立法會
Legislative Council

LC Paper No. CB(4)242/14-15(07)

Ref : CB4/PL/EDEV

Panel on Economic Development
Meeting on 16 December 2014

Background brief on
annual tariff reviews with the two power companies

Purpose

This paper sets out the background of the Government's annual tariff reviews with the two power companies and summarizes Members' major concerns on related issues raised at previous discussions.

Regulation of electricity supply in Hong Kong

2. Electricity supply in Hong Kong is regulated through the Scheme of Control agreements ("SCAs") signed between the Government and individual power companies, namely, The Hongkong Electric Company Ltd. ("HEC")[1] which supplies electricity to customers on the Hong Kong Island, Ap Lei Chau and Lamma Island; and CLP Power Hong Kong Ltd. and Castle Peak Power Company Ltd.[2] (referred to collectively as "CLP" hereafter) which jointly supply electricity to customers in Kowloon and the New Territories including Lantau, Cheung Chau and some outlying islands. The two SCAs set out the rights and obligations of the power companies and provide a framework for the Government to monitor the power companies' financial affairs and technical performance.

---

1 HEC is a subsidiary of Power Assets Holdings Limited.

2 CLP Power Hong Kong Ltd. is a subsidiary of the CLP Holdings Limited. Castle Peak Power Company Ltd. ("CAPCO") is a joint venture electricity generating company established between CLP Power (40%) and ExxonMobil Energy Limited (60%). CLP Power has reached agreement with China Southern Power Grid International (HK) Co., Limited to each acquire half of the 60% interest in CAPCO held by ExxonMobil.

3. The Government entered into SCAs with the power companies on 7 January 2008 for a term of 10 years. The Government has completed its mid-term review of the existing SCAs and briefed members of the outcome of the review on 25 November 2013 with details in LC Paper No. CB(1)344/13-14(06).

2014-2018 Development Plans of the power companies

4. The Government approved the 2014-2018 Development Plans of CLP and HEC on 10 December 2013. The Development Plans outline the capital projects to be implemented by the power companies, the increase in average Basic Tariff Rate to be effective from 1 January 2014, and the projected levels of Basic Tariff Rates during the coming five years.

5. Capital projects that are reported in the Development Plans cover –

(a) power generation systems, such as construction or refurbishment of power plants;

(b) transmission and distribution systems, including the construction of new substations, additional circuits, improvement and reinforcement of existing system; and

(c) customer and corporate services development, which includes information system development, metering system development, energy and distribution management systems development, motor vehicles and building renovation.

<u>HEC's Development Plan</u>

6. HEC's Development Plan covers the period from 1 January 2014 to 31 December 2018 ("HEC DP Period") and has the following features:

(a) capital projects for a total estimated capital expenditure ("CAPEX") of $13 billion which would be incurred during the HEC DP Period. This CAPEX includes $3 billion, approved on a provisional basis, for construction of a new gas-fired power plant unit (the proposed "L10" project); and

(b) the average Basic Tariff Rate would increase by 7.1 cents/kWh, or 7.5% to 101.8 cents/kWh with effect from 1 January 2014.

7. The Administration will review the future fuel mix for power generation in Hong Kong and the future regulatory framework for the electricity market after the expiry of the current SCAs. As the outcome of the reviews may affect the justification for the proposed "L10" project, HEC could only formally include the $3 billion in relation to the proposed "L10" project in CAPEX if the Government issues the written confirmation following the completion of the reviews.

8. If the Government issues the confirmation to HEC for it to commence the proposed "L10" project, the projected levels of Basic Tariff Rate for the HEC DP Period will increase, on average, by 1.1% per annum. If such confirmation is not given, the projected levels of Basic Tariff Rate will increase by 0.9%.

CLP's Development Plan

9. CLP's Development Plan covers the period from 1 January 2014 to 30 September 2018 ("CLP DP Period") and has the following features –

(a) capital projects for a total estimated CAPEX of $34.1 billion would be incurred during the CLP DP Period. These include upgrading the efficiency of three units of Combined-Cycle Gas Turbine at Black Point Power Station, and extending the useful lives of its generating plants at Castle Peak A, Castle Peak B, Black Point Power Station and Penny's Bay Power Station for five years;

(b) the average Basic Tariff Rate would increase by 4.2 cents/kWh or 5.0%, to 88.4 cents/kWh with effect from 1 January 2014; and

(c) the projected levels of Basic Tariff Rate for the CLP DP Period would increase on average by 1.8% per annum.

The tariff adjustment mechanism

10. Electricity tariff is made up of two parts, namely, the Basic Tariff and the Fuel Clause Charge ("FCC"). To ensure that tariff adjustment is reasonable, the Administration would play a gate-keeping role to control cost relating to the Basic Tariff by way of ensuring that any necessary developments and service improvements of the power companies would proceed within the scope of their five-year development plans approved by the Government, and by vetting in the context of the annual tariff review individual expenditure items, including capital investment, of the two companies to screen out items that are excessive, premature or unnecessary.

11. As for FCC, the Administration would urge the two power companies to, as far as practicable, use the Fuel Clause Recovery Account ("FCA")[3] and the Tariff Stabilization Fund[4] ("TSF") as buffers to mitigate the cost impact of any switch from old fuel contracts to new contracts, and any significant fuel price fluctuations in the international market. It would also examine whether any special income of the two companies can be used to offset cost increase.

Tariff adjustments since 2008

12. The Government conducts tariff reviews with the two power companies annually and the average net tariffs charged by HEC and CLP since 2008 are set out below –

Year	HEC (cents/kWh)	CLP (cents/kWh)
2008	127.4	91.1 [a]
2009	119.9 (-5.9%)	88.4 [b] (-3%)/89.2 [b]
2010	119.9 (no change)	91.5 (+2.6%)
2011	123.3 (+2.8%)	94.1 (+2.8%)
2012	131.1 (+6.3%)	98.7 (+4.9%)
2013	134.9 (+2.9%)	104.5 (+5.9%)
2014	134.9 (no change) [c]	110.8 (+3.9%) [d]

Note: [a] from January to September 2008
[b] from October 2008 to December 2009 during which the Rate Reduction Reserve rebate of 0.8 cents/kWh ceased from 6 May 2009 with the depletion of the Rate Reduction Reserve.
[c] Average Net Tariff Rate ("ANTR") of 2014 remained 134.9 cents/kWh because the increase of 7.1 cents/kWh in the average Basic Tariff Rate over that of 2013 has been offset by the same amount of reduction in the Fuel Clause Charge.
[d] CLP's ANTR of 2013 shown above has factored in the special rebate of 2.1 cents/kWh as a result of Rent and Rates refund, which has ceased since mid October 2013. Without the rebate, CLP's ANTR of that year was 106.6 cents/kWh. When compared with this rate, the increase of ANTR in 2014 would be 3.9%.

---

[3] The Fuel Clause Recovery Account is operated on a rolling basis. It is an account maintained by the two power companies through which the difference between the standard fuel cost (as reflected in the Basic Tariff) and the actual fuel cost is captured and passed on to consumers by way of rebates or charges.

[4] A Tariff Stabilization Fund was maintained for the retention of net revenue in excess of the agreed return for the power companies. The cap on TSF balance was reduced to 8% of annual local sales from 12.5% under the previous SCAs and as a result of the 2013 SCA mid-term review, the cap has been further reduced to 5%. The purpose of TSF is to accumulate the excess of net revenues of the power companies over the permitted return, so as to provide funding, where necessary, to ameliorate the impacts of tariff increases on consumers.

Views previously expressed by the Panel on Economic Development

13. Electricity tariff has all along been a matter of contention and members of the Panel on Economic Development ("the Panel") have expressed views and concerns over a range of issues at the annual briefings on tariff reviews prior to 2014, including the following –

(a) disappointment at decisions of HEC and CLP to raise tariff despite the companies' substantial earnings;

(b) HEC's customers were paying tariff at a much higher rate than those of CLP;

(c) suggestion of setting up a tariff determination mechanism;

(d) introduction of electricity suppliers from the Mainland to enhance competition and lower the tariff;

(e) implementation of increased interconnection between the two power companies to minimize investment on new generating units;

(f) the Government should enhance monitoring of the power companies' investment on generation facilities, treatment of excessive generating capacity, and sales of surplus electricity to the Mainland;

(g) the Government should enhance transparency by urging the two power companies to disclose financial information related to the tariff reviews;

(h) separation of power generation and transmission to facilitate market entry;

(i) the power companies should exercise greater versatility in handling the coal procurement contracts in the interests of customers;

(j) the Government should monitor the timing of the adjustment of fuel clause charges made by the power companies;

(k) the need to strike a balance between commitment to environmental protection and cost control;

(l) the power companies should use the reserve in TSF to offset the fuel cost increase, or opt not to achieve a maximum rate of return; and

(m) the power companies should provide incentives to encourage energy saving initiatives by customers.

Concerns about the 2014 tariff review

14. At the Panel meetings held on 10 December 2013 and 6 February 2014, members were briefed on the 2014-2018 Development Plans of the power companies as approved by the Executive Council. Members also discussed with the Administration and the power companies about the 2014 tariff adjustments.

Issues of common concerns

Energy saving

15. Members were generally concerned about the high projected increase in Basic Tariffs in the coming five years. Some members had suggested that the Administration should introduce more stringent energy saving indicators such as setting "hard targets" on electricity consumption and implement progressive electricity tariff rates to encourage energy saving and reduce electricity charges.

16. The Administration advised that on-going discussions with power companies were being held to introduce measures to reduce pressure on tariff increase. With the promotion of various energy saving initiatives, the rate of increase in electricity consumption of Hong Kong in recent years had slowed down. According to CLP, business customers had a strong incentive to save energy as a way to save costs and it would continue to provide energy audits as well as energy saving solutions and facilities to these customers.

Tariff structure

17. Members had asked if the Administration would subsidize the operations of the power companies to keep the tariff rates low. There was a concern that the present regressive tariff structure for business customers had in effect encouraged them to consume more electricity while ordinary citizens at large had to bear the burden of tariff increase.

18. The Administration advised that any measures to be implemented that involved public money should be targeted at helping the vulnerable community rather than being applied across the board. The Administration added that the tariff for grassroots-level citizens who were low consumption domestic users of electricity had not been increased for the past two years.

19. Members queried why the Administration allowed the power companies to increase tariff because the power companies' need for tariff increase was purely for the sake of achieving a surplus of TSF balance. The Administration said that a positive balance in TSF was a standing arrangement. The purpose of TSF was to provide funds to ameliorate the impact of tariff increase on customers, or to facilitate tariff reduction where appropriate. The balances in the funds, namely TSF and FCA, were designed to act to smooth out volatility in adjusting both the Basic Tariff and the FCC. Doing away with the TSF and FCA arrangements might lead to wide fluctuations in tariff which the community might not welcome.

Review of future fuel mix and SCAs

20. Having regard that Hong Kong may rely more on coal for power generation, a member asked about the likelihood of the upward adjustment of the carbon emission targets and, if so, the degree of impact on electricity tariff. The Administration advised that matters such as carbon emission targets, as well as price, reliability, safety, environmental considerations of electricity supply would be taken into account in the public consultation on the future fuel mix for electricity generation.

21. Members also suggested that the Administration should open up the power grids to reduce the need for extra power generation units and reserve capacity through interconnection between power companies' facilities. However, power companies argued that their respective systems had been interconnected as early as the 1980s. The benefits from the sharing of reserve capacity had been fully realized, and the potential of further cost saving through further interconnection of the two power grids appeared low. Members noted that CLP's power grid had already been connected with that of Guangdong, but it would require eight to ten years to build new interconnection infrastructure.

22. In response to a member's view that there should be a penalty mechanism for the reckless investment in premature and unnecessary capital projects by the power companies, the Administration agreed to take this into account in the review of future SCAs.

<u>HEC's tariff adjustment</u>

23. Whereas HEC did not propose any increase in net tariff in 2014, the Basic Tariff would, in fact, increase by 7.1 cents/kWh or 7.5%. Some members considered that the increase was on the high side. Members had also raised concern that the forecast stability of HEC's net tariff in the next five years was based on the assumption of a steady-priced supply of natural gas. In the event of unexpected fluctuation of gas price, a sharp increase in net tariff might result.

24. Some members queried the justifications for HEC to build the proposed "L10" project when the company already had a large amount of reserve capacity, and a large increase in demand for electricity in the coming five years was not expected. HEC advised the Panel that the proposed gas-fired unit was required to replace the facilities that were due to retire in the coming years so as to maintain the reliability of power supply and to enable the company to meet the new emission requirements which would come into effect in 2015. In fact, 52% of HEC's capital investment in its five-year development plan was for ensuring the safety and reliability of power supply.

25. Given the high increase in HEC's Basic Tariff, some members queried whether HEC would undertake further cost control measures to reduce overhead, and hence the pressure on Basic Tariff. HEC argued that rigorous cost saving initiatives had been implemented in the past five years and there was little room for further cost cutting through efficiency enhancements.

<u>CLP's tariff adjustment</u>

26. Members were generally critical of CLP in maximizing profits permissible under the current SCA in spite of customers' affordability. One member pointed out that CLP profited by selling to the Mainland surplus electricity generated by facilities that were included among the assets for calculating the Permitted Rate of Return, but only 80%, rather than the full amount, of profit was applied to TSF to mitigate tariff increase. Members considered the arrangement unfair to CLP customers.

27. CLP argued that the company had implemented Energy Saving Rebate, and, as a result, many residential, as well as small business customers would not see any increase in their electricity bills. CLP further explained that applying 80% of the profit derived from export of surplus electricity to the Mainland was consistent with the terms of SCA concluded with the Government.

28. A number of members had expressed concern about the large projected increase in net tariff, which would cumulate up to 39.3% from 2013 up to 2018. Members queried whether CLPs' forecast was exaggerated and asked if the forecast was considered realistic, what measures the Administration would adopt to curb the rapid increase in CLP's net tariff. The Administration and CLP advised the Panel that the large projected increase in net tariff was attributed to a number of factors. In gist, CLP would switch to new natural gas suppliers as the current source at Yacheng was about to deplete. The cost of natural gas from the new suppliers would be close to the international market price and would be much higher than the rates of the current gas supplier. Furthermore, CLP's natural gas consumption for electricity generation was expected to increase significantly in the coming years to meet the new statutory emission requirement to be effective in 2015. In fact, CLP and its customers had to shoulder 90% of the required increase in natural gas generation through increased utilization of existing units. As the balance in CLP's TSF would be insufficient to buffer the anticipated increase in cost, CLP had sought more supply from Yacheng[5], increased the use of low emission coal and enhanced operational performance of its generation fleet.

29. In the light of CLP and the Administration's response, some members queried whether CLP would source cheaper gas supplies or to import less costly alternatives such as nuclear energy, liquefied natural gas ("LNG") (such as the development of the LNG Terminal in Shenzhen) or shale gas, to reduce the pressure on tariff increase.

30. CLP argued that gas price from any new natural gas sources would be close to the international market price which was volatile and would be significantly higher than that of the current source. However, it could not be compared to the price of gas from the Second West-East Pipeline ("WEPII") which fluctuated with the oil price. When the LNG Terminal was completed, a small pipeline would be built to connect it to WEPII for supplying gas to Hong Kong.

31. On the use of nuclear power, CLP had agreed with Daya Bay Nuclear Power Station to import an additional 10% of nuclear power without additional infrastructure investment. Whether or not a higher proportion of nuclear power should be used for future electricity supply had been examined in the review on fuel mix in May 2014.

---

[5] The reserve of Yacheng Y13-1 gas field would be depleted in 2016 and a nearby small gas field Y13-4 started to supply gas to CLP from 2012.

32. CLP advised that the scale of development of the shale gas reserve in the Mainland was currently limited, it would strive to secure economically viable sources of shale gas anywhere in the world for delivery through the LNG Terminal in Shenzhen.

33. As regards fuel cost hedging as suggested by a member, CLP considered the option too risky financially for customers and the public. It was CLP's strategy to sign up long-term contracts with fuel suppliers to ensure stable supply of fuel and make short-term purchases of fuel at times when fuel prices were low. A member queried why the fuel cost of CLP had to be adjusted every year since the fuel should have been brought on a long term contract. CLP advised that it would make use of the positive balance in FCA to mitigate the increase in tariff and to run down FCA to a deficit to reduce the increase in FCC in 2015.

Council questions

34. At the Council meetings on 17 October 2012, 23 January, 23 October, 11 December 2013, 9 April and 11 June 2014, Dr Hon Kenneth CHAN, Hon TANG Ka-piu, Hon CHAN Hak-kan, Hon Cyd HO and Hon Kenneth LEUNG raised questions about electricity tariff covering, among others, measures to reduce electricity tariff, subsidies of the Government, the use of solar energy, opening of the power grid and the future fuel mix in electricity generation. Hyperlinks to the relevant written replies from the Administration are provided in the **Appendix.**

Latest developments

35. The Administration and the two power companies will brief the Panel on the tariff review for 2015 at the meeting on 16 December 2014.

36. The Consumer Council has released a study report, "Searching for New Directions – A Study of Hong Kong Electricity Market", on 4 December 2014. The report puts forward a package of conclusions and suggestions for a progressive and holistic approach to review and reform the electricity market in Hong Kong. Hyperlink to the relevant report of the Consumer Council is provided in the **Appendix.**

References

37. A list of the relevant papers which are available on the LegCo Website (http://www.legco.gov.hk) is in the **Appendix.**

Council Business Division 4
Legislative Council Secretariat
10 December 2014

Appendix

List of relevant papers

Issued by	Meeting date/ Issue date	Paper
Panel on Economic Development	11 December 2012	Agenda Minutes Background brief Information from power companies on five-year development plans and annual tariff reviews elaboration on the notes on confidential information
	10 December 2013	Agenda Minutes Background brief Legislative Council Brief - 2014-18 Development plan and 2014 tariff review of the two power companies
	6 February 2014	Agenda Minutes Background brief Legislative Council Brief - 2014-18 Development plan and 2014 tariff review of the two power companies
Council Meeting	17 October 2012	Written reply by the Secretary for the Environment to a question on "Measures to Facilitate Reduction in Electricity Tariffs" raised by the Dr Hon Kenneth CHAN Ka-lok
	23 January 2013	Written reply by the Secretary for the Environment to a question on "Electricity Expenditure of Government Departments and Public Organizations, Government's Subsidies on Electricity Expenditure for Specific Industries, and Electricity Tariffs" raised by the Hon TANG Ka-piu

Issued by	**Meeting date/ Issue date**	**Paper**
	23 October 2013	Written reply by the Secretary for the Environment to a question on "Use of Solar Energy to Generate Electricity" raised by the Hon CHAN Hak-kan
	11 December 2013	Written reply by the Secretary for the Environment to a question on "Electricity Demand and Power Grid" raised by the Hon Cyd HO
	9 April 2014	Written reply by the Secretary for the Environment to a question on "Options on Future Fuel Mix for Electricity Generation" raised by the Hon Kenneth LEUNG
	11 June 2014	Written reply by the Secretary for the Environment to a question on "Future Fuel Mix for Electricity Generation" raised by the Hon Kenneth LEUNG
Consumer Council	4 December 2014	Searching for New Directions - A Study of Hong Kong Electricity Market