

**LEGISLATIVE COUNCIL BRIEF**  
**Air Pollution Control Ordinance (Cap. 311)**

**Second Technical Memorandum for  
Allocation of Emission Allowances in Respect of Specified Licences**

**INTRODUCTION**

Pursuant to section 26G of the Air Pollution Control Ordinance (Cap. 311) (the Ordinance), the Secretary for the Environment (the Secretary) has made the "Second Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences" (the Second TM) as at **Annex** to tighten the quantity of emission allowances for each type of specified pollutant, i.e. sulphur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and respirable suspended particulates (RSP), to be allocated in respect of each specified licence to conduct electricity works for each and every emission year from 1 January 2015.

**JUSTIFICATIONS**

2. Section 26G(2) of the Ordinance provides for the Secretary to allocate the emission allowances for each type of specified pollutant allocated in respect of each specified licence to conduct electricity works by a technical memorandum<sup>1</sup>.

3. In 2008, the Secretary issued the first technical memorandum (the First TM) to allocate emission allowances in relation to each emission year commencing on and after 1 January 2010. We have reviewed the First TM and found 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 maximising the use of their existing gas-fired generation units and prioritising the use of their coal-fired generation units that have been retrofitted with emission abatement equipment for achieving the 2010 emission reduction targets under the First TM. At present, the two power companies have been unable to fully utilize their gas burning capacity because of inadequate supply of natural gas. The Memorandum of Understanding on Energy Co-operation signed between Hong Kong and the Mainland in 2008 will make available additional supply of natural gas to Hong Kong in the coming few years, which will enable both power companies to make full use of their existing gas burning capacity towards 2015.

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<sup>1</sup> Section 26G(2) of the Ordinance provides that in making an allocation of emission allowances, the Secretary shall-

- (a) have regard to the best practicable means for preventing the emission of that type of pollutant;
- (b) have on his purpose the attainment and maintenance of any relevant air quality objective; and
- (c) have regard to whether the emission of that type of pollutant would be, or be likely to be, prejudicial to health.

## THE SECOND TECHNICAL MEMORANDUM

4. Having regard to the relevant provisions in the Ordinance, the practicability of fully utilizing the existing gas-fired electricity generation capacity of the two power companies as a result of the additional natural gas supply forecasted over the next few years and the commissioning of the emission abatement equipment that is being retrofitted to the existing power generation units, we will 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 –

	<b>Emission Allowances for Existing Electricity Works (Tonnes Per Year)</b>		
	<b>Sulphur dioxide</b>	<b>Nitrogen oxides</b> <sup>[@]</sup>	<b>Respirable suspended particulates</b>
<b>Hongkong Electric Co. Ltd.</b>			
Lamma Power Station (mixed fuel)	6,780	10,020	300
<b>Subtotal</b>	<b>6,780</b> [72%] <sup>[*]</sup>	<b>10,020</b> [63%] <sup>[*]</sup>	<b>300</b> [64%] <sup>[*]</sup>
<b>CLP Power Hong Kong Limited<sup>2</sup></b>			
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) <sup>[#]</sup>	2	2	1
<b>Subtotal</b>	<b>5,702</b> [36%] <sup>[*]</sup>	<b>17,532</b> [66%] <sup>[*]</sup>	<b>531</b> [67%] <sup>[*]</sup>
<b>Total</b>	<b>12,482</b> [50%] <sup>[*]</sup>	<b>27,552</b> [65%] <sup>[*]</sup>	<b>831</b> [66%] <sup>[*]</sup>

[@] Expressed as nitrogen dioxide.

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

[#] As the Penny's Bay Gas Turbine Power Station is for emergency and peak-logging purposes, the projected SO<sub>2</sub>, NO<sub>x</sub> and RSP emissions for the purposes are one to two tonnes.

As compared with the emission allowances allocated under the First TM, the new set of emission allowances will see a tightening of 50% for SO<sub>2</sub>, 35% for NO<sub>x</sub> and 34% for RSP.

5. In line with the existing practice, the Second TM sets out the following maximum emission allowances equivalent to approximately one percent of the total

<sup>2</sup> Including also the Castle Peak Power Company Limited (CAPCO), which is jointly owned by CLP Power Hong Kong and ExxonMobil Energy Limited. The principal activity of CAPCO is the generation of electricity for the sole supply to CLP Power Hong Kong.

emission allowances for the entire power sector in respect of each of the specified pollutants for possible new electricity works with a total installed capacity equal to or more than 300 MW in relation to the emission years from 1 January 2015 –

<b>Specified Pollutant</b>	<b>Maximum Emission Allowances for New Electricity Works (Tonnes Per Year)</b>
Sulphur dioxide	120
Nitrogen oxides <sup>[&amp;]</sup>	270
Respirable suspended particulates	8

[&] Expressed as nitrogen dioxide

For those possible new electricity works with a total installed capacity less than 300 MW, the existing practice of allocating the emission allowances by multiplying the respective maximum emission allowances set out in the above table with the ratio of the total installed capacity to 300 MW will be continued.

6. 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.

## **LEGISLATIVE TIMETABLE**

7. The Second TM will be published in the Gazette on 15 October 2010 and tabled at the Legislative Council for negative vetting on 20 October 2010. Subject to the negative vetting by the Legislative Council, the new set of emission allowances will take effect at least four years after the commencement of the Second TM, i.e. starting from the emission year of 2015 in accordance with section 26G(4) of the Ordinance.

## **BASIC LAW AND HUMAN RIGHTS IMPLICATIONS**

8. The Second TM is in conformity with the Basic Law, including the provisions concerning human rights.

## **ENVIRONMENTAL IMPLICATIONS**

9. As compared with the current emission allowances, the implementation of the Second TM will see a tightening of 50% for SO<sub>2</sub>, 35% for NO<sub>x</sub> and 34% for RSP. The reduction will help improve local air quality given that emissions from the power sector accounts for 88%, 44% and 28% respectively of the territory-wide emissions of these pollutants in 2008.

10. The overall share of natural gas in the combined fuel mix of the two power companies for local electricity generation will be raised from the anticipated 39% in

2010 to about 52% in 2015, which incidentally would be broadly the same as the proposal in the Air Quality Objectives Review to raise the power sector's fuel mix ratio in local electricity generation to 50% for natural gas.

## **SUSTAINABILITY IMPLICATIONS**

11. Achieving a better air quality for Hong Kong through statutory control on power plants' emissions is in line with the sustainability principles of seeking to find opportunities to enhance the quality of our living environment that promotes and protects the physical health of the people of Hong Kong.

## **TARIFF IMPLICATIONS**

12. Achieving the new emission caps set out in the Second TM does not involve any new capital investment and hence any implications for the tariff would arise from the increase of the use of natural gas. Given the volatile fuel market conditions and that the tightened emission caps will take effect only in 2015, it would not be possible to provide a reliable estimation of the tariff implications until the cost of natural gas to be imported is available. The power companies will present their tariff assessment to the Administration in accordance with the prevailing regulatory mechanism under the Scheme of Control Agreement.

## **FINANCIAL AND STAFF IMPLICATIONS**

13. The Second TM will not incur additional financial implications for the Administration. Enforcement of the emission caps associated with the emission allowances will be carried out by existing staff.

## **CONSULTATION**

14. We have consulted the two local power companies on the tightening of the emission allowances and advised them of the new set of quantity of emission allowances. The Panel on Environmental Affairs of the Legislative Council and the Advisory Council on the Environment were also consulted on the new set of quantity of emission allowances and the allocation principles on 22 September 2010 and 11 October 2010 respectively.

## **PUBLICITY**

15. A press release will be issued on the date of gazette of the Second TM. A spokesman will be made available for media enquiries.

## **ENQUIRY**

16. For any enquiry relating to this brief, please contact Mr. W C Mok, Assistant Director of Environmental Protection (Air Policy), at 2594 6031.

**Environmental Protection Department**  
**October 2010**

**SECOND TECHNICAL MEMORANDUM  
FOR ALLOCATION OF EMISSION ALLOWANCES  
IN RESPECT OF SPECIFIED LICENCES**

Edward T. W. YAU  
SECRETARY FOR THE ENVIRONMENT

This Technical Memorandum is published under Section 37B(1) of the Air Pollution Control Ordinance (Cap. 311) and shall commence to have effect in accordance with Section 37C of that Ordinance.

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**SECOND TECHNICAL MEMORANDUM  
FOR ALLOCATION OF EMISSION ALLOWANCES  
IN RESPECT OF SPECIFIED LICENCES**

1. PRELIMINARY

1.1 *Citation and Commencement*

This Technical Memorandum is the second technical memorandum issued pursuant to Section 26G of the Ordinance and may be cited as the "Second Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences". This Technical Memorandum shall come into operation in accordance with Section 37C of the Ordinance.

1.2 *Application and Scope*

This Technical Memorandum sets out the quantity of emission allowances for each type of specified pollutant allocated in respect of each specified licence for each and every emission year from 1 January 2015. The allocation of emission allowances set out or determined under the First Technical Memorandum for each and every emission year from 1 January 2015 is superseded by this Technical Memorandum.

1.3 *Interpretation*

In this Technical Memorandum, unless the context otherwise requires, the following definitions apply-

"Authority" (監督) has the same meaning as in the Ordinance.

"Electricity Works" (電力工程) means the process of Electricity Works specified in item 7 of Schedule 1 to the Ordinance.

"Emission allowance" (排放限額) has the same meaning as in the Ordinance.



"Emission year" (排放年度) has the same meaning as in the Ordinance.

"Existing Electricity Works" (現有電力工程) means the Electricity Works conducted in any of the following power stations in respect of which a valid specified licence is in force on the commencement date of this Technical Memorandum-

- (a) Black Point Power Station at Yung Long Road, Lung Kwu Tan, Tuen Mun, New Territories;
- (b) Castle Peak Power Station at Lung Yiu Street, Tuen Mun, New Territories;
- (c) Lamma Power Station and Lamma Power Station Extension at Lot 1934 and Lot 2200, DD 3, Po Lo Tsui, Lamma Island; and
- (d) Penny's Bay Gas Turbine Power Station at Lot 23, DD 256, Penny's Bay, Lantau Island, New Territories.

"First Technical Memorandum" (首份技術備忘錄) means the "Technical Memorandum for Allocation of Emission Allowances in Respect of Specified Licences" published under Section 37B(1) of the Ordinance on 7 November 2008 which came into operation in accordance with Section 37C of the Ordinance.

"New Electricity Works" (新電力工程) means any Electricity Works, other than the Existing Electricity Works, which comes into existence after the commencement of this Technical Memorandum.

"Ordinance" (條例) means the Air Pollution Control Ordinance (Cap. 311).

"Electricity generation for local consumption" (供本港使用電力) means the gross electricity generation of the Electricity Works concerned minus the electricity sales for export outside the Hong Kong Special Administrative Region irrespective of whether the export sales are directly conducted by the subject specified licence holder or indirectly dealt with by other dealers.

"Secretary" (局長) has the same meaning as in the Ordinance.

"specified licence" (指明牌照) has the same meaning as in the Ordinance.

"specified licence holder" (指明牌照持有人) has the same meaning as in the Ordinance.

"specified pollutant" (指明污染物) has the same meaning as in the Ordinance.

## 2. ALLOCATION OF EMISSION ALLOWANCES

2.1 The quantity of emission allowances for each type of specified pollutant allocated to each specified licence of Existing Electricity Works for each and every emission year from 1 January 2015 shall be as follows –

(a) Black Point Power Station

	2015 and thereafter
Sulphur dioxide	1,440
Nitrogen oxides <sup>(i)</sup>	4,140
Respirable suspended particulates	110

(b) Castle Peak Power Station

	2015 and thereafter
Sulphur dioxide	4,260
Nitrogen oxides <sup>(i)</sup>	13,390
Respirable suspended particulates	420

(c) Lamma Power Station and Lamma Power Station Extension

	2015 and thereafter
Sulphur dioxide	6,780
Nitrogen oxides <sup>(i)</sup>	10,020
Respirable suspended particulates	300

(d) Penny's Bay Gas Turbine Power Station

	2015 and thereafter
Sulphur dioxide	2
Nitrogen oxides <sup>(i)</sup>	2
Respirable suspended particulates	1

<sup>(i)</sup> Expressed as nitrogen dioxide

2.2 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 2015 shall be determined in accordance with the respective quantity set out in Annex.

2.3 The Authority shall make the allocation of emission allowances for each type of specified pollutant in relation to each specified licence in respect of electricity generation for local consumption.

2.4 Unless otherwise provided or required in the Ordinance or its subsidiary legislation, the Authority shall allocate to each specified licence the respective quantity of emission allowances set out or determined in accordance with this Technical Memorandum for each and every emission year from 1 January 2015.

2.5 The Secretary shall review the quantity of emission allowances for each type of specified pollutant for each specified licence set out or determined in accordance with this Technical Memorandum not less than once every three years after the commencement of this Technical Memorandum.

**Quantity of Emission Allowances for a Specified Licence of  
New Electricity Works referred to in Section 2.2**

A.1 The quantity of emission allowances for a specified licence of New Electricity Works for a full emission year shall be as follows-

Total Installed Capacity of the New Electricity Works	Sulphur dioxide	Nitrogen oxides <sup>(ii)</sup>	Respirable suspended particulates
Less than 300 MW	$12/30 \times$ Total installed capacity in MW	$27/30 \times$ Total installed capacity in MW	$8/300 \times$ Total installed capacity in MW
Equal to or more than 300 MW	120	270	8

(ii) Expressed as nitrogen dioxide

A.2 Where the specified licence of a New Electricity Works does not commence in January of an emission year, the quantity of emission allowances for that specified licence for the remaining months of that emission year shall be allocated on a pro-rata monthly basis and part of a month is taken as a full month in the determination.

A.3 The quantity of emission allowances determined in this Annex for allocation to a specified licence of New Electricity Works shall be rounded up to the next whole number.