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Panel on Environmental Affairs

Meeting on 4 July 2012

**Updated background brief on Technical Memorandum for Allocation of
Emission Allowances in respect of Specified Licence
prepared by the Legislative Council Secretariat
(Position as at 27 June 2012)**

Purpose

This paper sets out the development of the Technical Memorandum for Allocation of Emission Allowances in respect of Specified Licences (TM), and gives a brief account of the views expressed by Members on the subject.

Background

2. To improve air quality, the Hong Kong Special Administrative Region Government reached a consensus with the Guangdong Provincial Government (GPG) in April 2002 to reduce the emissions of sulphur dioxide (SO_2), nitrogen oxides (NO_x), respirable suspended particulates (RSP), and volatile organic compounds by 40%, 20%, 55%, and 55% respectively by 2010 as compared to 1997.

3. Power generation is the largest emission source in Hong Kong, accounting for 88% of SO_2 , 44% of NO_x , and 28% of RSP emitted locally in 2008. For Hong Kong to achieve the 2010 emission reduction targets, it is essential for the power companies to substantially reduce their emissions of SO_2 , NO_x , and RSP by 2010. Since 2003, the Administration has been engaging the two local power companies regarding the imposition of emission caps in 2010. Emission caps on the power stations have been imposed since 2005 upon renewal of their respective specified process licences. These emission caps are being progressively tightened to ensure that Hong Kong can meet the 2010 emission reduction target.

Technical Memorandum for Allocation of Emission Allowances in respect of Specified Licence

4. In accordance with section 26G of the Air Pollution Control Ordinance (Cap. 311) (APCO), the Secretary for the Environment (SEN) shall by technical memorandum allocate a quantity of emission allowances for each type of specified pollutant, i.e. SO₂, NO_x and RSP, in respect of each specified licence for the operation of power plant in relation to each emission year commencing on or after 1 January 2010. An allocation of emission allowances made by the TM in relation to an emission year (other than an allocation made under the First TM) could only take effect at least four years after the commencement of the TM making the allocation.

First Technical Memorandum

5. In 2008, SEN issued the First TM to allocate emission allowances in relation to each emission year commencing on and after 1 January 2010. Under the First TM, the emissions of SO₂, NO_x and RSP from the power sector were capped at 25 120 tonnes, 42 600 tonnes and 1 260 tonnes respectively for emission years starting 2010. The total emission allowances were distributed among the power plants operated by the two power companies based on their respective share of the quantity of electricity generation for local consumption, and updated not less than once every three years. Also, not more than one percent of the total emission allowances for the power sector in respect of each of the specified pollutants were allowed for allocation to new electricity works.

6. When the First TM was discussed at the meeting of the Panel on Environmental Affairs (the Panel) on 27 October 2008, some members questioned the bases upon which the emission allowances for SO₂ and NO_x were arrived at. They also urged the Administration to tighten control of RSP, which was the cause for many respiratory diseases in Hong Kong. Some other members were concerned that the two power companies would pass the costs to achieve the emission reduction targets (using cleaner fuels and installation of pollution abatement equipment) to consumers through increased electricity tariffs. Questions were also raised on the low emission allowances for new comers and efficacy of emission trading among power plants in Hong Kong and Guangdong.

7. Following the publication of the First TM in the Gazette on 7 November 2008, a Subcommittee was set up to examine the First TM and completed work in December 2008. In the course of examination of the First TM, the Administration was requested to carry out a review within two years after it had come into operation. The report of the Subcommittee is hyperlinked below for ease of reference.

Second Technical Memorandum

8. In the light of the review of the First TM, the Administration considers that there is scope to reduce the emission allowances for each of the electricity works of the two power companies for the emission years starting 1 January 2015 through maximizing the use of the existing gas-fired generation units, and prioritizing the use of the coal-fired generation units that had been retrofitted with emission abatement equipment. The Administration therefore proposes to impose via the Second TM the following specific emission allowances for each of the electricity works of the two power companies in relation to the emission years from 1 January 2015 –

		Emission allowances for existing electricity works (tonnes per year)		
		SO ₂	NO _x ^[@]	RSP
Hongkong Electric Co. Ltd. (HEC)				
Lamma Power Station (mixed fuel)		6 780	10 020	300
Subtotal		6 780 [72%] ^[*]	10 020 [63%] ^[*]	300 [64%] ^[*]
CLP Power Hong Kong imited (CLP)				
Black Point Power Station (gas-fired)		1 440	4 140	110
Castle Peak Power Station (coal-fired)		4 260	13 390	420
Penny's Bay Gas Turbine Power Station (oil-fired) ^[#]		2	2	1
Subtotal		5 702 [36%] ^[*]	17 532 [66%] ^[*]	531 [67%] ^[*]
Total		12 482 [50%] ^[*]	27 552 [65%] ^[*]	831 [66%] ^[*]

[@] Expressed as nitrogen dioxide.

[*] The figures in square brackets compare the new emission allowances with the emission allowances under the First TM in percentage terms.

[#] As the Penny's Bay Gas Turbine Power Station is for emergency and peak-lapping purposes, the projected SO₂, NO_x and RSP emissions for the purposes are one to two tonnes.

As compared with the First TM, the Second TM will tighten the emission allowances for SO₂, NO_x and RSP by 50%, 35% and 34% respectively. In line with the existing practice, not more than one percent of the total emission

allowances for the power sector in respect of each of the specified pollutants under the Second TM will be allowed for allocation to new electricity works in relation to the emission years from 1 January 2015. To enable timely revision of the emission allowances, the Second TM will be reviewed at a frequency of no less than once every three years.

9. The review of the First TM and the proposed Second TM were discussed by the Panel on 22 September 2010. While welcoming the tightening of emission allowances for power plants, some members pointed out that the capability of the two power companies to meet the emission caps would very much depend on whether they could make full use of their gas-fired generation units, and the timely availability of replacement natural gas to be delivered under the Memorandum of Understanding on Energy Co-operation. Given the volatility of the fuel market and Hong Kong's reliance on the import of natural gas, these members considered that a better fuel mix should be worked out to ensure a reliable supply of electricity taking into account the implications on electricity tariffs on the community at large.

10. Following the publication of the Second TM in the Gazette on 15 October 2010, a Subcommittee was set up to examine the Second TM. The Subcommittee was disappointed that despite the request of the Subcommittee formed to study the First TM, the Administration had insisted that review of TM should be conducted at a frequency of not less than once every three years instead of two years. Having regard to the rapid changes in the associated technologies and the possibility in revamping fuel mix sooner, members reiterated that a more frequent review was necessary. At members' repeated request, the Administration eventually agreed to amend section 2.5 of the Second TM and change the review frequency to not less than once every two years. It also agreed to report the outcome of review to the Panel upon completion of any future review of the Second TM.

Latest development

11. The Administration proposes to brief members on the review of the Second TM at the upcoming Panel meeting on 4 July 2012.

Relevant Papers

12. A list of relevant papers is in **Appendix**.

Technical Memorandum for Allocation of Emission Allowances in respect of Specified Licence**List of relevant papers**

Council/ Committee	Date of meeting	Paper
EA Panel	27 October 2008	<p>Information paper on "Technical Memorandum to Stipulate the Quantities of Emission Allowances for Power Plants" provided by the Administration (LC Paper No. CB(1) 88/08-09(03)) http://www.legco.gov.hk/yr08-09/english/panels/ea/papers/ea1027cb1-88-3-e.pdf</p> <p>Minutes of meeting (LC Paper No. CB(1) 222/08-09) http://www.legco.gov.hk/yr08-09/english/panels/ea/minutes/ea20081027.pdf</p>
House Committee	5 December 2008	<p>Report of the Subcommittee on Technical Memorandum for Allocation of Emission Allowances in respect of Specified Licences (LC Paper No. CB(1) 323/08-09)) http://www.legco.gov.hk/yr08-09/english/hc/papers/hc1205cb1-323-e.pdf</p>
EA Panel	22 September 2010	<p>Information paper on "Review of the Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences" provided by the Administration (LC Paper No. CB(1) 2841/09-10(01)) http://www.legco.gov.hk/yr09-10/english/panels/ea/papers/ea0922cb1-2841-1-e.pdf</p> <p>Paper on Technical Memorandum for Allocation of Emission Allowances in respect of Specified Licence prepared by the Legislative Council Secretariat (updated background brief) (LC Paper No. CB(1) 2841/09-10(02)) http://www.legco.gov.hk/yr09-10/english/panels/ea/papers/ea0922cb1-2841-2-e.pdf</p> <p>Minutes of special meeting (LC Paper No. CB(1) 318/10-11) http://www.legco.gov.hk/yr09-10/english/panels/ea/minutes/ea20100922.pdf</p>

Council/ Committee	Date of meeting	Paper
House Committee	26 November 2010	Report of the Subcommittee on Second Technical Memorandum for Allocation of Emission Allowances in respect of Specified Licences (LC Paper No. CB(1) 517/10-11)) http://www.legco.gov.hk/yr10-11/english/hc/papers/hc1126cb1-517-e.pdf