

立法會
Legislative Council

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by the Administration)

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**Subcommittee on Seventh Technical Memorandum for Allocation of
Emission Allowances in Respect of Specified Licences**

**Minutes of meeting
held on Tuesday, 31 October 2017, at 8:30 am
in Conference Room 2B of the Legislative Council Complex**

Members present : Ir Dr Hon LO Wai-kwok, SBS, MH, JP (Chairman)
Hon Jeffrey LAM Kin-fung, GBS, JP
Hon CHAN Hak-kan, BBS, JP
Hon Steven HO Chun-yin, BBS
Hon Frankie YICK Chi-ming, SBS, JP
Hon WU Chi-wai, MH
Hon Kenneth LEUNG
Hon KWOK Wai-keung, JP
Hon Martin LIAO Cheung-kong, SBS, JP
Hon CHU Hoi-dick
Dr Hon Junius HO Kwan-yiu, JP
Hon Tanya CHAN
Hon HUI Chi-fung

Public Officers attending : **For item II**

Ms Queenie LEE
Principal Assistant Secretary for the Environment
(Electricity Reviews)
Environment Bureau

Mrs Alice CHEUNG, JP
Deputy Director of Environmental Protection (3)
Environmental Protection Department

Mr Dave HO
Assistant Director of Environmental Protection (Air Policy)
Environmental Protection Department

Mr Brian LAU
Principal Environmental Protection Officer (Air Policy)
Environmental Protection Department

Clerk in Attendance : Miss Cindy HO
Chief Council Secretary (1)1

Staff in attendance : Mr Cliff IP
Assistant Legal Adviser 8

Ms Anki NG
Senior Council Secretary (1)1

Miss Mandy POON
Legislative Assistant (1)1

Action

I. Election of Chairman

Mr Jeffrey LAM, the member with the highest precedence among those who were present at the meeting, presided over the election of the Chairman of the Subcommittee. He invited nominations for the chairmanship of the Subcommittee.

2. Ir Dr LO Wai-kwok was nominated by Mr Martin LIAO and the nomination was seconded by Mr CHAN Hak-kan. Ir Dr LO Wai-kwok accepted the nomination. There being no other nominations, Ir Dr LO Wai-kwok was declared Chairman of the Subcommittee.

3. Members agreed that there was no need to elect a Deputy Chairman.

Action

II. Meeting with the Administration

- (S.S. No. 5 to Gazette No. 41/2017 — Seventh Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences
- (issued by the Environmental Protection Department in October 2017)* — Legislative Council Brief
- LC Paper No. LS3/17-18 — Legal Service Division Report
- LC Paper No. CB(1)140/17-18(01) — Background brief prepared by the Legislative Council Secretariat)

Discussion

4. The Deputy Director of Environmental Protection (3) briefed members on the Seventh Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences ("Seventh TM").
5. The Subcommittee deliberated (index of proceedings attached at the **Annex**).

Follow-up actions to be taken by the Administration

- Admin 6. The Administration was requested to provide the following information:
- (a) the local and regional pollution sources for Hong Kong's air quality, how reducing the emissions of the specified pollutants from the power plants would contribute to the Administration's environmental targets for 2020 to achieve emission reductions and what measures had been taken to achieve the targets set; and
 - (b) the additional cost per unit of electricity arising from the capital investment of \$4.1 billion and \$5.5 billion for building new gas-fired units (Unit L11 and Unit D1) by the Hongkong Electric Company and CLP Power Hong Kong Limited respectively.

(Post-meeting note: The Administration's written response was issued vide LC Paper No. CB(1)200/17-18(02) on 10 November 2017).

Action

III. Any other business

Invitation of public views and date of next meeting

7. Members agreed to post a notice on the website of the Legislative Council ("LegCo") to invite the public to provide written submissions on the Seventh TM. The Administration was requested to provide written response to the submissions received. Subject to any views members might have on the written submissions, the Chairman would decide whether a further meeting was necessary.

(Post-meeting note: A notice was posted on the LegCo website on 31 October 2017 and invitation letters were sent to District Councils and relevant organizations on 1 November 2017. A total of 13 written submissions had been received, which were issued to members vide LC Paper No. CB(1)202/17-18 on 9 November 2017. The Administration's written response to the submissions were issued vide LC Paper No. CB(1)242/17-18(01) on 21 November 2017.)

Legislative timetable

8. The Chairman said that he would move a motion at the Council meeting of 8 November or 15 November 2017 to extend the scrutiny period of the Seventh TM to the Council meeting of 6 December 2017. No member raised objection. If the scrutiny period was extended, the deadline for giving notice of motion to amend the Seventh TM would be 29 November 2017. The Chairman would report the deliberations of the Subcommittee to the House Committee at its meeting on 24 November 2017.

(Post-meeting note: As the proposed resolution to extend the scrutiny period of the Seventh TM to the Council meeting of 6 December 2017 was not dealt with at the Council meeting of 15 November 2017, the scrutiny period of the Seventh TM had therefore expired at the Council meeting of 15 November 2017.)

9. There being no other business, the meeting ended at 9:58 am.

**Subcommittee on Seventh Technical Memorandum for Allocation
of Emission Allowances in Respect of Specified Licences**

**Proceedings of meeting
on Tuesday, 31 October 2017, at 8:30 am
in Conference Room 2B of the Legislative Council Complex**

Time marker	Speaker	Subject(s)	Action required
<i>Agenda Item I — Election of Chairman</i>			
000406 - 000539	Mr Jeffrey LAM Mr Martin LIAO Mr CHAN Hak-kan Ir Dr LO Wai-kwok	Election of Chairman	
<i>Agenda Item II — Meeting with the Administration</i>			
000540 - 000750	Chairman	Opening remarks	
000751 - 001050	Administration	Briefing by the Administration on the Seventh Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences ("Seventh TM").	
001051 - 001533	Chairman Mr Martin LIAO Administration	Mr LIAO's enquiries: (a) the period of application of the Seventh TM; (b) how the Seventh TM would tie in with the Administration's goal to achieve the emission reduction targets for the relevant pollutants by 2020; and (c) any penalties imposed on the two power companies if the emission caps under the Seventh TM could not be met. The Administration's response that: (a) Section 26G(4) of the Air Pollution Control Ordinance (Cap. 311) ("APCO") required a TM to be issued at least four years before the commencement of the emission year that it would take effect, the new emission allowances under the Seventh TM would take effect from 1 January 2022 if it commenced before the end of 2017;	

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		<p>(b) when setting the emission allowances under the Seventh TM, the Administration had taken into account the progress of increasing local gas generation to around 50% of the total fuel mix for electricity generation by 2020 ("Fuel Mix Target"), with new gas-fired units, including a new gas-fired unit (Unit D1) of the CLP Power Hong Kong Limited ("CLP") at its Black Point Power Station for operation in 2020 and one new gas-fired unit (Unit L11) of the Hongkong Electric Company, Limited ("HEC") at its Lamma Power Station Extension for operation in 2022, so as to meet the Government's pledged environmental targets for 2020; and</p> <p>(c) penalties included imposition of fines and imprisonment for non-compliance with the statutory emission caps.</p>	
001534 - 002843	Chairman Mr CHAN Hak-kan Administration	<p>Mr CHAN and the Chairman's enquiries:</p> <p>(a) whether the Seventh TM would help reduce the emission of fine suspended particulates ("PM2.5") by power plants with the implementation of the Seventh TM and whether any new methods were now available for measurement of PM2.5;</p> <p>(b) any difference in emission of PM2.5 between the old and new power generation units;</p> <p>(c) how to ensure effective monitoring of the particulates emissions arising from the power plants operation; and</p> <p>(d) whether real-time emission data of the pollutants including sulphur dioxide ("SO₂"), nitrogen oxides ("NO_x") and respirable suspended particulates ("RSP") could be disseminated to the public to enhance monitoring.</p> <p>The Administration's response that:</p> <p>(a) as the stacks of local power plants equipped with wet scrubbers to control emissions were saturated with water vapour, water droplets entrained in the</p>	

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		<p>flue-gas could dissolve some of the PM2.5 particles, rendering these particles not collected by the PM2.5 particle-sizing device for measurement. There was still no established method for measuring the PM2.5 emissions from power plants with wet stacks nor emission standard set on their PM2.5 emissions even in other environmentally advanced jurisdictions such as the United States and member states of the European Union. Nevertheless, control measures to reduce RSP (i.e. PM10) emissions could also reduce PM2.5 emissions. The Environmental Protection Department ("EPD") would continue to closely monitor the development of PM2.5 measurement technology;</p> <p>(b) the emission allowances to be allocated to power plants comprised two parts: the projected emissions under the adoption of best practicable means ("BPM") requirements and the emissions that could be offset by renewable energy ("RE") sources. The emission factors of coal-fired-units had been embedded in the formulae of allocation of emission allowances for the power plants, which were the coefficients of the variables for adjusting the emissions from coal plants due to actual RE intake. The formula also catered for possible new electricity works by allocating emission allowances based on the emission performance of a new gas-fired unit adopting BPM for emission reductions;</p> <p>(c) power plants were required to continuously monitor the particulates emission by means of opacity from the stack in accordance with the internationally recognized methods specified by EPD and the relevant data were transmitted to EPD for on-line monitoring to ensure compliance with the requirements; and</p> <p>(d) as the Administration would review from time to time the dissemination of relevant data related to air quality and emissions to</p>	

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		<p>the public, it would consider the suggestion of including emission data from power plants in future review exercises.</p>	
002844 - 003439	<p>Chairman Mr Kenneth LEUNG Administration</p>	<p>Mr LEUNG's enquiries:</p> <ul style="list-style-type: none"> (a) whether the Seventh TM only set emission caps on three types of specified pollutants while carbon dioxide ("CO₂") was not included; (b) how the Seventh and future TMs would tie in with the goal to achieve air quality objectives ("AQOs") for the relevant pollutants by 2020; and (c) whether the measurement of PM_{2.5} concentrations in a stack inside the coal generation units was considered feasible. <p>The Administration's response that:</p> <ul style="list-style-type: none"> (a) the Seventh TM only set emission caps on SO₂, NO_x and RSP for local power plants, not CO₂; (b) in conducting the AQOs Review, the AQOs Review Working Group would consider whether there would be any possible scope for tightening the AQOs, and the Administration would consider views and suggestions from such review in setting the emission caps on the specified pollutants when formulating future TMs; and (c) measurement of PM_{2.5} concentrations in a stack inside the coal generation units was not feasible as PM_{2.5} constituted only a fraction of the total particulate level measured by means of opacity from the stack in accordance with internationally recognized methods. 	
003440 - 004222	<p>Chairman Mr WU Chi-wai Administration</p>	<p>Mr WU's enquiries:</p> <ul style="list-style-type: none"> (a) how reducing the emissions of the specified pollutants from the power plants would contribute to the Administration's environmental targets for 2020 to achieve 	<p>Admin (paragraph 6 of the minutes refers)</p>

Time marker	Speaker	Subject(s)	Action required
		<p>emission reductions, and what measures had been taken to achieve the targets set;</p> <p>(b) the difficulties faced by the power companies in complying with the tightened emission allowances and the consequence for not meeting the emission caps under the Seventh TM; and</p> <p>(c) the additional cost per unit of electricity arising from the capital investment of \$4.1 billion and \$5.5 billion for building new gas-fired units (i.e. Unit L11 by HEC and Unit D1 by CLP respectively).</p> <p>The Administration's response that:</p> <p>(a) the emission caps in the Seventh TM had taken into account the Fuel Mix Target so as to meet the 2020 emission reduction targets. Apart from controlling emissions from power plants, other key emission reduction measures for achieving the 2020 emission reduction targets included phasing out highly polluting commercial diesel vehicles, strengthening inspection and maintenance of petrol and liquefied petroleum gas vehicles and requiring ocean-going vessels to switch to using low sulphur fuel while at berth; and</p> <p>(b) the two power companies had indicated that the achievement of the new emission allowances under the Seventh TM would hinge on a number of factors, including the availability of fuels of the right quality and performance of the generating units or emission control equipment, etc. Although the power companies might invoke the special event provision under APCO for not meeting the emission caps, EPD would not lightly adjust the emission caps under the special event mechanism unless the incidents were clearly proven to be beyond the control of the power companies and that they had made their best endeavour to avoid such happenings.</p>	<p>Admin (paragraph 6 of the minutes refers)</p>

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004223 - 005023	Chairman Dr Junius HO Administration	<p>Dr HO's enquiries:</p> <ul style="list-style-type: none"> (a) details of the calculation of the emission reductions mentioned in Table 1 of paragraph 7 of the Legislative Council Brief; (b) the measures taken to reduce local and regional air pollution; and (c) how to monitor and offset the actual RE intake from RE facilities, such as sludge treatment and landfill gas electricity generation facilities, in allocating the emission allowances to the power plants. <p>The Administration's response that:</p> <ul style="list-style-type: none"> (a) Table 1 showed the projected emissions and the reduction in emission allowances for the three specified pollutants for each of the power plants of the two power companies in comparison with the emission allowances stipulated in the Sixth TM, and the overall reduction of emissions from the electricity sector under the Seventh TM in comparison with the Sixth TM; and (b) apart from emission reductions in power generation, the key emission reduction measures being implemented in Hong Kong included tightening of vehicle emission standards and sulphur content of locally supplied marine diesel, and the reductions in emissions from the various pollution sources in the past few years had been significant. The Hong Kong Special Administrative Region Government and Guangdong Provincial Government adopted a set of emission reduction targets/ranges in Hong Kong and the Pearl River Delta ("PRD") Economic Zone for 2015 and 2020, and agreed to conduct a mid-term review in 2015 to finalize the emission reduction targets for 2020. The Administration would enhance co-operative efforts with the Mainland in the PRD Region, including conducting scientific studies and sample-taking exercises for measurement of pollutants. 	

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005024 - 005436	Chairman Mr Jeffrey LAM Administration	<p>Mr LAM's enquiries:</p> <p>(a) whether the two power companies had been consulted and confirmed their agreement to the emission measurement methods and compliance with the tightened emission allowances under the Seventh TM; and</p> <p>(b) any past incidents of power companies not meeting the emission caps under the TMs.</p> <p>The Administration's response that:</p> <p>(a) the power companies had been consulted and agreed to the new emission allowances in the Seventh TM. On measurement methods, EPD would conduct on-site checks on the instruments and data at the power companies and independent third parties would also be engaged by the power companies to conduct audit check; and</p> <p>(b) there was no past incident of power companies not meeting the emission caps under the TMs.</p>	
005437 - 005938	Chairman Mr HUI Chi-fung Administration	<p>Mr HUI's enquiry that other than taking into account RE generated by the two power companies, whether the actual intake of electricity to be generated by RE systems developed by the private sector and the community had been taken into account in ascertaining the emission allowances under the Seventh TM, in particular in view of the new measures (e.g. Feed-in Tariff ("FiT") Scheme) to be introduced by the Administration to promote the development of RE.</p> <p>The Administration responded that the formulae for allocating the emission allowances had already taken into account the anticipated RE generated from facilities that would be in operation by the emission year, including those of the two power companies and the Government. The formulae would also cater for any additional RE intake developed by the private sector and community exported to the electricity grids of the two power companies. If the actual intake from all the RE sources was</p>	

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		<p>greater, the emission allowances would be reduced according to the formulae, and vice versa.</p>	
005939 - 010935	<p>Chairman Dr Junius HO Administration</p>	<p>Dr HO's enquiries:</p> <p>(a) the reasons for setting different formulae for calculating the quantity of emission allowances for power plants of the two power companies under the Seventh TM; and</p> <p>(b) whether the formulae for allocating emission allowances had included any incentives for CLP to use photovoltaic systems to supply RE.</p> <p>The Administration's response that:</p> <p>(a) the difference in formulae was to take into account the difference in quantity of power generated from different power plants. The Lamma Winds of HEC and its photovoltaic system at Lamma Power Station would supply RE of about 2 GWh per year and hence the number 2 was used as a base figure in the formula. Similarly, the Sludge Treatment Facility (T · PARK) in Tuen Mun (14 GWh), Phase 1 of the new Organic Resources Recovery Centre in Siu Ho Wan, North Lantau (18 GWh) and landfill gas electricity generation at West New Territories Landfill (68 GWh) would supply RE of a total of about 100 GWh per year and hence the number 100 was used as a base figure in the formula for CLP; and</p> <p>(b) TMs were meant to control the emission of specified pollutants from power plants whereas power companies were encouraged to develop RE in other contexts, including the Scheme of Control Agreements ("SCAs") signed between the Government and the power companies. Promotion of RE was one of the foci of the post-2018 SCAs signed between the Government and the power companies in April 2017 under which the power companies would be provided with financial incentives to encourage them to</p>	

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		develop RE and facilitate the development of distributed RE.	
010936 - 011457	Chairman Mr WU Chi-wai Administration	<p>Mr WU's enquiries:</p> <ul style="list-style-type: none"> (a) whether RE generated from the facilities owned by the Government would benefit the power companies when determining the emission allowances under the Seventh TM; (b) the introductory rate of FiT; and (c) how the marginal cost of electricity generated from waste-to-energy facilities owned by the Government would be calculated. <p>The Administration's response that:</p> <ul style="list-style-type: none"> (a) the anticipated amounts of emissions to be avoided due to RE intake had already been deducted from the emission allowances allocated to power companies. The emission factors of coal-fired-units had been embedded in the formulae of allocation of emission allowances for the power plants, which were the coefficients of the variables for adjusting the emissions from coal plants due to actual RE intake. As the amount of energy obtained from RE sources could vary depending on various uncontrollable factors such as meteorological conditions and the amount of landfill gas generated, the formulae included variables for adjusting upwards or downwards the emission allowances from coal-fired units to account for the deviation of the actual RE intake in that year from the anticipated level. Furthermore, the power companies had invested in the construction of various facilities such as electricity generator and gas pipe in order to tap into RE; (b) FiT would be introduced to encourage the private sector and the community to consider investing in distributed RE, and the Administration would discuss with the two power companies on the introductory rate of FiT before the new SCAs came into effect; and 	

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		(c) for electricity generated from waste-to-energy facilities owned by the Government, while the actual arrangements would need to be decided on a case-by-case basis, in general the existing arrangement was that the surplus electricity was sold to power companies at the marginal cost of coal fuel.	
011458 - 012216	Chairman Mr Kenneth LEUNG Dr Junius HO Administration	Invitation of public views Legislative timetable	
Section-by-section examination [The Seventh TM (S.S. No. 5 to Gazette No. 41/2017)]			
012217 - 012245	Chairman Mr Kenneth LEUNG Administration	Discussion on the approach to conduct section-by-section examination on the provisions of the Seventh TM. <u>1. Preliminary</u> 1.1 Citation and Commencement 1.2 Application and Scope 1.3 Interpretation The Administration advised that for paragraph 1.2, the emission year had been changed to "from 1 January 2022".	
012246 - 013143	Chairman Mr Kenneth LEUNG Administration	<u>2. Allocation of emission allowances</u> The Administration explained that paragraph 2.2 provided that the quantity of emission allowances for each type of specified pollutant allocated to each specified licence of New Electricity Works for each and every emission year from 1 January 2022 shall be determined by the formulae specified. Mr LEUNG sought clarifications on the definition of "Electricity Works" and the Administration explained that the term was defined in paragraph 1.3 to mean the process of Electricity Works specified in item 7 of Schedule 1 to APCO, which generally referred to a power-generating process in a power plant.	

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		<p>The Administration advised that for paragraph 2.6, the emission year had been changed to "from 1 January 2022".</p> <p>In response to the Chairman's enquiry about the unit of emission allowances, the Administration referred to section 2 of APCO which stipulated that "in relation to a type of specified pollutant, means the entitlement to emit one tonne of that type of pollutant in an emission year from a licensed premises".</p> <p>Members raised no further query.</p> <p>The Chairman concluded that the Subcommittee was in support of the Seventh TM.</p>	
<i>Agenda Item III — Any other business</i>			
013144 - 013300	Chairman Administration	Meeting arrangements	