

立法會
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Panel on Environmental Affairs

**Minutes of special meeting held on
Thursday, 29 September 2005, at 4:30 pm
in Conference Room A of the Legislative Council Building**

Members present : Hon CHOY So-yuk, JP (Chairman)
Hon Emily LAU Wai-hing, JP (Deputy Chairman)
Hon Martin LEE Chu-ming, SC, JP
Hon WONG Yung-kan, JP
Hon Miriam LAU Kin-yee, GBS, JP
Hon Albert CHAN Wai-yip
Hon Audrey EU Yuet-mee, SC, JP
Hon LEE Wing-tat
Hon Jeffrey LAM Kin-fung, SBS, JP

Members absent : Ir Dr Hon Raymond HO Chung-tai, S.B.St.J., JP
Hon CHEUNG Man-kwong
Hon LAU Kong-wah, JP
Dr Hon KWOK Ka-ki
Hon Patrick LAU Sau-shing, SBS, JP

**Public officers
attending** : **For item I**

Environmental Protection Department

Mr K K KWOK

Permanent Secretary for the Environment, Transport and
Works (Environment)

Mr Roy TANG

Deputy Director of Environmental Protection

Mr TSE Chin-wan
Assistant Director of Environmental Protection

Mr PANG Sik-wing
Principal Environmental Protection Officer

Economic Development and Labour Bureau

Ms Brenda CHENG
Principal Assistant Secretary (Economic Development)

CLP Power

Mr Richard LANCASTER
Commercial Director
CLP Power

Ms Jane LAU
Group Public Affairs Director
CLP Holdings

The Hongkong Electric Co., Ltd.

Mr Gary CHANG
General Manager (Management Services)

Ms Mimi YEUNG
General Manager (Public Affairs)

Mr Y C YEUNG
Research & Services Manager

Attendance by invitation : For item I

Clear the Air

Ms Annelise CONNELL
Vice-Chairman

The Conservancy Association

Mr Albert LAI
Director

Greenpeace

Mr CHOW Sze-chung
Assistant Campaigner

Hong Kong Institution of Engineers

Ir Peter Y WONG
Vice President

Clerk in attendance : Miss Becky YU
Chief Council Secretary (1)1

Staff in attendance: Mrs Mary TANG
Senior Council Secretary (1)2

Miss Mandy POON
Legislative Assistant (1)4

Action

I. Environmental aspects of the financial plans of the two power companies

Meeting with the Administration and the two power companies

LC Paper No. CB(1) 2304/04-05(06) — Background brief on air pollution control prepared by the Legislative Council Secretariat

LC Paper No. CB(1) 2304/04-05(07) — Paper provided by the Administration

Relevant papers

LC Paper No. CB(1) 829/04-05(01) — Consultation paper on Future Development of the Electricity Market in Hong Kong provided by the Administration

LC Paper No. CB(1) 2096/04-05(01) — Information paper on “The Hongkong Electric Company Limited 2004 to 2008 Financial Plan” provided by the Administration

LC Paper No. CB(1) 2096/04-05(03) — Information paper on “CLP Power Hong Kong Limited Castle Peak Power Company Limited 2005 Financial Plan” provided by the Administration
(issued for the Economic Services Panel meeting on 25 July 2005)

- LC Paper No. CB(1) 2143/04-05(01) — List of questions raised by Hon Fred LI Wah-ming regarding the review of the financial plans of the two power companies (Chinese version only)
(issued by the Economic Services Panel on 25 July 2005)
- LC Paper No. CB(1) 2143/04-05(02) — Administration's reply to the CB(1) 2143/04-05(01)
(issued by the Economic Services Panel on 25 July 2005)
- LC Paper No. CB(1) 2143/04-05(03) — Presentation materials on "2004-2008 Financial Plan" provided by the Hongkong Electric Co., Ltd
(issued by the Economic Services Panel on 25 July 2005)
- LC Paper No. CB(1) 2143/04-05(04) — Presentation materials on "An Overview on CLP Power/CAPCO 2005 Financial Plan" provided by the CLP Power
(issued by the Economic Services Panel on 25 July 2005)

The Permanent Secretary for the Environment, Transport and Works (Environment) (PSETW(E)) briefed members on the progress of measures for meeting the 2010 emission reduction targets as agreed with the Guangdong Provincial Government (GPG) in April 2002, as well as the emission reduction measures proposed by CLP Power Hong Kong Limited and Castle Peak Power Company Limited (hereinafter referred to collectively as CLP) and Hongkong Electric Company Limited (HEC) in their Financial Plans up to September 2008 and December 2008 respectively under the Scheme of Control Agreement (SCA).

2. Mr Richard LANCASTER, Commercial Director, CLP Power (CD/CLP) gave a power-point presentation on the efforts made by CLP in reducing emissions, highlighting the progress of the emissions control project implemented by Castle Peak Power Company Limited. Mr Gary CHANG, General Manager (Management Services), HEC (GM(MS)/HEC) briefed members on the environmental practices adopted by HEC in reducing emissions from power generation.

(*Post-meeting note:* Copies of the power-point presentation materials tabled at the meeting were circulated under LC Paper No CB(1) 2347/04-05.)

Meeting with Clear the Air
(LC Paper No. CB(1) 2304/04-05(01))

3. Ms Annelise CONNELL, Vice Chairman of Clear the Air, expressed concern about the health costs associated with the emissions from power generation. She was disappointed that the two power companies had not done enough to reduce emissions nor encourage energy conservation. By way of illustration, HEC had failed to install desulphurization facilities, which would be mandated by the Environmental Protection Department (EPD) for power plants in Hong Kong, in their coal-fired plants in Zhuhai

to reduce emissions, thereby affecting the air quality of the entire Pearl River Delta (PRD) Region. CLP could also have reduced its emissions if it ceased selling electricity to the Mainland, which amounted to about 12% of its total electricity production in Hong Kong. She added that Hong Kong power companies should be held responsible for what they did in the PRD Region and should be requested to reduce locally twice the amount of emissions which they generated in the PRD Region. Given that CLP had indicated its incapability to achieve the emission reduction targets, EPD should exercise more stringent control over CLP to ensure compliance. As regards energy conservation, Ms CONNEL pointed out that as modern day buildings were more energy efficient, there might not be an increasing demand for electricity supply. Therefore, the financial plans of the two power companies should have included the additional cost for not adopting energy saving measures in Hong Kong.

Meeting with Conservancy Association (CA)
(LC Paper No. CB(1) 2304/04-05(02))

4. Mr Albert LAI, Director of CA, said that while emissions from power generation were imposing a hazard to the community, there was a lack of effective control over these. Moreover, the present SCA where the rate of return of power companies was based on the amount of investment had indeed encouraged over-provision of generation facilities, resulting in more emissions. To avoid putting the health of the community at risk, it was necessary for the Administration to translate the emission reduction targets into air quality objectives (AQOs). It should also enhance the transparency in emission reduction plans so that the public would be made aware of the measures to be taken. Notwithstanding, he was pleased to note that both power companies would be using natural gas for power generation. In this connection, he considered that the Administration should assume a coordinating role in expediting the supply of natural gas from the Mainland. He also expressed support for the provision of incentives for the development of renewable energy on a large scale. There was also a need to set up an independent working group to promote energy conservation.

Meeting with Greenpeace
(LC Paper No. CB(1) 2304/04-05(03))

5. Mr CHOW Sze-chung, Assistant Campaigner of Greenpeace, said that Greenpeace was dissatisfied that the two power companies were not able to meet the 2010 emission reduction targets, and that they had not included the development of renewable energy in their financial plans. As the use of fossil fuels by the two power companies for power generation was the main cause for pollution to the air, it would be unfair for the public to shoulder the cost of reducing emissions. He added that Greenpeace also had grave reservations about the use of natural gas for power generation as it would not be able to resolve the air pollution problem in the long run given that carbon dioxides, sulphur dioxide (SO₂) and nitrogen oxides (NO_x) were emitted during the process. In this connection, Greenpeace would recommend the following -

- (a) the two power companies should shoulder their corporate responsibilities and adhere to the 2010 emission reduction targets;
- (b) Government should strictly enforce the agreed emission reduction targets and suspend the licences of power companies which failed to comply;
- (c) Government should encourage the two power companies to develop renewable energy and provide assistance and financial incentives as appropriate;
- (d) the two power companies should not further invest in coal-fired or other fossil fuel power plants but should set up plans for the development of renewable energy; and
- (e) there should be more cooperation between Hong Kong and Guangdong in the development of wind power in the PRD Region which would not only resolve the problem of power shortage, but also create job opportunities and improve regional air quality.

Meeting with Hong Kong Institution of Engineers (HKIE)
(LC Paper No. CB(1) 2304/04-05(04))

6. Ir Peter WONG, Vice President of HKIE, said that HKIE upheld the principle that electricity supply in Hong Kong must be reliable, safe, environmentally sound and cost effective. It also supported the continual search for reliable gas fuel sources although the ultimate fuel source remained a policy decision on the part of the Administration. HKIE had met with EPD and the two power companies and was satisfied that the measures taken by the power companies to reduce emissions were reasonable and justified. It was however unfortunate that the emission reduction targets could not be achieved by 2010. As regards the use of renewable energy, Ir WONG said that resources such as wind and solar energy were still far from becoming a reliable source of power generation and supply in Hong Kong. HKIE also had reservations in the expedient adoption of emissions trading as an emission reduction measure given the current state of technology, level of data transparency and quality assurance.

7. The Chairman also drew members' attention to the submission from WWF Hong Kong which was circulated under LC Paper No. CB(1) 2304/04-05(05).

General discussion

8. Given that ambient air pollution mainly originated from the Mainland, Mr LEE Wing-tat asked whether air quality could be improved more effectively if resources were invested in the PRD Region to assist in the implementation of emission reduction measures. He also enquired about the possibility of setting up a matching fund to encourage power plants in the PRD Region to adopt more environmentally friendly practices with a view to improving the regional air quality.

9. Ms Annelise CONNEL/Clear the Air held the view that the two local power companies should draw up aggressive emission reduction targets and use their own investments to implement environmental measures. Effective control should also be put in place to ensure that these targets were achieved. Mr Albert LAI/CA expressed support for the setting up of a matching grant to reduce emissions from power plants in the PRD Region. As quite a few power plants in the PRD Region were owned by Hong Kong enterprises, they should bear the corporate responsibility to contribute to the fund, particularly when they had already reaped the financial benefits from the more relaxed emission control in the Mainland. To optimize the matching grant, a joint monitoring mechanism should be set up to oversee the management and disbursement of the fund. Ir Peter WONG/HKIE agreed that it would be more cost-effective to invest in emission reduction measures in the more heavily populated and industrialized PRD Region.

Emission reduction targets

10. Ms Emily LAU declared interest as a permanent member of CA. She said that the two power companies had earlier invited members of the Frontier to visit their power generation facilities. It was noted that much of the efforts made in reducing total emissions had been vitiated by the increase in SO₂ emissions from power plants. She then questioned how the 2010 emission reduction targets were set and whether the two power companies were consulted on the targets as these appeared to be unachievable by the two power companies. She also asked if the imposition of emission caps by EPD on power plants upon licence renewal would be effective in achieving the emission reduction targets. Ms Audrey EU echoed that EPD should explain the difficulties encountered by the two power companies in meeting the emission reduction targets which were agreed in 2002.

11. Ms Annelise CONNEL/Clear the Air said that EPD had to put a cap on the emissions from the power plants to facilitate emissions trading in the long run. She also considered that penalty should be imposed to enforce emission control. While agreeing that the two power companies, as major polluters in Hong Kong, should shoulder their responsibilities in emission reduction, Ir Peter WONG/HKIE cautioned about the financial implications in enforcing the emission caps which might be reflected in increased electricity charges. Mr Albert LAI/CA expressed appreciation for EPD's effort in imposing caps on total emissions which were considered more effective than the existing control over concentration of emissions. To enforce the emission caps, consideration could be given to providing financial incentives for emission reduction as in the case of Taiwan where emissions were charged by weight. Penalties for non-compliance with the emission reduction targets by 2010 should be imposed as otherwise it would be unfair to the power companies which could meet the targets. Emission reduction targets beyond 2010 could be regulated by market forces. Mr CHOW Sze-chung/Greenpeace said that EPD should work out with the two power companies achievable emission reduction targets. It should also explain why the present targets set could not be reached.

12. Through the Chair, Deputy Director of Environmental Protection (DDEP) explained that the 2010 emission reduction targets were agreed between Government of the Hong Kong Special Administrative Region (HKSARG) and GPG in April 2002. It was envisaged that once these emission reduction targets were achieved, AQOs in Hong Kong could be met. By imposing emission caps upon renewal of the Specified Process Licence under the Air Pollution Control Ordinance, the power companies would have to reduce their emissions to the practical minimum, in an attempt to achieve the 2010 emission reduction targets.

13. DDEP added that the 2010 emission reduction targets were not unilaterally set by EPD but were agreed between the HKSARG and GPG based on health considerations. To improve the air quality of the entire PRD Region, EPD and the Environmental Protection Bureau of Guangdong had conducted a joint study on regional air quality during 1999 to 2002. Further to the study, HKSARG and GPG had reached a consensus to reduce, on a best endeavour basis, the emission of four major air pollutants, namely SO₂, NO_x, respirable suspended particulates (RSP) and volatile organic compounds by 40%, 20%, 55% and 55% respectively in the region by 2010, using 1997 as the base year. Achieving these targets would not only enable Hong Kong to meet its AQOs but also significantly improve the air quality of the PRD Region. If HKSARG failed to uphold its pledge to meet the targets by 2010, GPG might follow suit and slow down its efforts as well. This would result in a significant delay in meeting the set targets and deteriorating regional air quality. Therefore, Hong Kong should endeavour to achieve the targets through the concerted efforts of the Administration and the power companies.

14. DDEP added that the emission reduction targets were considered achievable and the two local power companies had since been requested since July 2003 to reduce their emissions in an attempt to reach these targets. According to HEC, the targets could be reached with the early commissioning of the gas-fired combined L10 unit. Meanwhile, CLP had been requested to accelerate their preparatory planning and engineering work for their emission reduction projects. The two power companies would be expected to expedite their switch to natural gas for the existing coal-fired units. Their willingness to work with EPD on emissions trading was also a step forward in the right direction. On the part of GPG, it was equally committed to meeting the 2010 emission reduction targets. Retrofitting of existing coal-fired plants in Guangdong with flue gas desulphurization systems and installation of new natural gas power generation facilities were being carried out as pledged. So far, five of the major coal fired power plants in Guangdong had been retrofitted with flue gas desulphurization systems while preparation was underway for the retrofiting of the remaining 11 major coal fired power plants. The problem of energy shortage in Guangdong was expected to ease by 2007. The sales of electricity to Guangdong by CLP, which at present amounted to about 3.1 billion kilowatt hours of electricity or 1.5 % of the electricity generation capacity of Guangdong, should no longer be necessary and this would provide more room for CLP to accelerate its retrofitting works.

15. CD/CLP stressed that CLP was concerned about the air quality in Hong Kong and was committed to supporting Government's policy intent to reduce emissions across the region while ensuring safety, reliability and affordability of electricity supply. CLP's emission reduction projects represented major changes to its operation and hence would need to be taken forward carefully. A long lead time was required to complete the necessary statutory processes. Since the announcement of the emission reduction targets in 2002, CLP had worked on its emission reduction plans and held preliminary discussions with the Government in 2003. Formal detailed proposals were submitted and approved in 2004. It was now firming up the details of its proposals and would proceed with the engineering works and environmental impact assessments with a view to completing the projects as soon as possible.

16. In response to Ms Emily LAU's question as to whether CLP could stop selling electricity to Guangdong, CD/CLP said that CLP provided surplus capacity to meet demand from Mainland. It was possible to stop selling electricity to the Mainland, but since there was a shortage of power in China, the power gap might well be replaced by more polluting plants there, resulting in more regional emissions. DDEP responded that there would not be long-term need for CLP to supply the electricity shortage in Guangdong as the shortage was expected to ease around 2007. Secondly, CLP's power plants were located much closer to Hong Kong and hence their emissions would have a greater impact on the territory.

17. Ms Miriam LAU expressed concern that efforts made in Hong Kong might not be effective in improving the regional air quality which was largely affected by pollution originated from the Mainland. Ms Annelise CONNEL/Clear the Air said that over 70% of the pollutants affecting local air quality originated from Hong Kong and depending on the direction of the wind, the pollutants from Hong Kong were also affecting the Mainland. The two local power companies were major polluters but they had not done enough to reduce emissions. By way of illustration, the natural gas power generation capacity of the Blackpoint Power Station had not been fully utilized for commercial reasons. To resolve the air pollution problem, there was a need to decommission the coal-fired power plants and to develop renewable energy.

18. The Chairman echoed that Hong Kong had contributed much to the pollution in the PRD Region, given that it occupied 3% of the total land in PRD Region but contributed to 5% of the total pollution in the Region. She also supported the 2010 emission reduction targets and commended EPD's commitment in meeting the targets. If the targets could not be achieved on time, the needed improvements in air quality would inevitably be delayed. She therefore agreed with the Administration that it should uphold the targets so that Guangdong would follow suit. The two local power companies should also be requested to meet the targets and an undertaking to this effect should be made. She then enquired about the difficulties encountered by the power companies in meeting the targets and whether any Government assistance would be required.

19. GM(MS)/HEC said that HEC would be able to meet the emission targets by 2010 on condition that the necessary approval for the construction of the new generation unit L10 could be obtained from Economic Development and Labour Bureau (EDLB) in time, and that there would be a sufficient supply of natural gas. CD/CLP echoed that the insufficient supply of natural gas was a problem and hence plans were being put in place to install a receiving terminal for liquefied natural gas (LNG) from around the world as a long-term solution. Further emission reduction could be made possible through the early commissioning of the LNG terminal. He added that CLP was determined to put forward all the emission reduction initiatives and was committed to using cleaner fuels. It would promote energy conservation measures and provide schools with education programmes on energy saving. Significant improvements would be made starting 2009 with the commissioning of the phased flue gas desulphurization systems. Ms Audrey EU agreed to the need to enhance publicity to promote public awareness on energy saving.

20. Mr Albert LAI/CA said that it would be shameful if Hong Kong was not able to meet the 2010 emission reduction targets. To demonstrate its commitment to emission reduction, EPD should set up a working group with EDLB to promote energy conservation. It should also impose penalty on power companies which had exceeded the emission caps as this would provide the needed financial incentive to reduce emissions.

21. Ms Miriam LAU remained concerned about the cost implications, particularly the possible impact on electricity charges, in expediting compliance with the emission reduction targets by the two power companies by 2010, as against their own pledges by 2011 or 2012. Mr CHOW Sze-chung/Greenpeace stressed that the cost implications, including higher electricity charges, of implementing emission reduction measures would be much less as compared to the health costs associated with deteriorating air quality. Hence, cleaner fuels such as natural gas should be used. In this connection, there was a need to ensure a stable supply of natural gas as otherwise the power companies might have to revert back to the use of coal for power generation.

22. Through the Chair, DDEP said that the power companies should be able to secure a stable supply of natural gas and the new natural gas power plant should have sufficient power generation capacity to meet energy demand. GM(MS)HEC said that it would be difficult to estimate the impact of 2010 emission reduction targets on electricity charges given the uncertainties associated with fuel prices and energy consumption. Besides, the way forward for the electricity market after 2010 had yet to be worked out.

23. Ms Miriam LAU questioned the efforts made by the two power companies in reducing RSP which had increased by 43% from 1997 to 2003 in the case of HEC. She also enquired what further actions, apart from the use of natural gas, could be contemplated to improve the situation. GM(MS)/HEC said that the increase in RSP levels from 1997 to 2003 reflected the increase in energy consumption over the years.

To reduce emissions, HEC had planned the construction of a new natural gas power plant in 1996, but this had taken a long time to complete since much time had to be spent on site identification, land formation and engineering works, environmental impact assessment as well as other statutory procedures. The economic downturn following the outbreak of the Severe Acute Respiratory Syndrome had further delayed the commissioning of the plant from 2004 to mid 2006.

24. Through the Chair, the Assistant Director of Environmental Protection (ADEP) said that RSP emission levels from power plants could be reduced with the use of natural gas and flue gas desulphurization systems. Further reduction of RSP levels could be achieved through the use of electrostatic precipitators at additional costs. It would be up to the two power companies to decide on the most cost-effective way to reduce their emissions, which would include participation in emissions trading.

Air quality objective

25. Noting from PSETW(E)'s statement that AQOs in Hong Kong could be met once the emission reduction targets were achieved, Ms Audrey EU asked whether the present AQOs, which had not been updated since they were adopted in 1987, were up to international standard. While agreeing that the AQOs set in 1987 could be reviewed, DDEP said that it was difficult to make a fair comparison with that adopted in the United States or the European Union because the standards of acceptance and the degree of tolerance were quite different. Meanwhile, the United States and the European Union were reviewing their AQOs for application in their different states/member countries. Findings of the international reviews would be taken into account when reviewing the Hong Kong AQOs.

Emissions trading

26. GM(MS)HEC said that HEC would join EPD to set up a task force to work out a scheme for emissions trading. He stressed the need to apply the same emission standards and to engage an independent party to monitor and assess the emission data. CD/CLP said that provided that real reduction in emissions across the region could be achieved, CLP would be willing to consider emissions trading. There were issues of enforceability, transparency of data and commonality of standards which needed to be resolved between the two jurisdictions.

Renewable energy

27. Ir Peter WONG/HKIE said that it might not be possible to develop wind energy in Hong Kong as wind turbines were very space consuming. While supporting the concept of renewable energy, Ms Miriam LAU shared the view that Hong Kong might not be able to accommodate wind farms given their huge space requirements. Ms Audrey EU however said that consideration could be given to buying electricity from places which developed renewable energy. She also held the

view that apart from developing renewable energy themselves, the two power companies should cooperate with the Mainland in the development of renewable energy.

28. In concluding, PSETW(E) said that the 2010 emission reduction targets could be achieved through the cooperative efforts of HKSARG and GPG. Both Governments were committed to reducing emissions from power generation, as evidenced by the number of the coal-fired power stations which had been retrofitted with flue gas desulphurization systems. The two local power companies had been taking a proactive approach in expediting the emission reduction efforts since the meeting of the Panel on Economic Services on 25 July 2005. At members' request, the Administration undertook to provide a report on the progress of the 2010 emission reduction targets in six months' time. The Chairman however requested that the report should be made available in three months' time and every six months thereafter. PSETW(E) agreed to provide the first report in three months' time. It was also agreed that the Administration should be invited to report to the Panel by the end of 2005 the progress of measures taken by the two power companies to meet the emission reduction targets as scheduled.

II Any other business

29. There being no other business, the meeting ended at 6:45 pm.