009	2010	2011	2012	2013
Forecast based on 5-year Development Plan	2,595	2,624	2,647	◆	◆
Actual	2,537	2,510	2,498	--	--

◆ We consider that the disclosure of future maximum demand projection would not be in the interest of our customers as it might indicate to suppliers the development required to meet the demand of future years and increase their bargaining power in prices setting leading to higher tariffs to be borne by Hong Kong citizens. This might also indirectly reveal HK Electric's future fixed assets investment and profits.

To devise its 2009~2013 forecast, HK Electric has adopted the econometric model based on the historical load performance and the economic and population parameters provided by Government, taking into consideration the load impact of any large planned infrastructure projects made known to the public, e.g. the new lines planned by MTRC. Taking into account the gradually slowing down electricity demand in Hong Kong as a well-developed city together with the especially constrained infrastructure and property development on HK Island, our load forecast has been very prudent and conservative. The maximum demand in the 5-year Development Plan registered only an average per annum growth of not more than 1%, which is far below the GDP growth forecast by the Government.

Given the low growth forecast for our electric system maximum demand, any notable changes in key assumptions like summer weather will result in substantial discrepancy between the forecast and the actual maximum demand. However, it is worth noting that, even when based on the forecast system maximum demand, HK Electric has not proposed in its 2009~2013 Development Plan any Capital Expenditure project that would increase the installed generation capacity.

Question 3: Provide the justifications and details of tariff increase (and no increase) proposed in each year by HK Electric during 2009-2011 according to CB(1)979/11-12(01) Annex 1B and Annex 2B Item (3)(II) template.

Question 4: Provide the annual operating expenditures and details of variance items of HK Electric during 2009-2011 according to CB(1)979/11-12(01) Annex 1B and Annex 2B Item (5) template.

Please refer to the attached documents: Consolidated 2009, 2010 and 2011 Tariff Review and Operating Expenditures presentations

Question 5: HK Electric's reserve margin reaches 30% to 50%. In 2009-2011, the annual capital expenditures on "Generation - Post-commissioning Projects & Other Power Generation Systems" account for 15% - 29% of the total capital expenditures (HK Electric). Please explain why HK Electric still invested in upgrading its generation system given the large reserve margin.

Reply: The details of calculation of Reserve Margin and "Generation - Post-commissioning Projects & Other Power Generation Systems" capital expenditures are presented as follows:

5.1 Calculation of Reserve Margin

If based simply on the general formula, HK Electric's Nominal Reserve Margin Percentage shall be calculated as follows:

Nominal Reserve Margin Percentage
= (Total Nominal Installed Capacity / System Maximum Demand in 2009) – 1
= (3736 / 2537) – 1
= 47%

However, according to the emission clauses in the Specified Process Licence (SPL) for the Lamma Power Station & Extension, only the eight coal-fired units and the two gas-fired combined cycle units are allowed to generate electricity for the system under normal operating conditions. The four 125MW unit rating light gas oil-fired gas turbines and one 55MW black start light gas oil-fired gas turbine will only be operated in emergency situations or put in service for short periods of time for peak-lopping purpose. Hence in calculating the Total Usable Generating Capacity, the aggregated ratings of these 5

generating units should be taken out from the Total Nominal Installed Capacity.

All these 5 light gas oil-fired gas turbines were originally installed in the ex-Ap Lei Chau Power Station of HK Electric in the 1970s. At the time of demolition that Power Station, these units had been in service for only short periods and the environmental regulations were lax than today. Hence to avoid wastage, these units were reinstalled at end 1980s at the Lamma Power Station after modification. These 5 units now account for less than 2% of the total generation fixed assets at Lamma Power Station. According to the above considerations, the Reserve Margin shall be calculated by adopting the Total Usable Generating Capacity as follows:

Total Usable Generating Capacity
= Total Nominal Installed Capacity – Aggregated Ratings of 5 units of light oil-fired gas turbine
= 3736 – 555MW
= 3181MW

Reserve Margin Percentage
= (Total Usable Generation Capacity / System Maximum Demand in 2009) – 1
= (3181 / 2537) – 1
= 25%

5.2 Capital Expenditures and Justifications for "Generation - Post-commissioning Projects & Other Power Generation Systems"

The capital expenditures for "Generation - Post-commissioning Projects & Other Power Generation Systems" from 2009 to 2011 account for 15~29% of the respective annual total capital expenditures. These capital expenditures were mainly for plant refurbishment at the Lamma Power Station to comply with the new Scheme of Control Agreement and the SP License emission clauses, and auxiliary plant improvement projects to upgrade operating capacity and efficiency.

Among these are the steam turbine efficiency upgrading project for units L4 and L5 and the control system replacement project for unit L6 for enhancing the operating efficiency and reliability of the coal-fired units. To cater for doubling gas-fired generation and the newly built desulphurisation and other emission reduction facilities, the capital expenditures also cover a new store building to house the parts and accessories of the gas-fired generating unit and emission reduction equipment. Other projects include the improvement and upgrading of common facilities, transmission facilities and auxiliary plants.

In addition, in view of the high prices of coal prevailing in recent years with little sign of easing in the short run, HK Electric has improved and upgraded the coal conveying and handling system to allow more competitive sourcing for wider coal types to help reducing fuel cost. There are also new projects for meeting the additional needs from doubling gas generation and emissions reduction equipment for coal-fired units. These include the construction of a maintenance building, reliability upgrading of the gas receiving station and capacity expansion of the demineralised water treatment plant.

Question 6: Comparison of HK Electric's annual actual units sold and its maximum units that can be sold through its power generating system over the period of 2009-2011

Reply: 2009-2011 Actual Units Sold versus Maximum Units that can be sold by Power System

6.1 Composition of Actual Units Sold

The actual yearly unit (kWh) sold is the cumulative total of daily electricity consumption of all customers over a year. As Hong Kong is located in the subtropical region, electricity consumption peaks in summer. In addition, with the commercial consumption accounting for around 75% of the total electricity consumption on HK Island, the peak electricity consumption in summer occurs around noon time. With the progressive slowing down of commercial activities after office hours, HK Electric's night system demand is much lower than that in daytime. On a yearly basis, the minimum system demand usually occurs in the night time of long winter holidays. In a power system, electricity is consumed not only by customers (i.e. actual units sold), but also by the power station for all its equipment and associated facilities, and the losses incurred in delivering electricity through the transmission and distribution networks. These three parts add up together will be the total electricity generated by the power station in that year.

6.2 Maximum Units Generated

In theory under an ideal condition, the maximum annual electricity generated by an available generating unit is given by its rating (MW – i.e. installed capacity) multiplied by its total operating hours over a year. The maximum annual electricity generation of a power station is obtained by summing up the annual electricity generation from all its available generating units. However, the actual maximum operating hours of HK Electric's generating units still have to be decided or constrained by the following factors:-

1. The merit order and operating conditions for each generating unit as laid down by the Government in the SP License and relevant emissions requirement issued to Lamma;
2. Natural gas delivery is governed by daily, weekly, monthly and yearly nomination plans in accordance with the gas supply contracts signed between HK Electric and the mainland gas supplier;
3. Annual inspection and major overhaul of each generating unit and the maintenance of auxiliary plants;
4. System contingency or unplanned forced outages of generating units

Furthermore, the required total installed capacity is determined by the forecast system maximum demand and not the annual electricity consumption. If the total installed capacity could not meet the system maximum demand, the power system may become unstable resulting in supply tripping and large areas of power loss (brownout). Therefore even if the electricity demands drop in other periods (like winter nights), it would not affect the determination of the required installed capacity of the whole power system.

6.3 Comparison Ratio between Units Sold and Maximum Generation

As explained in Section 6.2 above, the required total installed capacity is determined by the system maximum demand and not the annual electricity consumption (units sold). In the international electricity supply industry, there is at present no similar regulatory practice or standard definition for the suggested comparison ratio. Given that there is no internationally recognized standard for the ratio and it is not used in power system planning, HK Electric has never made any estimate for such comparison ratio.

6.4 2009~2011 Actual Sales of Electricity

Year	**2009**	**2010**	**2011**
Sales（million unit）	10,921	10,933	10,899*

* Forecast figure submitted in the 2012 Tariff Review Proposal. 2011 Actual Sales of Electricity shall be released at the same time with the 2011 Corporate Annual Results Announcement (tentative schedule 7th March 2012).

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2009 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

Information related to tariff adjustments

In accordance with the prevailing Scheme of Control Agreement, electricity tariff (net tariff) is made up of the basic tariff and the fuel clause charge. The changes of basic tariff take into consideration of:- (1) Average Net Fixed Asset and the change of Rates of Permitted Return under the new Scheme of Control Agreement; (2) Operating Expenses; (3) Local Electricity Sales; (4) Tariff Stabilization Fund balance; and (5) Scheme of Control Taxation and Other Revenue. For the fuel clause charge, the factors include:- (1) Fuel Prices; (2) Correction of under-recovery of last year fuel clause charge; and (3) Fuel Clause Recovery Account balance.

The 2009 Tariff Review proposal submitted to the HKSAR Government by HK Electric in December 2008

	2008 Tariff c/kWh	2009 Tariff (2008 Dec Proposal) c/kWh	Adjustment %
Basic Tariff	116.9	94.5	-19.2% -22.4 cent
Fuel Clause Charge	10.5	25.4	141.9% +14.9 cent
Net Tariff	127.4	119.9	-5.9% -7.5 cent

Year End Balance ($ billion)

- Tariff Stabilisation Fund (Estimate)	0.17B	0.08B
- Fuel Clause Recovery Account (Estimate)	(1.01B)	(1.03B)

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2009 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

The rationales and calculation methods [and details] of the Proposal of HK Electric submitted to the HKSAR Government:-

<table>
<tr><th></th><th>Rationales for tariff increase</th><th>Tariff impact (c / kWh)</th></tr>
<tr><td>(1)</td><td>Basic Tariff</td><td></td></tr>
<tr><td>(a)</td><td>Increase in Average Net Fixed Asset and the changes in Rates of Permitted Return

(Increase from estimated $46.40 billion in 2008 to estimated $47.04 billion in 2009, the major components include capital expenditure on transmission projects, generation projects and corporate development projects)

Note: Average Net Fixed Assets for any year means the average, for that year, of the opening and closing balances of Net Fixed Assets. Despite increase in average Net Fixed Assets value, the basic tariff had been correspondingly reduced as a result of reduction of rates of permitted return under the new SOC agreement effective from 2009.</td><td>-22.0</td></tr>
<tr><td>(b)</td><td>Increase in operating expenses

(Increase from estimated $2.95 billion in 2008 to estimated $3.10 billion in 2009 mainly due to the rise in material prices & employee expenses and increase in depreciation)

Details please refer to item 5 below</td><td>+1.4</td></tr>
<tr><td>(c)</td><td>No change in local electricity sales

(The 2009 local electricity sales of estimated 10.84 billion in line with 2008 forecast. The major categories are tabled as follows:)

<table>
<tr><th>Million kWh</th><th>2008 Estimate</th><th>2009 Estimate</th></tr>
<tr><td>Domestic</td><td>2,372</td><td>2,375</td></tr>
<tr><td>Commercial</td><td>8,096</td><td>8,093</td></tr>
<tr><td>Industrial</td><td>368</td><td>368</td></tr>
<tr><td>Total</td><td>10,836</td><td>10,836</td></tr>
<tr><td>Change Over Previous Year</td><td>-0.5%</td><td>-%</td></tr>
</table>
</td><td>-</td></tr>
</table>

(d)	**Increase / decrease in sales to Mainland** *(if applicable)*	n.a.
(e)	**Decrease in Tariff Stabilisation Fund Balance** (TSF balance increased by $0.16 billion from $0.01 billion at the beginning of 2008 to estimated $0.17 billion at end 2008. TSF balance will be reduced by $0.09 billion to estimated $0.08 billion at end 2009; Total reduction in TSF balance in 2009 will be $0.25 billion higher than 2008 addition.)	-2.8
(f)	**Others** (Scheme of Control taxation* and others) *Details please refer to item (2) (b) & (c)	+1.0
	Sub-total (Basic Tariff):	-22.4
(2)	**Fuel Clause Charge**	
	Rationales for tariff increase	**Tariff impact (c / kWh)**
(a)	**Increase in Fuel Price** (Fuel costs expenses increase from estimated $3.60 billion in 2008 to estimated $4.53 billion in 2009 mainly due to international fuel prices fluctuations resulting in rise in fuel prices. Please refer to Tariff Proposal Note 1 for details.)	+8.9
(b)	**Correction for the under-recovery of fuel clause charge in 2008** (i.e. the total Fuel Clause Charge received minus "difference between Standard Fuel Cost and Actual Fuel Cost") (Increase of the Fuel Clause Recovery Account deficit from $0.34 billion at end 2007 to estimated $1.01 billion in end 2008; the change is $0.67 billion)	+6.2

(c)	**Increase in the Fuel Clause Recovery Account deficit to reduce tariff increase** (Increase of the Fuel Clause Recovery Account deficit from estimated $1.01 billion at end 2008 to estimated $1.03 billion in end 2009; the change is $0.02 billion)	-0.2
(d)	Others	
	Sub-total (Fuel Clause Charge):	+14.9
	Grand total:	-7.5

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2009 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

Tariff Proposal Note 1

Fuel consumed (Tera-joules)	2008 (Estimate)	2009 (Estimate)
• Coal	98,362	96,360
• Natural Gas	14,217	15,992
• Oil	700	758
Total	113,279	113,110

Average Fuel Price (HK$ per GJ)	2008 (Estimate)	2009 (Estimate)
• Coal	30.9	40.5
• Natural Gas	33.5	33.5
• Oil	91.8	86.6
Overall	31.6	39.8

Total Fuel Cost ($ million)	2008 (Estimate)	2009 (Estimate)
• Coal	3,041	3,898
• Natural Gas	476	533
• Oil	65	66
• Others	17	33
Overall	3,599	4,530

Actual Fuel Costs pass through to customers through the following 2 accounts:

Standard fuel costs (Include in basic tariff)	1,789	1,759
Fuel Clause Recovery Account	1,810	2,771
Overall	3,599	4,530

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2009 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

The detailed items of the operating expenses and the respective budget figures.

Items for Non-Fuel Operating Expenses	Forecast Expense for 2008 ($ million) Estimate	Forecast Expense for 2009 ($ million) Estimate	% Change	
Operating Expenses				
Employee expenses (exclude retirement service costs) *(Note a)*	411.7	425.7	3.4%	1
Materials & Services *(Note b)*	104.8	121.5	15.9%	2
Administration Exp.	211.3	214.0	1.3%	
Loan charges	-	-	-	
Government Rent & Rates	537.2	563.5	4.9%	
Fixed Asset Disposal	-	-	-	
Exchange Gain /Loss	-	-	-	
Pumped Storage Service Fee *(if applied)*	-	-	-	
Others	90.0	64.3	-28.6%	
Sub-total for Operating Expenses:	1,355.0	1,389.0	2.5%	
Contingency	4.4	5.0		
Stocks/FA Write-offs *(Note c)*	29.0	43.7		
Nuclear power purchase *(if applied)*	-	-	-	
Depreciation	1,515.6	1,616.6	6.7%	3
Sub-total for Operating Expenses & Depreciation:	2,904.0	3,054.3	5.2%	
Sub-total for Operating Expenses & Depreciation (include retirement service costs):	2,947.0	3,101.5		
Interest *(Note d)*	168.7	333.3	97.6%	
Taxation	1,185.8	846.7	-28.6%	
Total Non-fuel Operating Expenses:	4,258.5	4,234.3	-0.6%	
Total Non-fuel Operating Expenses (include retirement service costs):	4,301.5	4,281.5		

Note

a. Retirement service cost (based on actuarial valuation) – 2008: $43.0 million, 2009: $47.2 million.
b. Based on quotations from suppliers and contractors. If quotations are unavailable, expenses are based on inflation rates assumptions.
c. Included Stocks/ Fixed Assets Write-offs.
d. 2009 forecasted interest rate higher than 2008 by approximately 1.95%.

Explanations:

1. HK Electric has a policy of pay for performance. As a result, staff salary adjustment rate will be varied by individual.
2. Examine & replace gas turbine equipment, etc.
3. Commissioning of L5 FGD.

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2010 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

Information related to tariff adjustments

In accordance with the prevailing Scheme of Control Agreement, electricity tariff (net tariff) is made up of the basic tariff and the fuel clause charge. The changes of basic tariff take into consideration of:- (1) Average Net Fixed Asset; (2) Operating Expenses; (3) Local Electricity Sales; (4) Tariff Stabilization Fund balance; and (5) Scheme of Control Taxation and Other Revenue. For the fuel clause charge, the factors include:- (1) Fuel Prices; (2) Correction of under-recovery of last year fuel clause charge; and (3) Fuel Clause Recovery Account balance.

The 2010 Tariff Review proposal submitted to the HKSAR Government by HK Electric in December 2009

	2009 Tariff c/kWh	2010 Tariff (2009 Dec Proposal) c/kWh	Adjustment %
Basic Tariff	94.5	94.5	-% - cent
Fuel Clause Charge	25.4	25.4	-% - cent
Net Tariff	119.9	119.9*	-% - cent

Year End Balance ($ billion)		
- Tariff Stabilisation Fund (Estimate)	0.41B	0.35B
- Fuel Clause Recovery Account (Estimate)	(0.58B)	(0.76B)

* 2010 Net Tariff does not include 0.1 cent Rate Reduction Rebate

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012
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<table>
<tr><th></th><th>Rationales for tariff increase</th><th>Tariff impact (c / kWh)</th></tr>
<tr><td>(1)</td><td>Basic Tariff</td><td></td></tr>
<tr><td>(a)</td><td>Increase in Average Net Fixed Asset

(Increase from estimated $47.15 billion in 2009 to estimated $47.87 billion in 2010, the major components include capital expenditure on transmission projects, generation projects and corporate development projects)

Note: Average Net Fixed Assets for any year means the average, for that year, of the opening and closing balances of Net Fixed Assets.</td><td>+0.4</td></tr>
<tr><td>(b)</td><td>Increase in operating expenses

(Increase from estimated $2.88 billion in 2009 to estimated $3.06 billion in 2010 mainly due to the rise in material prices & employee expenses and increase in depreciation)

Details please refer to item 5 below</td><td>+1.7</td></tr>
<tr><td>(c)</td><td>Decrease in local electricity sales

(The sales of electricity decrease from estimated 10.95 billion kWh in 2009 to estimated 10.88 billion kWh in 2010. The major changes in different categories are tabled as follows:)

<table>
<tr><th>Million kWh</th><th>2009 Estimate</th><th>2010 Estimate</th></tr>
<tr><td>Domestic</td><td>2,484</td><td>2,415</td></tr>
<tr><td>Commercial</td><td>8,127</td><td>8,127</td></tr>
<tr><td>Industrial</td><td>341</td><td>333</td></tr>
<tr><td>Total</td><td>10,952</td><td>10,875</td></tr>
<tr><td>Change Over Previous Year</td><td>+0.8%</td><td>-0.7%</td></tr>
</table>
</td><td>+0.6</td></tr>
</table>

(d)	**Increase / decrease in sales to Mainland** *(if applicable)*	n.a.
(e)	**Decrease in Tariff Stabilisation Fund Balance** (TSF balance increased by $0.10 billion from $0.31 billion at the beginning of 2009 to estimated $0.41 billion at end 2009. TSF balance will be reduced by $0.06 billion to estimated $0.35 billion at end 2010; Total reduction in TSF balance in 2010 will be $0.16 billion higher than 2009 addition.)	-1.8
(f)	**Others** (Scheme of Control taxation* and others) *Details please refer to item (2) (b) & (c)	-0.9
	Sub-total (Basic Tariff):	-
(2)	**Fuel Clause Charge**	
	Rationales for tariff increase	**Tariff impact (c / kWh)**
(a)	**Increase in Fuel Price** (Fuel costs expenses increase from estimated $4.15 billion in 2009 to estimated $4.75 billion in 2010 mainly due to international fuel prices fluctuations resulting in rise in fuel prices. Please refer to Tariff Proposal Note 1 for details.)	+5.4
(b)	**Correction for the over-recovery of fuel clause charge in 2009** (i.e. the total Fuel Clause Charge received minus "difference between Standard Fuel Cost and Actual Fuel Cost") (Decrease of the Fuel Clause Recovery Account deficit from $1.00 billion at end 2008 to estimated $0.58 billion in end 2009; the change is $0.42 billion)	-3.8

(c)	**Increase in the Fuel Clause Recovery Account deficit to reduce tariff increase** (Increase of the Fuel Clause Recovery Account deficit from estimated $0.58 billion at end 2009 to estimated $0.76 billion in end 2010; the change is $0.18 billion)	-1.6
(d)	Others	
	Sub-total (Fuel Clause Charge):	-
	Grand total:	-

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2010 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

Tariff Proposal Note 1

Fuel consumed (Tera-joules)	2009 (Estimate)	2010 (Estimate)
• Coal	94,970	82,187
• Natural Gas	17,320	31,409
• Oil	1,195	662
Total	113,485	114,258

Average Fuel Price (HK$ per GJ)	2009 (Estimate)	2010 (Estimate)
• Coal	36.2	29.0
• Natural Gas	33.2	71.9
• Oil	78.1	96.6
Overall	36.2	41.2

Total Fuel Cost ($ million)	2009 (Estimate)	2010 (Estimate)
• Coal	3,438	2,380
• Natural Gas	576	2,258
• Oil	93	64
• Others	39	44
Overall	4,146	4,746

Actual Fuel Costs pass through to customers through the following 2 accounts:

Standard fuel costs (Include in basic tariff)	1,786	1,801
Fuel Clause Recovery Account	2,360	2,945
Overall	4,146	4,746

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2010 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

The detailed items of the operating expenses and the respective budget figures.

Items for Non-Fuel Operating Expenses	Forecast Expense for 2009 ($ million) Estimate	Forecast Expense for 2010 ($ million) Estimate	% Change	
Operating Expenses				
Employee expenses (exclude retirement service costs) *(Note a)*	408.1	399.2	-2.2%	1
Materials & Services *(Note b)*	125.2	135.4	8.1%	2
Administration Exp.	212.5	221.2	4.1%	
Loan charges	-	-	-	
Government Rent & Rates	398.6	397.5	-0.3%	
Fixed Asset Disposal	-	-	-	
Exchange Gain /Loss	-	-	-	
Pumped Storage Service Fee *(if applied)*	-	-	-	
Others	61.5	29.0	-52.8%	
Sub-total for Operating Expenses:	1,205.9	1,182.3	-2.0%	
Contingency	-	5.0		
Stocks/FA Write-offs *(Note c)*	40.1	54.9		
Nuclear power purchase *(if applied)*	-	-	-	
Depreciation	1,621.3	1,787.3	10.2%	3
Sub-total for Operating Expenses & Depreciation:	2,867.3	3,029.5	5.7%	
Sub-total for Operating Expenses & Depreciation (include retirement service costs):	2,878.1	3,059.2		
Interest *(Note d)*	95.2	154.2	62.0%	
Taxation	1,010.4	852.6	-15.6%	
Total Non-fuel Operating Expenses:	3,972.9	4,036.3	1.6%	
Total Non-fuel Operating Expenses (include retirement service costs):	3,983.7	4,066.0		

Note

a. Retirement service cost (based on actuarial valuation): 2009: $10.80 million, 2010: $29.7 million.
b. Based on quotations from suppliers and contractors. If quotations are unavailable, expenses are based on inflation rates assumptions.
c. Included Stocks/ Fixed Assets Write-offs.
d. 2010 forecasted interest rate higher than 2009 by approximately 0.75%.

Explanations:

1. HK Electric has a policy of pay for performance. As a result, staff salary adjustment rate will be varied by individual.
2. Expenses due to commissioning of L2/4/5 FGD.
3. Commissioning of L2 & L4 FGD.

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The 2011 Tariff Review proposal submitted to the HKSAR Government by HK Electric in December 2010

	2010 Tariff c/kWh	2011 Tariff (2010 Dec Proposal) c/kWh	Adjustment %
Basic Tariff	94.5	93.1	-1.5% -1.4 cent
Fuel Clause Charge	25.4	30.2	18.9% +4.8 cent
Net Tariff	119.9*	123.3	2.8% +3.4 cent

Year End Balance ($ billion)		
- Tariff Stabilisation Fund (Estimate)	0.56B	0.36B
- Fuel Clause Recovery Account (Estimate)	(0.65B)	(0.45B)

* 2010 Net Tariff does not include 0.1 cent Rate Reduction Rebate

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<tr><th></th><th>Rationales for tariff increase</th><th>Tariff impact (c / kWh)</th></tr>
<tr><td>(1)</td><td>Basic Tariff</td><td></td></tr>
<tr><td>(a)</td><td>Increase in Average Net Fixed Asset

(Increase from estimated $47.88 billion in 2010 to estimated $48.47 billion in 2011, the major components include capital expenditure on transmission projects, generation projects and corporate development projects)

Note: Average Net Fixed Assets for any year means the average, for that year, of the opening and closing balances of Net Fixed Assets.</td><td>+0.6</td></tr>
<tr><td>(b)</td><td>Increase in operating expenses

(Increase from estimated $2.92 billion in 2010 to estimated $3.02 billion in 2011 mainly due to the rise in material prices & employee expenses and increase in depreciation)

Details please refer to item 5 below</td><td>+1.0</td></tr>
<tr><td>(c)</td><td>Increase in local electricity sales

(The sales of electricity increase from estimated 10.94 billion kWh in 2010 to estimated 11.00 billion kWh in 2011. The major changes in different categories are tabled as follows:)

<table>
<tr><th>Million kWh</th><th>2010 Estimate</th><th>2011 Estimate</th></tr>
<tr><td>Domestic</td><td>2,488</td><td>2,489</td></tr>
<tr><td>Commercial</td><td>8,117</td><td>8,191</td></tr>
<tr><td>Industrial</td><td>333</td><td>319</td></tr>
<tr><td>Total</td><td>10,938</td><td>10,999</td></tr>
<tr><td>Change Over Previous Year</td><td>+0.2%</td><td>+0.6%</td></tr>
</table>
</td><td>-0.4</td></tr>
</table>

(d)	**Increase / decrease in sales to Mainland** *(if applicable)*	n.a.
(e)	**Decrease in Tariff Stabilisation Fund Balance** (TSF balance increased by $0.08 billion from $0.48 billion at the beginning of 2010 to estimated $0.56 billion at end 2010. TSF balance will be reduced by $0.2 billion to estimated $0.36 billion at end 2011; Total reduction in TSF balance in 2011 will be $0.28 billion higher than 2010 addition.)	-3.1
(f)	**Others** (Scheme of Control taxation* and others) *Details please refer to item (2) (b) & (c)	+0.5
	Sub-total (Basic Tariff):	-1.4
(2)	**Fuel Clause Charge**	
	Rationales for tariff increase	**Tariff impact (c / kWh)**
(a)	**Increase in Fuel Price** (Fuel costs expenses increase from estimated $4.66 billion in 2010 to estimated $4.91 billion in 2011 mainly due to international fuel prices fluctuations resulting in rise in fuel prices. Please refer to Tariff Proposal Note 1 for details.)	+2.0
(b)	**Correction for the under-recovery of fuel clause charge in 2010** (i.e. the total Fuel Clause Charge received minus "difference between Standard Fuel Cost and Actual Fuel Cost") (Increase of the Fuel Clause Recovery Account deficit from $0.55 billion at end 2009 to estimated $0.65 billion in end 2010; the change is $0.10 billion)	+0.9

(c)	**Decrease in the Fuel Clause Recovery Account deficit** (Decrease of the Fuel Clause Recovery Account deficit from estimated $0.65 billion at end 2010 to estimated $0.45 billion in end 2011; the change is $0.20 billion)	+1.9
(d)	Others	
	Sub-total (Fuel Clause Charge):	+4.8
	Grand total:	+3.4

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2011 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

Tariff Proposal Note 1

Fuel consumed (Tera-joules)	2010 (Estimate)	2011 (Estimate)
• Coal	79,940	80,114
• Natural Gas	31,730	32,173
• Oil	869	720
Total	112,539	113,007

Average Fuel Price (HK$ per GJ)	2010 (Estimate)	2011 (Estimate)
• Coal	28.9	30.7
• Natural Gas	70.5	72.8
• Oil	98.9	115.6
Overall	41.2	43.2

Total Fuel Cost ($ million)	2010 (Estimate)	2011 (Estimate)
• Coal	2,310	2,461
• Natural Gas	2,237	2,341
• Oil	86	83
• Others	23	28
Overall	4,656	4,913

Actual Fuel Costs pass through to customers through the following 2 accounts:		
Standard fuel costs (Include in basic tariff)	1,776	1,795
Fuel Clause Recovery Account	2,880	3,118
Overall	4,656	4,913

HK Electric's Reply to Follow-up to Special Meeting on 7 February 2012

Reply to Questions 3 & 4 (2009-2011 Tariff Adjustment & Operating Cost)

2011 Tariff Review

In the event of discrepancies between the English and Chinese versions, the Chinese version shall prevail.

The detailed items of the operating expenses and the respective budget figures.

Items for Non-Fuel Operating Expenses	Forecast Expense for 2010 ($ million) Estimate	Forecast Expense for 2011 ($ million) Estimate	% Change	
Operating Expenses				
Employee expenses (exclude retirement service costs) *(Note a)*	399.4	419.9	5.1%	1
Materials & Services *(Note b)*	134.3	139.3	3.7%	
Administration Exp.	198.3	220.5	11.2%	2
Loan charges	-	-	-	
Government Rent & Rates	312.4	310.5	-0.6%	
Fixed Asset Disposal	-	-	-	
Exchange Gain /Loss	-	-	-	
Pumped Storage Service Fee *(if applied)*	-	-	-	
Others	27.1	27.9	3.0%	
Sub-total for Operating Expenses:	1,071.5	1,118.1	4.3%	
Contingency	-	5.0		
Stocks/FA Write-offs *(Note c)*	55.5	50.6		
Nuclear power purchase *(if applied)*	-	-	-	
Depreciation	1,791.9	1,842.1	2.8%	
Sub-total for Operating Expenses & Depreciation:	2,918.9	3,015.8	3.3%	
Sub-total for Operating Expenses & Depreciation (include retirement service costs):	2,917.3	3,024.8		
Interest *(Note d)*	110.7	353.6	219.4%	
Taxation	914.4	886.2	-3.1%	
Total Non-fuel Operating Expenses:	3,944.0	4,255.6	7.9%	
Total Non-fuel Operating Expenses (include retirement service costs):	3,942.4	4,264.6		

Note

a. Retirement service cost (based on actuarial valuation): 2010: -$1.6 million, 2011: $9.0 million.
b. Based on quotations from suppliers and contractors. If quotations are unavailable, expenses are based on inflation rates assumptions.
c. Included Stocks/ Fixed Assets Write-offs.
d. 2011 forecasted interest rate higher than 2010 by approximately 1.0%.

Explanations:

1. HK Electric has a policy of pay for performance. As a result, staff salary adjustment rate will be varied by individual.
2. Lower expenses in 2010 when compared with prior years.

Reply to Legislative Council Panel on Economic Development regarding Hon Starry Lee's Enquiry

Q1. Projected maximum demand over the 2009-2013 period with comparison to the actual outturns

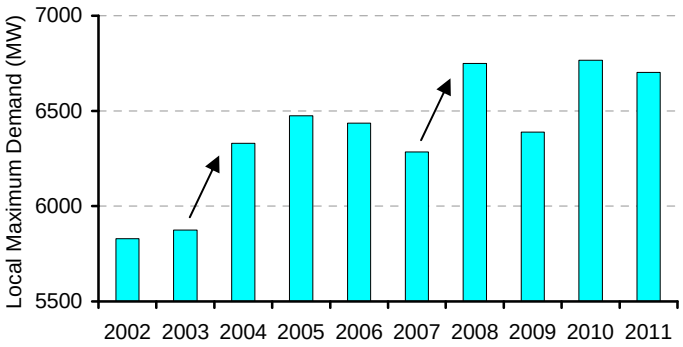
Local Maximum Demand (MW)	2009	2010	2011	2012	2013
5 year Development Plan Projection	6,695	6,870	7,050	- #	- #
Actual Outturn	6,389	6,766	6,702	-	-

We consider that the disclosure of future maximum demand projection would not be in the interests of our customers as it might indicate to suppliers the development required to meet the demand of future years and increase their bargaining power in prices setting leading to higher prices to be borne by the Hong Kong citizens. This might also indirectly reveal CLP's future fixed assets investment and CLP's future profits.

We forecast maximum demand based on a range of factors and trends, using econometric analysis and taking account of underlying economic growth, energy efficiency, customer segmentation and major infrastructure development. Weather systems also have a significant effect on maximum demand, especially heat waves and typhoons which may remain close to Hong Kong for a number of days.

Our observations are that once every few years these factors will combine to give a large impact, resulting in a sudden increase in maximum demand, instead of following a gradual growth. As a matter of fact, twice in the last eight years, maximum demand in CLP's supply area has jumped by more than 7% over the previous year.

As electricity cannot be efficiently stored, electricity demand from customers needs to be met at all times by our supply. It is important for our forecast to take into account the yearly volatility in demand in order to ensure a reliable supply to our customers.



Q2. Give detailed explanation on how changes in China sales affect tariff adjustments

CLP's supply of electricity to Guangdong is made available only by making use of our standby capacity. In providing the electricity supply to China, we follow the principle that customers in Hong Kong will have priority in the event of power shortage.

80% of the profit derived from the electricity sales to Guangdong goes to the Tariff Stabilisation Fund, which helps relieve pressure on local tariffs. As power companies must maintain adequate capacity reserve for back-up support, this arrangement is in the interests of the Hong Kong customers of electricity purchased from CLP, as well as supporting the economies of China.

Taking year 2009 as an example, the customer portion of the profit from CLP's supply of 3,731 GWh to Guangdong Power Grid Corporation and Shekou amounted to $554 million, without which our local customers would have paid 1.8 cents per kWh more for electricity supply. The corresponding figures for years 2010 and 2011 were 2,609 GWh and 2,957 GWh, $350 million and $298 million, and 1.1 cent per kWh and 1.0 cent per kWh respectively.

Q3. According to the format of LC paper no. CB(1)979/11-12(01) Annexes 1B / 2B item 3(II), provide rationales and breakdown details for tariff adjustments for 2009-2011

Q4. According to the format of LC paper no. CB(1)979/11-12(01) Annexes 1B / 2B item (5), provide breakdown of Operating Expenses and changes for each year over the period of 2009-2011

2009 Tariff Adjustment#

The tariff increases proposed to Government by CLP Power in September 2008

	2008 (up to Sep) Tariff c/kWh	2008 Oct to 2009 Dec Tariff (Proposal in Sep 2008) c/kWh	Adjustment %
Basic Tariff	86.0	77.4	-10.0%
Fuel Clause Charge	5.9	11.8	100.0%
Rate Reduction Reserve Rebate	-0.8	-0.8*	-
Net Tariff	91.1	88.4	-3.0%

Year end Balance ($ million)		
- Tariff Stabilisation Fund (TSF)	30 Sep: 1,359 31 Dec: 982	151
- Fuel Clause Recovery Account	30 Sep: -847 31 Dec: -952	-1,046

Before October 2008, the net Basic Tariff was 86 cents per kWh and the Fuel Clause Charge was 5.9 cents per kWh. In October 2008, a reduction of net Basic Tariff of 8.6 cents per kWh and an increase of Fuel Clause Charge of 5.9 cents per kWh were implemented with the renewal of the Scheme of Control Agreement.

The full year average 2008 net Basic Tariff and Fuel Clause Charge were forecast to be 84 cents per kWh and 7.3 cents per kWh respectively. The Basic Tariff of 2009 was 77.4 cents per kWh and the Fuel Clause Charge was 11.8 cents per kWh. The 2009 tariff adjustment requirement **(-6.6** cents per kWh for Basic Tariff and **+4.5** cents per kWh for Fuel Clause Charge) as outlined in the below tables was a year-on-year comparison of the full year 2009 against the full year of 2008.

* Rate Reduction Reserve Rebate of 0.8 cent per kWh was provided until the Rate Reduction Reserve depleted on 6 May 2009.

The rationales and calculation methods of the proposal CLP Power submitted to the HKSAR Government

	Rationales for 2009 tariff increase	**Tariff impact (c / kWh)**
(1)	**Basic Tariff**	
(a)	**Increase in Average Net Fixed Asset and Change in Permitted Return Rate** Increase from $77.4 billion in 2008 to $82.0 billion in 2009, the majority of which is from investment in our transmission and distribution network. (Tariff impact includes interest payments borne by the companies, Government taxes as well as net return) Note: The average net fixed asset refers to the average of the opening and closing balances of net fixed assets for the year. Despite the average net fixed assets being increased, Basic Tariff was reduced because of the provision in the new Scheme of Control effective October 2008 in which the permitted return rate was adjusted downward.	-8.1
(b)	**Increase in operating expenses** Increase from $12.1 billion in 2008 to $12.6 billion in 2009. Operating expenses mainly include Nuclear Power Purchase, Depreciation, Government Rent & Rates and Pumped Storage Service Fee, which are set through contracts or accounting policies and are not controllable.	+1.7
(c)	**Increase in local electricity sales** Increase from 29,700GWh in 2008 to 31,150GWh in 2009	-3.0
(d)	**Decrease in sales to Mainland** Decrease from 3,870GWh in 2008 to 3,440GWh in 2009	+1.5
(e)	**Decrease in Tariff Stabilisation Fund Balance** Projected TSF balance was reduced by $1,135 million from $2,117 million at the beginning of 2008 to $982 million at the end of 2008. Projected TSF balance was reduced by $831 million in 2009 to $151 million at the end of 2009. Projected reduction in TSF balance in 2009 was $304 million less than that in 2008.	+1.2
(f)	**Others (Change in Interest and Taxation)** Change in taxation (apart from that included in (a) and (e)) and interest	+0.1
	Sub-total (Basic Tariff):	-6.6

	Rationales for 2009 tariff increase	Tariff impact (c / kWh)
(2)	**Fuel Clause Charge**	
(a)	**Increase in Fuel Price** As projected during 2008DP, increase due to fuel expense change is $2,238 million (Note a) and electricity sales growth of 4.9% in 2009	+2.3
(b)	**Correction for the over-/under-collection of fuel clause charge in 2008** (i.e. the total Fuel Clause Charge received minus "difference between Standard Fuel Cost and Actual Fuel Cost") The amount of under-recovery of fuel cost in 2008 is $802 million	+2.5
(c)	**Increase of the Fuel Clause Recovery Account deficit to reduce tariff increase** Increase of the Fuel Clause Recovery Account deficit from $952 million at end 2008 to $1,046 million at end 2009; the change is $94 million	-0.3
	Sub-total (Fuel Clause Charge):	+4.5
	Grand total:	-2.1

Note a

Fuel consumed (terajoules)	2008 Outlook*	2009 Forecast#
• Coal	121,700	144,100
• Natural Gas	77,400	73,100
• Oil	1,600	3,100
Total	200,700	220,300

Average Fuel Price (HK$ per gigajoule)	2008 Outlook*	2009 Forecast#
• Coal	22.4	36.9
• Natural Gas	42.4	39.8
• Oil	131.7	169.7
Overall	31.0	39.7

Fuel Cost ($ million)	2008 Outlook*	2009 Forecast#
• Coal	2,725	5,317
• Natural Gas	3,284	2,911
• Oil	209	521
Overall	6,218	8,749
Standard Fuel Cost	3,187	3,480
Fuel Cost exceeding Standard Fuel Cost	3,031	5,269

* The year-end outlook of the year when the Development Plan was made
# The one-year ahead forecast of the year following

2009 Tariff Adjustment

The detailed items of the operating expenses and the respective budget figures:

Items for Non-Fuel Operating Expenses ($ million)	2008 DP Forecast Expense		
	2008 Outlook *	2009 Forecast #	% Change
Operating Costs			
Payroll	1,126	1,176	4.4%
Material & Services	1,093	996	-8.9%
Loan charges	13	27	107.7%
Government Rent & Rates	775	775	0.0%
Fixed Asset Disposal	221	344	55.7%(1)
Exchange Gain /Loss	1	0	-100.0%
Pumped Storage Service Fee	384	407	6.0%
Sub-total for Operating Costs:	3,613	3,725	3.1%
Nuclear power purchase	5,355	5,439	1.6%
Provision for asset decommissioning	61	256	319.7%(2)
Depreciation	3,037	3,174	4.5%
Sub-total for Operating Costs and Depreciation:	**12,066**	**12,594**	4.4%
Operating Interest	639	865	35.4%(3)
Taxation	1,670	1,322	-20.8%
Total Non-fuel Operating Expenses:	14,375	14,781	2.8%

* The year-end outlook of the year when the Development Plan was made
# The one-year ahead forecast of the year following

Notes to items with substantial changes

(1) Partly due to gas-fired unit hot gas path replacement and 400kV cable diversion for ex-airport area
(2) Provision for asset decommissioning is a new accounting arrangement under the current Scheme of Control Agreement. Hence, the provision for 2008 only covered the last quarter whereas that for 2009 covered the full year
(3) Increase in Operating Interests was due to higher interest rate and higher loan amount

2010 Tariff Adjustment

The tariff increases proposed to Government by CLP Power in December 2009

	2009 Tariff c/kWh	2010 Tariff (Proposal in Dec 2009) c/kWh	Adjustment %
Basic Tariff	77.4	80.0	3.4%
Fuel Clause Charge	11.8	11.5	-2.5%
Net Tariff	89.2	91.5	2.6%
Year end Balance ($ million)			
- Tariff Stabilisation Fund	1,481	332	
- Fuel Clause Recovery Account	-43	-281	

The rationales and calculation methods of the proposal CLP Power submitted to the HKSAR Government

	Rationales for 2010 tariff increase	**Tariff impact (c / kWh)**
(1)	**Basic Tariff**	
(a)	**Increase in Average Net Fixed Asset** Increase from $81.5 billion in 2009 to $85.9 billion in 2010, the majority of which is from investment in our transmission and distribution network. (Tariff impact includes interest payments borne by the companies, Government taxes as well as net return)	+1.7
(b)	**Increase in operating expenses** Increase from $11.8 billion in 2009 to $13.0 billion in 2010. Operating expenses mainly include Nuclear Power Purchase, Depreciation, Government Rent & Rates and Pumped Storage Service Fee, which are set through contracts or accounting policies and are not controllable. Additional depreciation and O&M costs of emissions reduction facilities commissioned in 2010 were also included.	+3.9
(c)	**Decrease in local electricity sales** Decrease from 30,515GWh in 2009 to 30,450GWh in 2010	+0.2
(d)	**Decrease in sales to Mainland** Decrease from 3,350GWh in 2009 to 2,280GWh in 2010	+0.6
(e)	**Decrease in Tariff Stabilisation Fund Balance** Projected TSF balance was reduced by $275 million from $1,756 million at the beginning of 2009 to $1,481 million at the end of 2009. Projected TSF balance was reduced by $1,149 million in 2010 to $332 million at the end of 2010. Projected reduction in TSF balance in 2010 was $874 million more than that in 2009.	-3.4
(f)	**Others (Change in Interest and Taxation)** Change in taxation (apart from that included in (a) and (e)) and interest	-0.4
	Sub-total (Basic Tariff):	+2.6

	Rationales for 2010 tariff increase	Tariff impact (c / kWh)
(2)	**Fuel Clause Charge**	
(a)	**Increase in Fuel Price** Increase due to fuel expense change is $906 million (Note b) and electricity sales growth of -0.2% in 2010	+3.0
(b)	**Correction for the over-/under-collection of fuel clause charge in 2009** (i.e. the total Fuel Clause Charge received minus "difference between Standard Fuel Cost and Actual Fuel Cost") The amount of over-recovery of fuel cost in 2009 is $768 million	-2.5
(c)	**Increase of the Fuel Clause Recovery Account deficit to reduce tariff increase** Increase of the Fuel Clause Recovery Account deficit from $43 million at end 2009 to $281 million at end 2010; the change is $238 million	-0.8
	Sub-total (Fuel Clause Charge):	-0.3
	Grand total:	+2.3

Note b

Fuel consumed (terajoules)	2009 Outlook*	2010 Forecast#
• Coal	142,000	125,800
• Natural Gas	67,400	84,900
• Oil	1,700	1,800
Total	211,100	212,500

Average Fuel Price (HK$ per gigajoule)	2009 Outlook*	2010 Forecast#
• Coal	24.9	25.5
• Natural Gas	39.2	45.3
• Oil	59.6	81.7
Overall	29.7	33.9

Fuel Cost ($ million)	2009 Outlook*	2010 Forecast#
• Coal	3,536	3,210
• Natural Gas	2,642	3,851
• Oil	101	147
Overall	6,279	7,208
Standard Fuel Cost	3,358	3,381
Fuel Cost exceeding Standard Fuel Cost	2,921	3,827

* The year-end outlook of the year when the Tariff Review was made
# The one-year ahead forecast of the year following

2010 Tariff Adjustment

The detailed items of the operating expenses and the respective budget figures:

Items for Non-Fuel Operating Expenses ($ million)	2010 TR Forecast Expense		
	2009 Outlook *	2010 Forecast #	% Change
Operating Costs			
Payroll	1,067	1,102	3.3%
Material & Services	916	1,238	35.2%(1)
Loan charges	17	26	52.9%
Government Rent & Rates	643	738	14.8%(2)
Fixed Asset Disposal	173	282	63.0%(3)
Exchange Gain /Loss	(6)	3	-150.0%
Pumped Storage Service Fee	393	505	28.5%(4)
Sub-total for Operating Costs:	3,203	3,894	21.6%
Nuclear power purchase	5,225	5,323	1.9%
Provision for asset decommissioning	236	247	4.7%
Depreciation	3,185	3,561	11.8%
Sub-total for Operating Costs and Depreciation:	**11,849**	**13,025**	9.9%
Operating Interest	567	1,019	79.7%(5)
Taxation	1,498	1,325	-11.5%
Total Non-fuel Operating Expenses:	13,914	15,369	10.5%

* The year-end outlook of the year when the Tariff Review was made
# The one-year ahead forecast of the year following

Notes to items with substantial changes

(1) Additional requirement mainly due to Emission Reduction Project and more generation plant inspection scheduled based on number of service hours and OEM recommendations.
(2) Lower actual rateable amount for 2009 whereas 2010 forecast still based on 2007/08 rateable value (2010 initial assessment only available after the Tariff Review)
(3) Partly due to cable disposal to meet railway development requirement
(4) Additional annual payment for use starting Dec 2009 according to pumped storage service contract
(5) Low actual interest rate in 2009; higher interest rate and higher loan amount forecast for 2010

2011 Tariff Adjustment

The tariff increases proposed to Government by CLP Power in December 2010

	2010 Tariff c/kWh	2011 Tariff (Proposal in Dec 2010) c/kWh	Adjustment %
Basic Tariff	80.0	80.0	-
Fuel Clause Charge	11.5	14.1	22.6%
Net Tariff	91.5	94.1	2.8%
Year end Balance ($ million)			
- Tariff Stabilisation Fund (TSF)	1,894	281	
- Fuel Clause Recovery Account	-348	-74	

The rationales and calculation methods of the proposal CLP Power submitted to the HKSAR Government

	Rationales for 2011 tariff increase	**Tariff impact (c / kWh)**
(1)	**Basic Tariff**	
(a)	**Increase in Average Net Fixed Asset** Increase from $85.9 billion in 2010 to $91.1 billion in 2011, the majority of which is from investment in our transmission and distribution network. (Tariff impact includes interest payments borne by the companies, Government taxes as well as net return)	+2.0
(b)	**Increase in operating expenses** Increase from $11.6 billion in 2010 to $13.3 billion in 2011. Operating expenses mainly include Nuclear Power Purchase, Depreciation, Government Rent & Rates and Pumped Storage Service Fee, which are set through contracts or accounting policies and are not controllable. Additional depreciation and O&M costs of emissions reduction facilities commissioned in 2011 were also included.	+5.2
(c)	**Increase in local electricity sales** Increase from 30,945GWh in 2010 to 31,390GWh in 2011	-0.6
(d)	**Decrease in sales to Mainland** Decrease from 2,610GWh in 2010 to 830GWh in 2011	+0.7
(e)	**Decrease in Tariff Stabilisation Fund Balance** Projected TSF balance was increased by $241 million from $1,653 million at the beginning of 2010 to $1,894 million at the end of 2010. Projected TSF balance was reduced by $1,613 million in 2011 to $281 million at the end of 2011. Projected reduction in TSF balance in 2011 was $1,854 million more than that in 2010.	-7.1
(f)	**Others (Change in Interest and Taxation)** Change in taxation (apart from that included in (a) and (e)) and interest	-0.2
	Sub-total (Basic Tariff):	+0.0

	Rationales for 2011 tariff increase	Tariff impact (c / kWh)
(2)	**Fuel Clause Charge**	
(a)	**Increase in Fuel Price** Increase due to fuel expense change is $278 million (Note c) and electricity sales growth of 1.4% in 2011	+0.7
(b)	**Correction for the over-/under-collection of fuel clause charge in 2010** (i.e. the total Fuel Clause Charge received minus "difference between Standard Fuel Cost and Actual Fuel Cost") The amount of under-recovery of fuel cost in 2010 is $336 million	+1.0
(c)	**Change in the Fuel Clause Recovery Account deficit** Decrease of the Fuel Clause Recovery Account deficit from $348 million at end 2010 to $74 million at end 2011; the change is $274 million	+0.9
	Sub-total (Fuel Clause Charge):	+2.6
	Grand total:	+2.6

Note c

Fuel consumed (terajoules)	2010 Outlook*	2011 Forecast#
• Coal	133,400	165,000
• Natural Gas	83,200	57,800
• Oil	1,300	6,300
Total	217,900	229,100

Average Fuel Price (HK$ per gigajoule)	2010 Outlook*	2011 Forecast#
• Coal	26.9	28.4
• Natural Gas	44.9	42.3
• Oil	99.1	122.7
Overall	34.2	34.5

Fuel Cost ($ million)	2010 Outlook*	2011 Forecast#
• Coal	3,593	4,692
• Natural Gas	3,731	2,443
• Oil	129	773
Overall	7,453	7,908
Standard Fuel Cost	3,466	3,643
Fuel Cost exceeding Standard Fuel Cost	3,987	4,265

* The year-end outlook of the year when the Tariff Review was made
# The one-year ahead forecast of the year following

2011 Tariff Adjustment

The detailed items of the operating expenses and the respective budget figures:

Items for Non-Fuel Operating Expenses ($ million)	2011 TR Forecast Expense		
	2010 Outlook *	2011 Forecast #	% Change
Operating Costs			
Payroll	1,032	1,106	7.2%
Material & Services	1,144	1,444	26.2%(1)
Loan charges	29	34	17.2%
Government Rent & Rates	528	534	1.1%
Fixed Asset Disposal	206	125	-39.3%(2)
Exchange Gain /Loss	(6)	6	-200.0%
Pumped Storage Service Fee	501	519	3.6%
Sub-total for Operating Costs:	3,434	3,768	9.7%
Nuclear power purchase	4,488	5,155	14.9%(3)
Provision for asset decommissioning	223	259	16.1%
Depreciation	3,490	4,082	17.0%(4)
Sub-total for Operating Costs and Depreciation:	**11,635**	**13,264**	14.0%
Operating Interest	706	951	34.7%(5)
Taxation	1,664	1,344	-19.2%
Total Non-fuel Operating Expenses:	14,005	15,559	11.1%

* The year-end outlook of the year when the Tariff Review was made
# The one-year ahead forecast of the year following

Notes to items with substantial changes

(1) Additional requirement mainly due to Emission Reduction Project
(2) Large proceeds were expected in 2011 from insurance claims to offset part of the costs
(3) Adjustment to the spent fuel disposal provision based on State regulation on spent fuel levy enacted in 2010
(4) Additional depreciation requirement of Emission Reduction facilities
(5) Low actual interest rate in 2010; higher interest rate and higher loan amount forecast for 2011

Q5. While the Reserve Margin of both power companies stands at 30-50%, the investment in "Generation system – Other related generation projects" during 2009 – 2011 still remained at as much as 15-16% of total investment each year: the power companies please explain why resources were still put in to upgrade/enhance the generation system

CLP's reserve margin had dropped from 39.1% in 2009 to 32.6% in 2011.

Over the years, CLP has taken diversified generation strategies in various aspects such as technology, fuel and mixture of generating units (size, type & number) etc, to minimize power supply risk. Among CLP's total generating capacity of 6,908MW in Hong Kong, majority of the units are coal-fired plants and were commissioned in the 1980s; others are gas-fired and distillate-fired plant. Most of these generating plants have been in service for over 10 years and many for more than 20 years. They require carefully planned maintenance, refurbishment, upgrade and improvement in order to ensure safe, adequate and reliable electricity supply and minimise emissions in an efficient manner.

The capital expenditure for "Generation system – Other related generation projects" is mainly for the replacement and refurbishment of equipment of the existing generation facilities to maintain safe operation and secure supply as mentioned above. The projects in the 2008 Development Plan under this category include hundreds of work items including:

- Black Point Plant Modification to accommodate the use of a wider specification of gas from more diverse sources.
- Replacement and refurbishment of obsolete/aged/worn equipment for various systems such as boilers, turbines, electrical & control systems, coal and ash handling systems for CLP's 19 generating units & association facilities at Black Point, Castle Peak and Penny's Bay Power Stations.
- Scheduled overhaul of generating units to meet statutory requirement and to meet recommendation of Original Equipment Manufacturers (OEM) to assure efficiency and integrity of plant by replacement/refurbishment of components of limited life. Works include replacement/refurbishment of shroud plates, combustion liners, fuel nozzles, buckets & blades for the gas turbines in Black Point. Other works required in turbo generator scheduled overhaul include generator stator winding connections, boiler burners improvement and turbine rotor repair at Castle Peak.
- Safety, health and environmental improvement works including improvement to waste water treatment facilities in power station, cladding replacement to stabilize the turbine roof, ventilation system replacement to improve the health conditions inside plant areas and refurbishment of de-dusting system.

Q6. The Power Companies to provide their yearly actual electricity sales in comparison to the maximum electricity sales that they could provide over the period of 2009-2011

The actual electricity sales (including Local and the Mainland) over the period of 2009-2011 are as follows:

	2009	**2010**	**2011**
Actual Electricity Sales (including Local and the Mainland) (GWh)	34,301	33,538	34,125

Installed capacity is determined based on maximum demand forecast, rather than annual electricity consumption.

In order to satisfy demand in a secure and reliable manner, total installed capacity must exceed the forecast maximum demand at any time and include a margin of reserve to cater for system contingency and allow the generating units to be shut down for maintenance and repair. Inadequate generation capacity would lead to substantial power interruptions with unacceptable and costly consequences.

Generating units would not operate at the full capacity at all times. The amount (GWh) of electricity that could be generated by generating units is affected by a number of constraints, including demand profile, plant availability, fuel supply and emissions caps, etc.

Electricity demand varies widely during different time in a day, week and year. The output of generating units will follow the dispatch requirement in order to meet the varying electricity demand.

Availability of generating plant is affected both by planned outages required for maintenance, refurbishments, replacements or modifications to ensure safe, environmentally compliant, reliable and efficient operation, and by forced outages due to unforeseen plant constraints.

Besides the operational constraints, the output and availability of our generating units are further limited by the emissions caps imposed by government since 2005. These emission caps have been progressively tightened over the years. As a result, the actual electricity sales over the period of 2009-2011 were close to the maximum level that could be met by CLP Power without exceeding the emission caps. In fact, given the available gas supply, if the emissions control project had not been completed on time, we might not have been able to meet electricity demand fully in 2011.