

香港電燈有限公司  
The Hongkong Electric Co., Ltd.



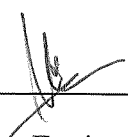
**Lamma Power Station  
Units L2, L4 & L5 Flue Gas Desulphurization  
Plants Retrofit  
Operational Phase**

**Quarterly Environmental Monitoring & Audit Report  
October – December 2012**

香港電燈有限公司  
The Hongkong Electric Co., Ltd.



**ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499**  
**ENVIRONMENTAL PERMITS NO. EP-248/2006 & EP-287/2007**  
**LAMMA POWER STATION**  
**UNITS L2, L4 & L5 FLUE GAS DESULPHURIZATION PLANTS RETROFIT**  
**ENVIRONMENTAL MONITORING & AUDIT PROGRAMME**  
**AT OPERATIONAL PHASE**

Report Title	Quarterly EM&A Report (October to December 2012)
Date	26 March 2013
Certified by	 (Mr. IP Tat-Yan, Environmental Team Leader)

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## EXECUTIVE SUMMARY

This is the quarterly Environmental Monitoring and Audit (EM&A) report for the Projects “Lamma Power Station Units L4 & L5 Flue Gas Desulphurization Plant Retrofit” and “Lamma Power Station Unit L2 Flue Gas Desulphurization Plant Retrofit” prepared by the Environmental Team (ET). This report presents the results of impact monitoring on air and water quality and environmental audit for the operation of the said projects in the period from October to December 2012.

Environmental monitoring for air quality and water quality were carried out for the purpose of this EM&A program as well as for fulfilling the requirements stipulated in the relevant licences. The results were checked against the established Action/Limit (AL) levels. The implementation status of the environmental mitigation measures, Event/Action Plan and environmental complaint handling procedures were also checked.

### Plant Availability

Units L2, L4 and L5 were out of service during the following period:

Unit	Period	Remark
L2	15/11/2012 00:01 to 17/11/2012 18:00	Boiler washing
L4	1/10/2012 00:00 to 2/10/2012 19:01	Rotary Air Heater washing
L5	1/10/2012 00:00 to 3/10/2012 07:13	Defect rectification
L5	30/11/2012 21:22 to 1/12/2012 06:25	Defect rectification
L5	29/12/2012 00:01 to 31/12/2012 23:59	Unit Overhaul

### Malfunction/Outage Records of Pollution Control Equipment

Major outages of the Pollution Control Equipment during the reporting period are listed below:

Equipment	Period	Cause	Actions Taken
L4 FGD	7/11/2012 00:11 to 17/11/2012 18:07	Defect rectification	EPD was informed by letter dated 20/11/2012
L5 FGD	17/11/2012 00:08 to 17/11/2012 17:32	FGD plant was bypassed for slurry pump repair	EPD was informed by letter dated 20/11/2012

Equipment	Period	Cause	Actions Taken
L2 FGD	19/11/2012 05:36 to 14/12/2012 19:05	Defect rectification	EPD was informed by letter dated 18/12/2012

For other minor outages, please refer to section 1.4 of the report.

### **Environmental Monitoring Works**

Environmental monitoring works were performed during the operation of Units L2, L4 and L5 FGD Plants in the reporting period.

#### *Air Quality*

No exceedance of Action and Limit levels for air quality were recorded in the reporting period.

#### *Water Quality*

No exceedance of Action and Limit levels for water quality were recorded in the reporting period.

### **Environmental Licensing and Permitting**

Description	Permit / Licence No.	Valid Period		Issued To	Date of Issuance
		From	To		
Environmental Permit for L4/5 FGD plants retrofit project	EP-248/2006	25/04/2006	-	HK Electric	25/04/2006
Environmental Permit for Unit L2 FGD plant retrofit project	EP-287/2007	02/10/2007	-	HK Electric	02/10/2007
Specified Processes Licence issued under APCO	Varied L-7-002(8)	20/04/2012	31/12/2012	HK Electric	20/04/2012
Specified Processes Licence issued under APCO	L-7-002(9)	01/01/2013	31/12/2014	HK Electric	28/12/2012
WPCO discharge licence for Ash Lagoon	WT00011131-2011	15/12/2011	31/12/2016	HK Electric	15/12/2011

### **Implementation Status of Environmental Mitigation Measures**

Environmental mitigation measures were implemented in the reporting period.

### **Environmental Complaints**

One concern on environmental issue related to the operation of Lamma Power Station was received during the reporting period, for which nothing abnormal was identified at the Power Station.

### **Future key issues**

Key issues to be considered in the coming months include:

#### *Air Impact*

- To continuously carry out the air quality monitoring for Units L2, L4 and L5.

#### *Water Impact*

- To continuously carry out the water quality monitoring for FGD WWT plant.

### **Concluding Remarks**

The environmental performance of the projects was generally satisfactory.

## 1. INTRODUCTION

The Environmental Team (hereinafter called the “ET”) was formed within The Hongkong Electric Co. Ltd (HK Electric) to undertake Environmental Monitoring and Audit for the “Operation of Lamma Power Station Units L4 & L5 Flue Gas Desulfurization Plant Retrofit Project” under the requirements of Clause 2.18 of Environmental Permit (EP) No. EP-248/2006 and “Operation of Lamma Power Station Unit L2 Flue Gas Desulfurization Plant Retrofit Project” under the requirements of Clause 2.10 of Environmental Permit (EP) No. EP-287/2007.

This report summarizes the environmental monitoring and audit work for the said Projects for the period from October to December 2012.

### 1.1 Background

The Projects involves retrofitting the three existing coal-fired generating Units L2, L4 and L5 of Lamma Power Station with Flue Gas Desulphurisation (FGD) plants for reducing sulphur dioxide emissions in support of Government policy to improve the air quality of the Pearl River Delta.

The Projects include the installation and operation of FGD plants with flue gas desulphurization efficiency of 90% for the three coal-fired Units L2, L4 & L5 to reduce the overall SO<sub>2</sub> emissions from Lamma Power Station. The process adopted for the FGD plants is “Wet Limestone-Gypsum”, a technology which has already been used in, and proved effective and reliable for the existing coal-fired units L6, L7 & L8. The flue gas from the boiler is directed to the FGD absorber inside which removal of SO<sub>2</sub> is take place by reaction with limestone slurry. After passing through the absorber, the treated flue gas is heated up by a gas-gas heater to over 80°C at boiler rated capacity and directed back to the existing chimney for discharge to the atmosphere. Figure 1.1a, Figure 1.1b, Figure 1.2a, Figure 1.2b and Figure 1.3 show the location and schematic of the FGD plants.

Wastewater filtrated from the reacted limestone slurry, i.e. gypsum slurry, is produced and it is directed to the existing FGD wastewater treatment plant (WWTP). The FGD WWTP is designed to treat the effluent from FGD plants by alkalization, precipitation and neutralization processes. The schematic diagram of the FGD WWTP is illustrated in Figure 1.4.

The additional equipment for the FGD Plants retrofit projects for Units L2, L4 and L5 includes:

- Three sets of FGD absorbers and associated ductworks
- Three sets of booster fans
- Three sets of gas-gas heaters
- Two FGD Switchgear and Equipment Buildings
- Gypsum dewatering system comprising two sets of hydrocyclones and belt filters

## 1.2 Project Organisation

The management structure to oversee the Projects includes the following:

- Environmental Protection Department (The Authority);
- General Manager (Corporate Development) (The official contact person between HK Electric and EPD);
- Environmental Team Leader (ET Leader);
- Environmental Team (ET).

The organization chart for the Operation EM&A programme is shown in Figure 1.5.

## 1.3 Plant Availability during the Reporting Period

Units L2, L4 and L5 were out of service during the following period:

Unit	Period	Remark
L2	15/11/2012 00:01 to 17/11/2012 18:00	Boiler washing
L4	1/10/2012 00:00 to 2/10/2012 19:01	Rotary Air Heater washing
L5	1/10/2012 00:00 to 3/10/2012 07:13	Defect rectification
L5	30/11/2012 21:22 to 1/12/2012 06:25	Defect rectification
L5	29/12/2012 00:01 to 31/12/2012 23:59	Unit Overhaul

## 1.4 Malfunction/Outage Records of Pollution Control Equipment

Equipment	Period	Cause	Actions Taken
L2 FGD	05/10/2012 02:08 to 02:16	Routine damper exercise	EPD was informed on 10/10/2012
L2 FGD	12/10/2012 00:27 to 00:32	Routine damper exercise	EPD was informed on 16/10/2012
L2 FGD	19/11/2012 05:36 to 14/12/2012 19:05	Defect rectification	EPD was informed by letter dated 18/12/2012

Equipment	Period	Cause	Actions Taken
L4 FGD	13/10/2012 01:43 to 01:50	Routine damper exercise	EPD was informed on 16/10/2012
L4 FGD	20/10/2012 01:23 to 01:25	Routine damper exercise	EPD was informed on 24/10/2012
L4 FGD	27/10/2012 02:28 to 02:50	Routine damper exercise	EPD was informed on 31/10/2012
L4 FGD	03/11/2012 02:15 to 02:20	Routine damper exercise	EPD was informed on 07/11/2012
L4 FGD	07/11/2012 00:11 to 17/11/2012 18:07	Defect rectification	EPD was informed by letter dated 20/11/2012
L4 FGD	01/12/2012 00:26 to 00:31	Routine damper exercise	EPD was informed on 05/12/2012
L4 FGD	08/12/2012 01:43 to 01:50	Routine damper exercise	EPD was informed on 12/12/2012
L4 FGD	22/12/2012 02:44 to 02:46	Routine damper exercise	EPD was informed on 24/12/2012
L4 FGD	29/12/2012 01:28 to 01:33	Routine damper exercise	EPD was informed on 31/12/2012
L5 FGD	13/10/2012 01:27 to 01:37	Routine damper exercise	EPD was informed on 16/10/2012
L5 FGD	20/10/2012 01:14 to 01:16	Routine damper exercise	EPD was informed on 24/10/2012
L5 FGD	27/10/2012 03:23 to 03:46	Routine damper exercise	EPD was informed on 31/10/2012
L5 FGD	03/11/2012 02:36 to 02:41	Routine damper exercise	EPD was informed on 07/11/2012

Equipment	Period	Cause	Actions Taken
L5 FGD	17/11/2012 00:08 to 17/11/2012 17:32	FGD plant was bypassed for slurry pump repair	EPD was informed by letter dated 20/11/2012
L5 FGD	08/12/2012 02:20 to 02:33	Routine damper exercise	EPD was informed on 12/12/2012
L5 FGD	15/12/2012 01:39 to 01:46	Routine damper exercise	EPD was informed on 31/12/2012
L5 FGD	22/12/2012 02:37 to 02:40	Routine damper exercise	EPD was informed on 24/12/2012

## 1.5 Summary of EM&A Requirements

Environmental Monitoring and Audit (EM&A) requirements have been discussed in the Environmental Impact Assessment (EIA) Report/ Project Profile for the Projects. The assessment results indicate that environmental monitoring works required for the EM&A programmes of these Projects are already in place or would be implemented under Lamma Power Station Extension Environmental Permit or environmental licenses for the operation of the existing Lamma Power Station. Such monitoring works are considered adequate for the Projects and no additional EM&A activities are required. Hence, environmental monitoring for air quality and water quality are carried out for the purpose of this EM&A program as well as for fulfilling the requirements stipulated in the relevant licences.

The EM&A monitoring work for air and water quality are described in Section 2 and Section 3 respectively.

The following environmental audits are summarized in Section 4 of the report:

- Environmental monitoring results;
- The status of environmental licensing and permits for the Projects;
- The implementation status of environmental protection and pollution control / mitigation measures.

The future key issues for the Projects will be reported in Section 5 of this report.

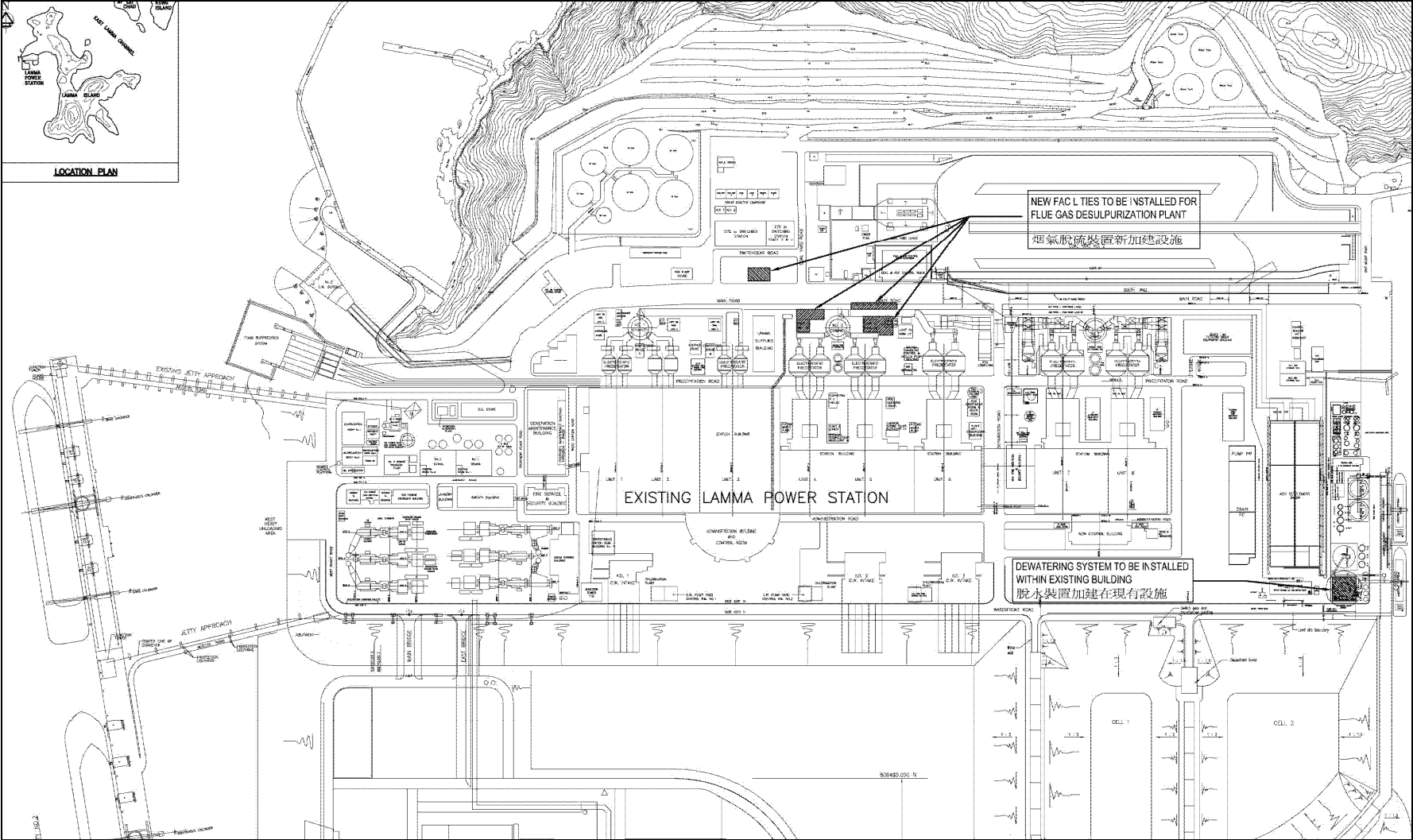


Figure 1.1a Location of New Facilities for L4 & L5 FGD Plants

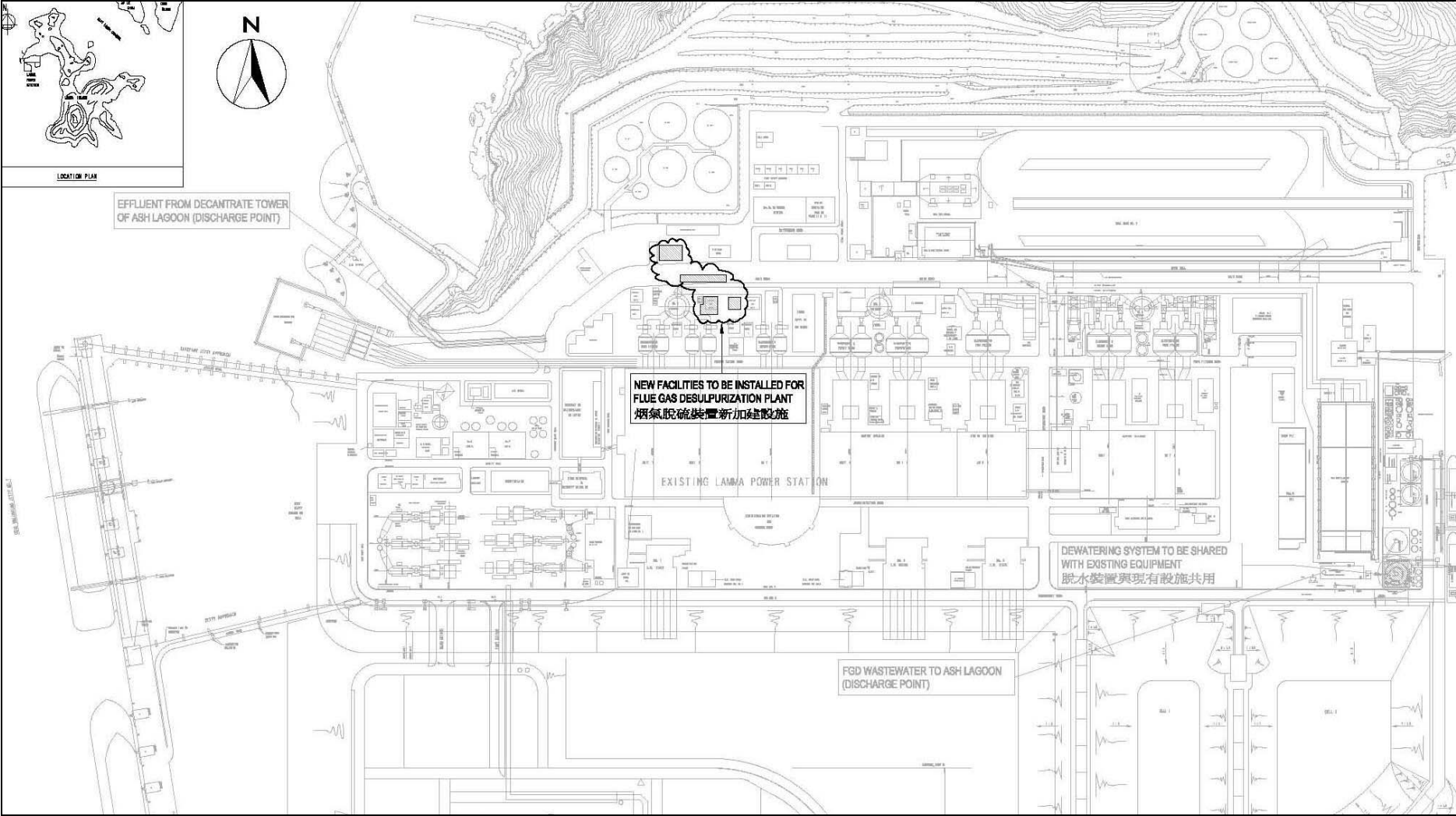


Figure 1.1b Location of New Facilities for L2 FGD Plant

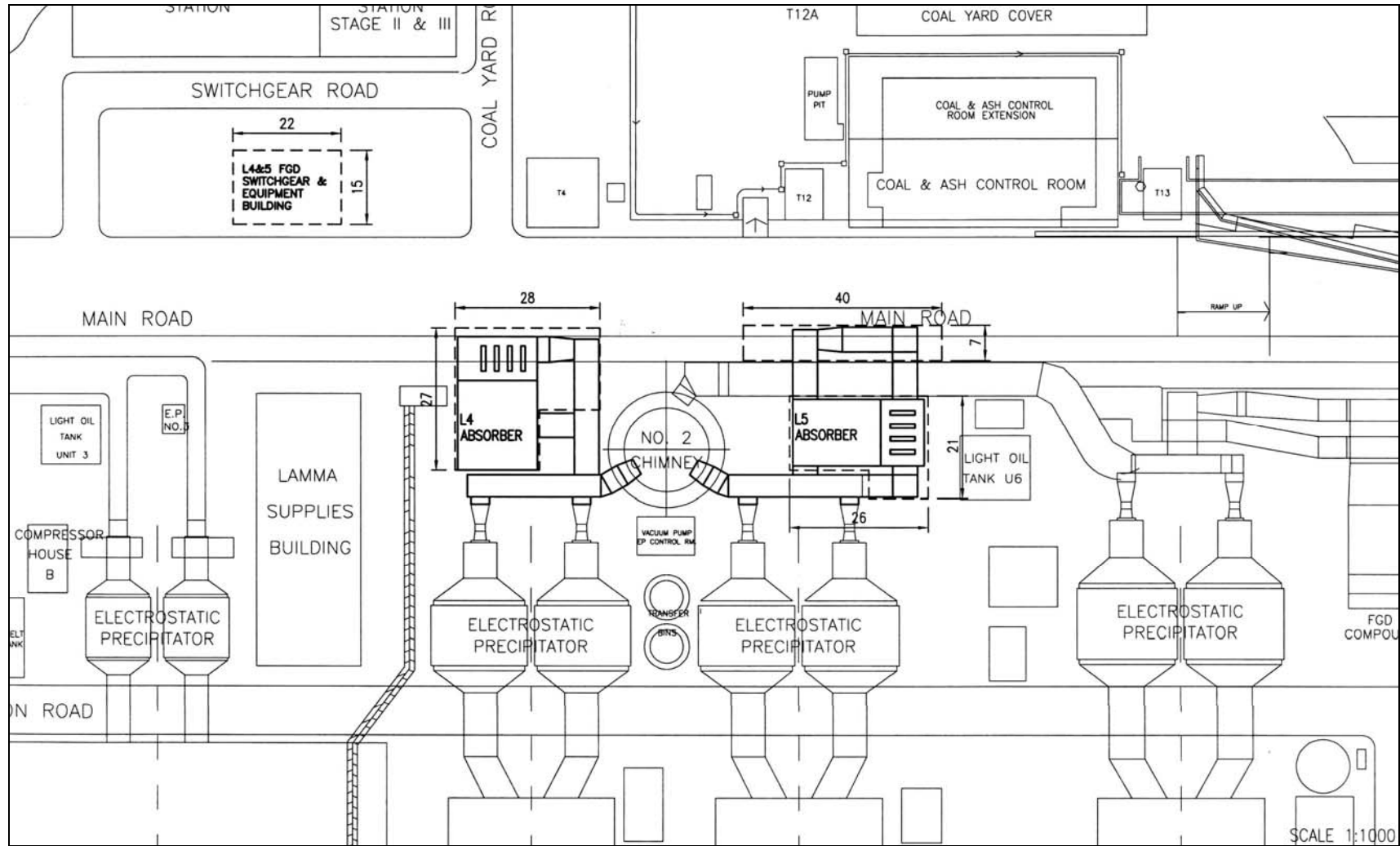


Figure 1.2a General Arrangement of L4 & L5 FGD Plants

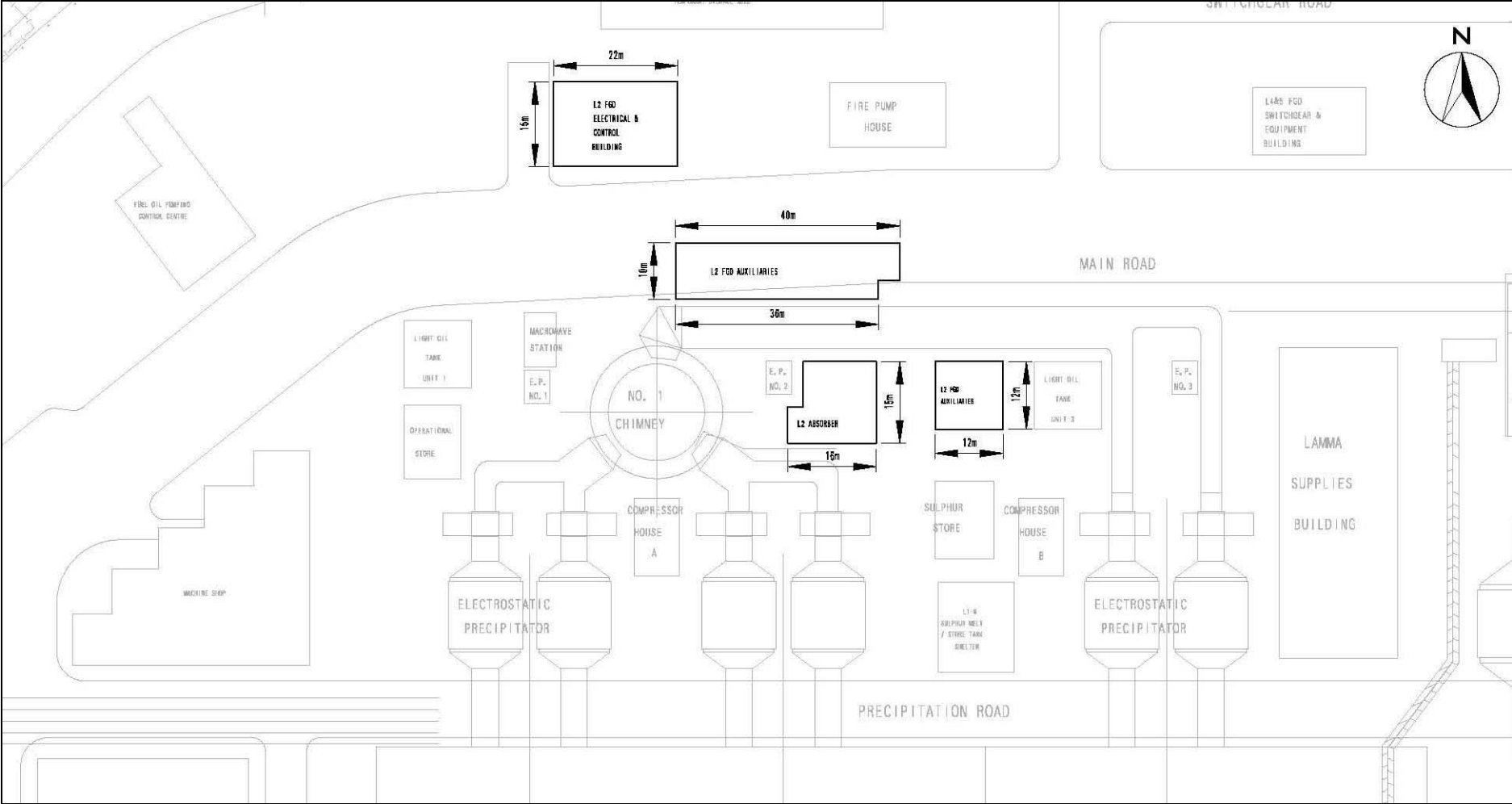


Figure 1.2b General Arrangement of L2 FGD Plant

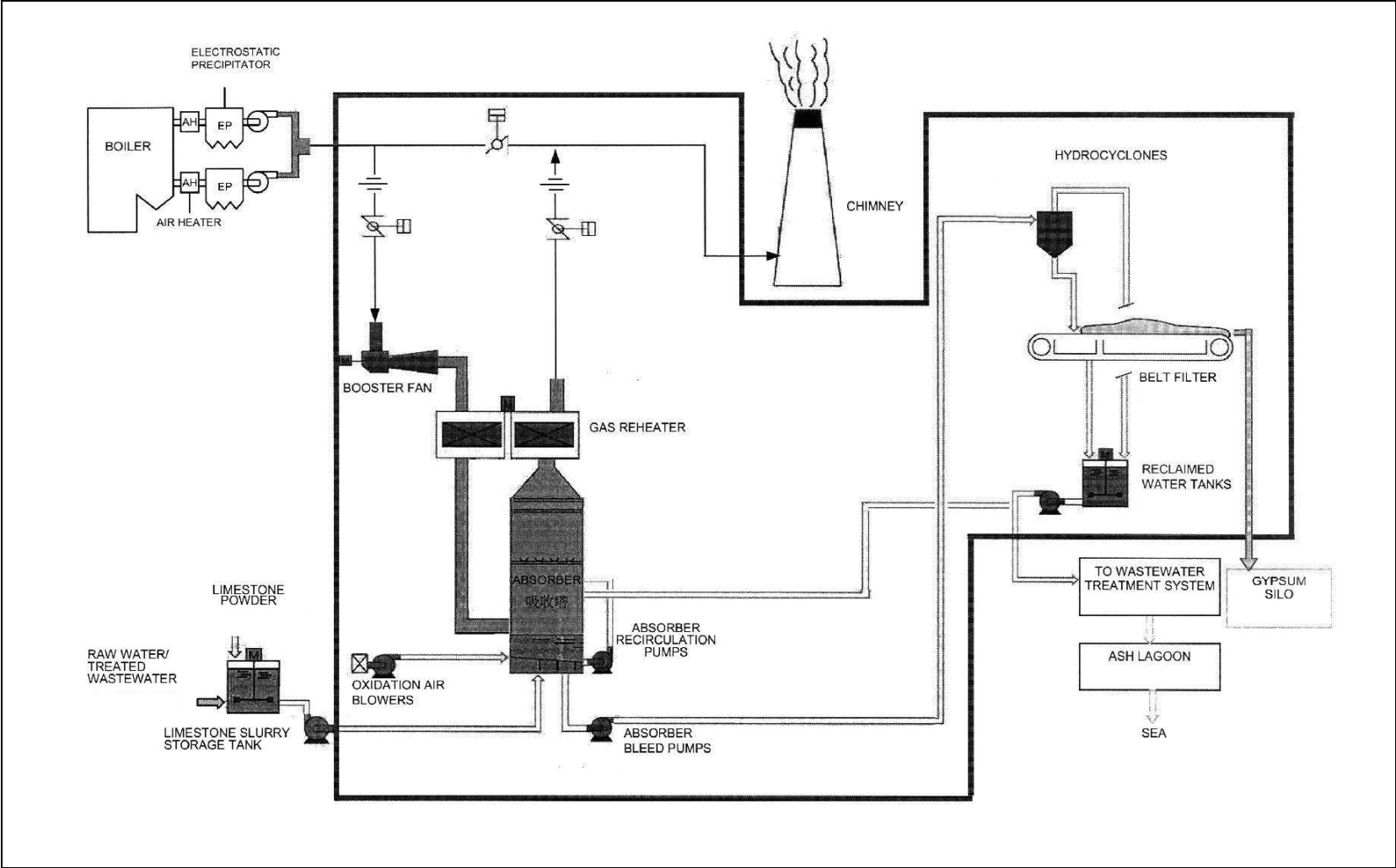


Figure 1.3 Schematic Diagram of the L4 & L5 FGD Plant

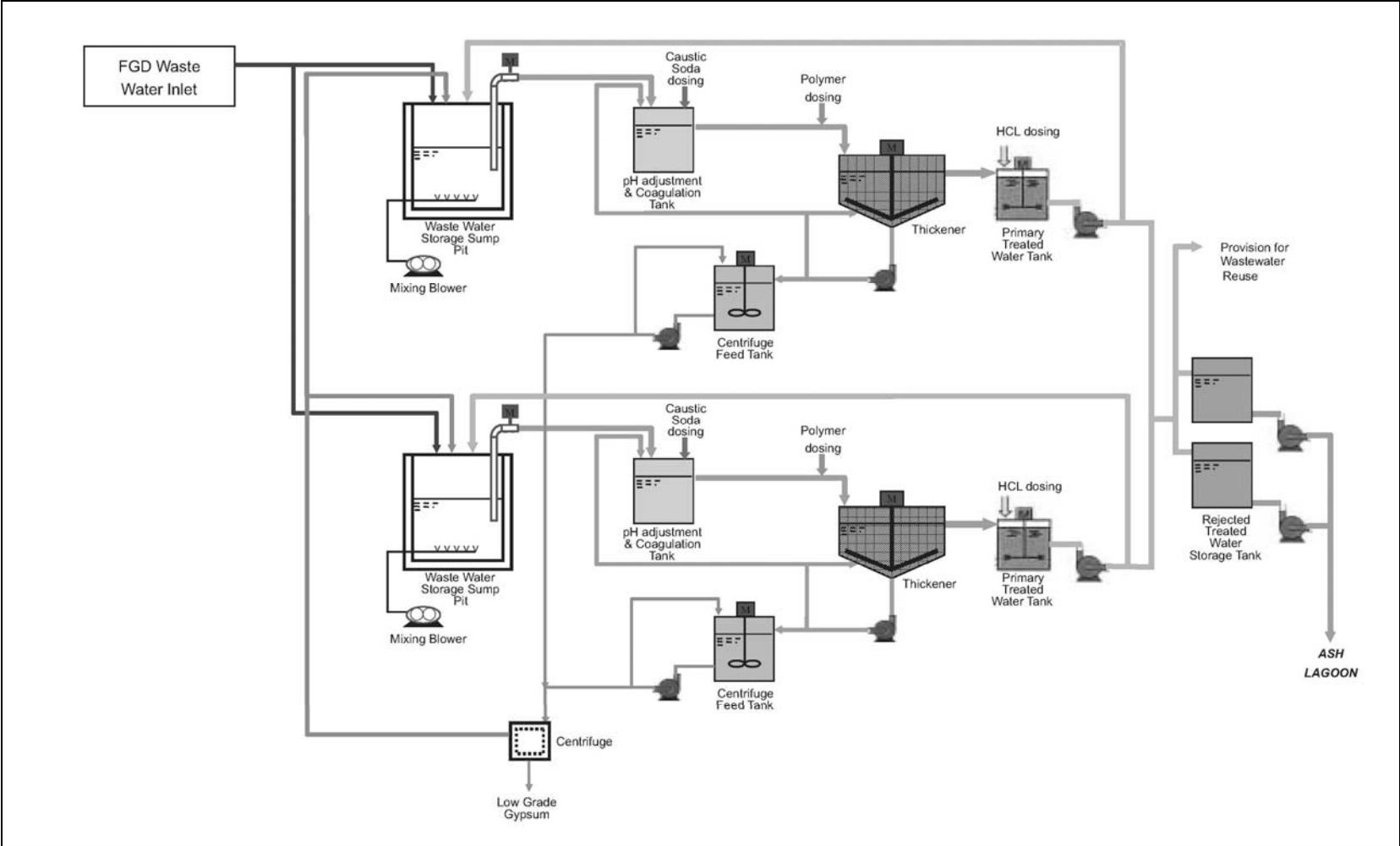


Figure 1.4 Simplified Schematic Diagram of FGD Wastewater Treatment Plant

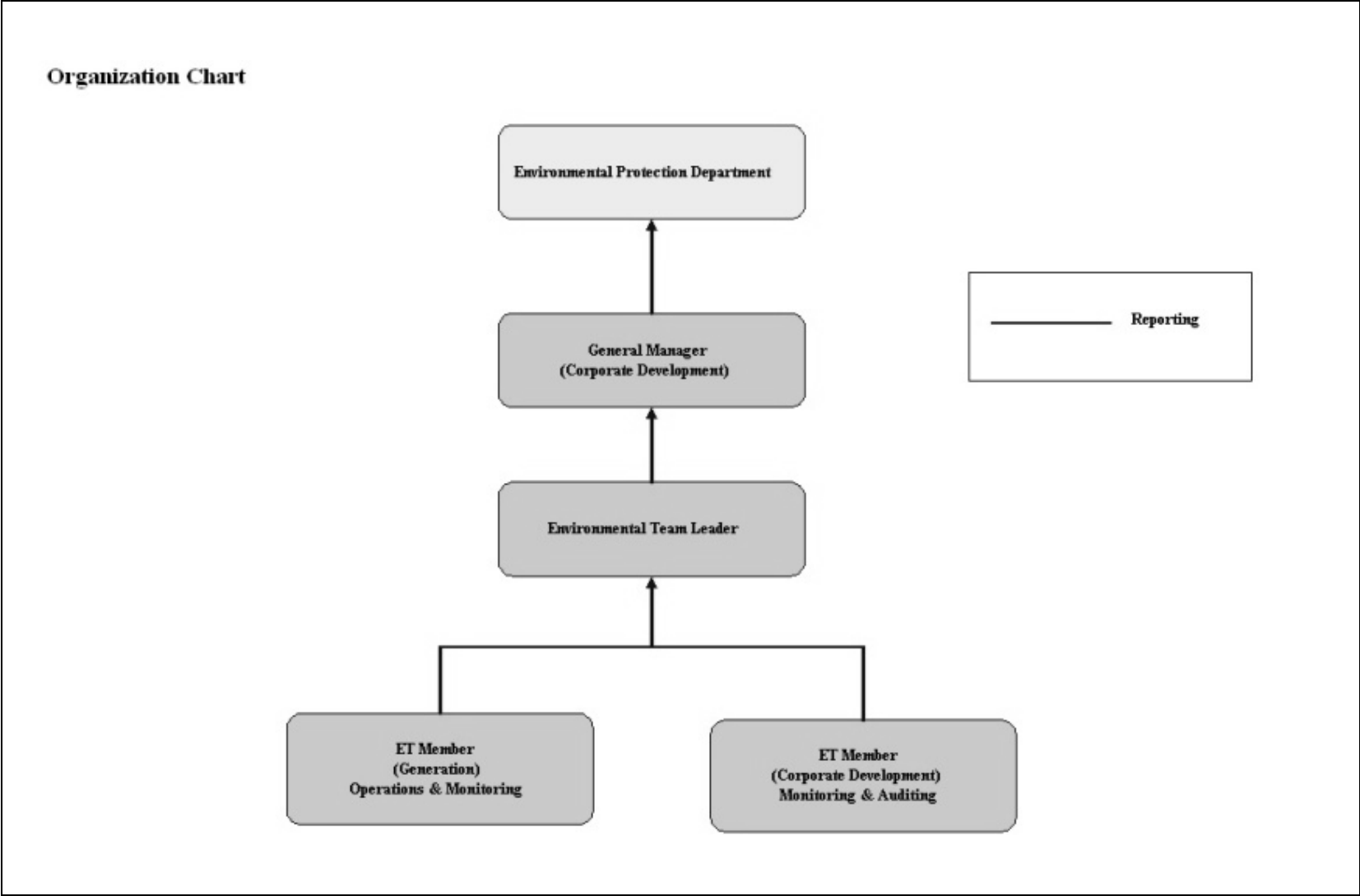


Figure 1.5 Organization Structure at Operational Phase of the Projects

## 2. AIR QUALITY

### 2.1 Monitoring Requirements

Since the Projects will bring a general air quality improvement, no additional EM&A activities are considered required, besides those already in place, such as those required by specified process licenses for the operation of the existing Lamma Power Station. In accordance with the requirements stipulated in the Specified Processes Licence issued under Air Pollution Control Ordinance, various operation parameters as stated in Table 2.1 were monitored and checked against the Action/Limit Levels shown in Appendix A.

Table 2.1 Air Quality Monitoring Parameters and Frequency

Sources of Emission	Parameter	Frequency
Steam boilers L2, L4 & L5	Particulate	Once / year
	Particulate (Opacity)	Continuous
	SO <sub>2</sub>	Continuous
	NO <sub>x</sub> expressed as NO <sub>2</sub> (For L4 and L5 only)	Continuous
Fugitive Dust (Coal, PFA, Limestone, gypsum)	Total Suspended Particulate	Once every six days
Chimney emissions	Ambient air	Continuous at existing ambient air monitoring stations
	SO <sub>2</sub>	
	NO <sub>2</sub>	

### 2.2 Summary of Results and Observations

Monitoring of various parameters as listed in Table 2.1 above was conducted during the operation of Units L2, L4 and L5 in the reporting period. A summary of monitoring data is shown in Appendix B.

No Action/Limit Level exceedance was recorded in the reporting period.

### 3. WATER QUALITY

#### 3.1 Monitoring Requirements

According to the EIA Report/ Project Profile for the Projects, the current monitoring programme for the Lamma Power Station can cover the Projects and no additional EM&A measures are required besides those already in place. Hence, the EM&A work on water quality should strictly follow the relevant monitoring requirements stipulated in the discharge licence for Ash Lagoon issued under the Water Pollution Control Ordinance (WPCO).

Water quality monitoring was carried out for FGD Waste Water Treatment Plant (WWTP) in the reporting period. The parameters stated in Table 3.1 were monitored and checked against the Action/Limit Levels as given in Appendix A.

Table 3.1 Water Quality Monitoring Parameters and Frequencies

Item	Parameters	Frequencies
1	pH	Daily
2	Suspended Solids	Daily
3	Iron	Monthly
4	Barium	Monthly
5	Mercury	Monthly
6	Cadmium	Monthly
7	Cyanide	Monthly
8	Total Phosphorus	Monthly
9	Total Nitrogen	Monthly

#### 3.2 Summary of Results and Observations

Monitoring of various parameters as listed in Table 3.1 above was carried out during the discharge of the WWTP in the reporting period. A summary of the data is shown in Appendix C.

The data recorded for the monitoring parameters were all below their corresponding Action/Limit Levels. No Action/Limit level exceedance was recorded in the reporting period. The effluent quality was generally satisfactory.

## 4. ENVIRONMENTAL AUDIT

### 4.1 Review of Environmental Monitoring Procedures

The environmental monitoring procedures were regularly reviewed by the Environmental Team. No modification to the existing monitoring procedures was recommended.

### 4.2 Assessment of Environmental Monitoring Results

#### *Monitoring results for Air Quality and Water Quality*

The environmental monitoring results for air quality, noise and water quality are presented in Sections 2, 3 and 4 respectively are summarized in Table 4.1.

Table 4.1 Summary of Action/Limit Level Exceedances on Monitoring Parameters

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
Air					
1	Annual analysis of dust particulate emission rates at chimney stacks.	01/10/12-31/12/12	N.A.	0	
2	Continuous monitoring of opacity, NOx, SO2 and CO2 in the flue gas at the chimney stacks	01/10/12-31/12/12	0	0	
3	TSP monitoring at Lamma Power Station Boundary (ie East Gate and Reservoir).	01/10/12-31/12/12	0	0	
4	Ambient SO2 & NOx monitoring at the Peak, Queen Mary Hospital, Victoria Road, Chung Hom Kok, Ap Lei Chau and	01/10/12-31/12/12	0	0	

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
	Cheung Chau.				
Water					
1	pH in WWTP Effluent	01/10/12-31/12/12	0	0	
2	Suspended Solids in WWTP Effluent	01/10/12-31/12/12	0	0	
3	Iron in WWTP Effluent	01/10/12-31/12/12	0	0	
4	Barium in WWTP Effluent	01/10/12-31/12/12	0	0	
5	Mercury in WWTP Effluent	01/10/12-31/12/12	0	0	
6	Cadmium in WWTP Effluent	01/10/12-31/12/12	0	0	
7	Cyanide in WWTP Effluent	01/10/12-31/12/12	0	0	
8	Total Phosphorus in WWTP Effluent	01/10/12-31/12/12	0	0	
9	Total Nitrogen in WWTP Effluent	01/10/12-31/12/12	0	0	

### *Waste Management Records*

The quantity of FGD gypsum and sludge collected for reuse by contractor in the reporting period are shown in Table 4.2.

Table 4.2 Amount of Gypsum and Sludge Collected for Reuse by Contractor

<b>Period</b>	<b>Amount of Gypsum Collected</b>	<b>Amount of Sludge Collected</b>
October 2012	7,267.7 MT	0 MT
November 2012	7,362.1 MT	0 MT
December 2012	4,538.4 MT	0 MT

#### 4.3 Status of Environmental Licensing and Permitting

All permits/licenses obtained as of December 2012 are summarised in Table 4.3.

Table 4.3 Summary of Environmental Licensing and Permit Status

<b>Description</b>	<b>Permit / Licence No.</b>	<b>Valid Period</b>		<b>Status</b>
		<b>From</b>	<b>To</b>	
Environmental Permit for Units L4/5 FGD Plants Retrofit	EP-248/2006	25/04/2006	-	Valid
Environmental Permit for Unit L2 FGD Plant Retrofit	EP-287/2007	02/10/2007	-	Valid
Specified Processes Licence issued under APCO	Varied L-7-002(8)	20/04/2012	31/12/2012	Valid
Specified Processes Licence issued under APCO	L-7-002(9)	01/01/2013	31/12/2014	To be effective
WPCO discharge licence for Ash Lagoon	WT00011131-2011	15/12/2011	31/12/2016	Valid

#### 4.4 Implementation Status of Environmental Mitigation Measures

Mitigation measures detailed in the EIA Report and EP are required to be implemented. A summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix D.

#### 4.5 Implementation Status of Event/Action Plan

A list of specific actions in the event of exceedances of the various threshold levels for specific emission and discharge sources is given in Appendix A.

As no Action/Limit level exceedance was recorded, no action has been devised.

#### 4.6 Implementation Status of Environmental Complaint Handling Procedures

During the reporting period, there was one (1) environmental concern against the operation of Lamma Power Station as summarized in Table 4.4.

Table 4.4 Environmental Complaints / Enquiries Received

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions / Actions Taken	Conclusion / Status
<i>Reference:</i> EC121100179  <i>Received:</i> 11/12/2012 a.m.  <i>Concerned:</i> As received	Noise complaints against the Power Station were received via the Lamma Police. No abnormality was found at the Power Station and the Lamma Police was advised accordingly. There was no further enquiry.	Nothing abnormal was identified. Case closed.

Table 4.5 Outstanding Environmental Complaints / Enquiries Carried Over

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions / Actions Taken	Conclusion / Status
Nil	N/A	N/A

## 5. FUTURE KEY ISSUES

### 5.1 Outage Plan for the coming 3 months

Unit / Equipment	Period	Remark
L4	17/02/2013 to 20/04/2013	Unit overhaul
L5	01/01/2013 to 15/03/2013	Unit overhaul

### 5.2 Key issues for the coming 3 months

Key issues to be considered in the coming 3 months include:

#### *Air Impact*

- To continuously carry out the air quality monitoring for Units L2, L4 and L5.

#### *Water Impact*

- To continuously carry out the water quality monitoring for FGD Waste Water Treatment Plant.

## **6. CONCLUSION**

Environmental monitoring was performed as required in the reporting period from October to December 2012. All monitoring results were checked and reviewed.

No Action/Limit level exceedance on air quality parameters were recorded in the reporting period.

No Action/Limit level exceedance on water quality parameters were recorded in the reporting period.

Environmental mitigation measures recommended in the EIA Report and EP were implemented in the reporting period. One concern on environmental issue related to the operation of Lamma Power Station was received during the reporting period, for which nothing abnormal was identified at the Power Station. No prosecution was received for the Projects in the reporting period.

The environmental performance of the Projects was generally satisfactory.

## Appendix A Event/Action Plans in Response to Exceedance of AL Levels

### A.1 Air

Source of Emissions	Parameters to be Monitored	Frequency	Concentration Not to Be Exceeded	Action	Limit	Proposed Action
Steam boilers L2, L4 and L5	Particulate	once/year	85 mg/Nm <sup>3</sup>	-	85	ET Leader informs Generation Division at action level. Maintenance initiated. Temporary load shift until pollution control equipment repaired and reinstated. Report to EPD.
	Particulate (Opacity)	continuous	40% (bihourly)	35	40	
	SO <sub>2</sub>	continuous	200 mg/Nm <sup>3</sup> (1h)	190	200	
	NO <sub>x</sub> expressed as NO <sub>2</sub> (For L4 and L5 only)	continuous	615 mg/Nm <sup>3</sup> (1h)	585	615	
Fugitive dust (Coal, PFA, limestone, gypsum)	TSP	Once every six days.	260 (µg/m <sup>3</sup> ) (24 hours)	-	260	Investigation of sources and additional dust suppression to be employed at Limit level. Frequency of monitoring to be increased as necessary.
Chimney emissions	Ambient air SO <sub>2</sub>	Continuous at existing ambient air monitoring stations	800 (µg/m <sup>3</sup> ) (1h)	-	800	ET to review data on post-hoc basis and check for possible power station contribution.
	NO <sub>2</sub>		300 (µg/m <sup>3</sup> ) (1h)	-	300	

## A.2 Water

Source of Discharges	Parameters to be Monitored	Frequency	Concentration Not to Be Exceeded	Action	Limit	Proposed Action
FGD Wastewater Treatment Plant	pH	Daily	6-9	-	6-9	If pH exceeds limit level, consideration to be given to adjust chemical dosing. ET Leader inform Generation Division and investigation be initiated to identify and remedy cause.  For all other parameters except pH, Generation Division to be informed, frequency of monitoring to be increased, and investigations to be initiated to identify cause and remedy if concentration exceeds action level. If problem persists to exceed the limit level, ET Leader verbally informs EPD and ensures remedial actions implemented.
	Suspended Solids	Daily	30 mg/L	25	30	
	Iron	Monthly	4 mg/L	3.6	4	
	Barium	Monthly	1.5 mg/L	1.3	1.5	
	Mercury	Monthly	0.005 mg/L	0.0045	0.005	
	Cadmium	Monthly	0.005 mg/L	0.0045	0.005	
	Cyanide	Monthly	0.1 mg/L	0.09	0.1	
	Total Phosphorus	Monthly	8 mg/L	7.2	8	
	Total Nitrogen	Monthly	400 mg/L	360	400	



## B.2 Unit L2, L4 and L5 Stack Monitoring at Lamma Power Station

### B.2.1 Monthly Summary of Stack NO<sub>x</sub> and SO<sub>2</sub> for Unit L5

Date	Daily Maximum		
	SO <sub>2</sub> concentration (mg/Nm <sup>3</sup> ) <sup>#</sup>	NO <sub>x</sub> concentration (mg/Nm <sup>3</sup> ) <sup>#</sup>	Opacity (%)
1/10/2012	*	*	*
2/10/2012	*	*	*
3/10/2012	12	399	23
4/10/2012	22	453	15
5/10/2012	18	438	15
6/10/2012	29	404	14
7/10/2012	15	388	13
8/10/2012	41	413	15
9/10/2012	54	348	15
10/10/2012	48	332	14
11/10/2012	87	304	14
12/10/2012	61	367	15
13/10/2012	43	394	16
14/10/2012	41	338	16
15/10/2012	47	352	16
16/10/2012	76	355	16
17/10/2012	75	383	16
18/10/2012	46	373	15
19/10/2012	52	378	16
20/10/2012	41	388	16
21/10/2012	40	430	16
22/10/2012	50	444	17
23/10/2012	51	406	16
24/10/2012	60	472	16
25/10/2012	68	418	17
26/10/2012	62	428	16
27/10/2012	66	373	17
28/10/2012	62	371	17
29/10/2012	57	377	19
30/10/2012	68	333	18
31/10/2012	84	459	17

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) <sup>#</sup>	NOx concentration (mg/Nm3) <sup>#</sup>	Opacity (%)
1/11/2012	93	410	17
2/11/2012	87	408	18
3/11/2012	79	450	18
4/11/2012	62	416	18
5/11/2012	59	436	18
6/11/2012	34	387	17
7/11/2012	79	361	18
8/11/2012	57	402	18
9/11/2012	30	390	20
10/11/2012	40	371	19
11/11/2012	63	384	18
12/11/2012	68	439	19
13/11/2012	77	390	19
14/11/2012	45	350	19
15/11/2012	40	377	20
16/11/2012	39	333	19
17/11/2012	14	375	22
18/11/2012	37	430	20
19/11/2012	28	398	19
20/11/2012	67	391	22
21/11/2012	35	443	18
22/11/2012	74	415	19
23/11/2012	97	452	19
24/11/2012	90	418	19
25/11/2012	83	424	20
26/11/2012	115	425	20
27/11/2012	121	417	25
28/11/2012	110	428	22
29/11/2012	103	403	22
30/11/2012	76	446	19

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) <sup>#</sup>	NOx concentration (mg/Nm3) <sup>#</sup>	Opacity (%)
1/12/2012	62	300	18
2/12/2012	19	393	19
3/12/2012	23	305	20
4/12/2012	12	383	20
5/12/2012	17	327	20
6/12/2012	27	389	19
7/12/2012	79	368	19
8/12/2012	68	376	19
9/12/2012	32	325	19
10/12/2012	67	366	19
11/12/2012	73	352	19
12/12/2012	53	435	20
13/12/2012	72	413	19
14/12/2012	53	417	20
15/12/2012	34	453	19
16/12/2012	33	460	20
17/12/2012	35	422	19
18/12/2012	15	471	19
19/12/2012	34	469	20
20/12/2012	11	506	20
21/12/2012	24	512	20
22/12/2012	10	364	19
23/12/2012	8	453	19
24/12/2012	29	444	19
25/12/2012	29	489	18
26/12/2012	11	464	18
27/12/2012	5	389	19
28/12/2012	22	431	19
29/12/2012	*	*	*
30/12/2012	*	*	*
31/12/2012	*	*	*

Note: # - Hourly average value. Expressed as at 0°C, 101.325kPa, dry and corrected to 12% CO<sub>2</sub> condition.

\* - Unit L5 was not on load.

### B.2.2 Monthly Summary of Stack NO<sub>x</sub> and SO<sub>2</sub> for Unit L4

Date	Daily Maximum		
	SO <sub>2</sub> concentration (mg/Nm <sup>3</sup> ) <sup>#</sup>	NO <sub>x</sub> concentration (mg/Nm <sup>3</sup> ) <sup>#</sup>	Opacity (%)
1/10/2012	*	*	*
2/10/2012	*	*	*
3/10/2012	88	400	11
4/10/2012	38	493	19
5/10/2012	12	363	9
6/10/2012	12	339	9
7/10/2012	4	336	8
8/10/2012	59	378	9
9/10/2012	83	338	9
10/10/2012	89	390	10
11/10/2012	90	406	9
12/10/2012	39	428	9
13/10/2012	66	370	10
14/10/2012	49	320	11
15/10/2012	64	355	11
16/10/2012	65	403	11
17/10/2012	73	494	11
18/10/2012	29	426	10
19/10/2012	45	426	10
20/10/2012	67	452	10
21/10/2012	22	448	9
22/10/2012	60	427	11
23/10/2012	73	422	9
24/10/2012	65	415	10
25/10/2012	85	409	10
26/10/2012	42	398	9
27/10/2012	89	368	10
28/10/2012	59	361	9
29/10/2012	78	381	16
30/10/2012	77	413	11
31/10/2012	64	510	9

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) #	NOx concentration (mg/Nm3) #	Opacity (%)
1/11/2012	53	466	9
2/11/2012	81	419	16
3/11/2012	57	420	9
4/11/2012	51	434	9
5/11/2012	96	470	9
6/11/2012	59	422	9
7/11/2012	FGD Plant Outage	383	9
8/11/2012	FGD Plant Outage	434	11
9/11/2012	FGD Plant Outage	456	14
10/11/2012	FGD Plant Outage	488	19
11/11/2012	FGD Plant Outage	453	16
12/11/2012	FGD Plant Outage	472	14
13/11/2012	FGD Plant Outage	330	12
14/11/2012	FGD Plant Outage	383	13
15/11/2012	FGD Plant Outage	402	13
16/11/2012	FGD Plant Outage	446	13
17/11/2012	9	418	18
18/11/2012	14	447	14
19/11/2012	12	431	15
20/11/2012	7	428	15
21/11/2012	10	420	15
22/11/2012	32	444	26
23/11/2012	19	437	13
24/11/2012	20	455	13
25/11/2012	17	471	14
26/11/2012	22	473	15
27/11/2012	53	502	18
28/11/2012	35	475	15
29/11/2012	62	459	15
30/11/2012	60	466	15

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) <sup>#</sup>	NOx concentration (mg/Nm3) <sup>#</sup>	Opacity (%)
1/12/2012	57	427	15
2/12/2012	31	437	14
3/12/2012	13	346	14
4/12/2012	42	445	12
5/12/2012	22	386	12
6/12/2012	21	409	12
7/12/2012	39	410	14
8/12/2012	53	383	13
9/12/2012	23	388	12
10/12/2012	61	417	12
11/12/2012	75	371	12
12/12/2012	20	460	13
13/12/2012	38	476	13
14/12/2012	37	438	14
15/12/2012	41	450	14
16/12/2012	36	473	14
17/12/2012	15	461	14
18/12/2012	17	517	14
19/12/2012	17	549	14
20/12/2012	15	434	15
21/12/2012	15	516	16
22/12/2012	5	472	14
23/12/2012	12	500	14
24/12/2012	17	450	13
25/12/2012	18	521	13
26/12/2012	4	493	14
27/12/2012	6	443	14
28/12/2012	7	449	12
29/12/2012	6	489	18
30/12/2012	22	451	16
31/12/2012	11	468	19

Note: # - Hourly average value. Expressed as at 0°C, 101.325kPa, dry and corrected to 12% CO<sub>2</sub> condition.

\* - Unit L4 was not on load.

### B.2.3 Monthly Summary of Stack SO<sub>2</sub> for Unit L2

Date	Daily Maximum	
	SO <sub>2</sub> concentration (mg/Nm <sup>3</sup> ) <sup>#</sup>	Opacity (%)
1/10/2012	114	12
2/10/2012	95	12
3/10/2012	115	12
4/10/2012	92	13
5/10/2012	108	14
6/10/2012	100	13
7/10/2012	110	13
8/10/2012	115	13
9/10/2012	103	13
10/10/2012	93	13
11/10/2012	105	13
12/10/2012	86	14
13/10/2012	*	*
14/10/2012	*	*
15/10/2012	76	14
16/10/2012	68	14
17/10/2012	79	13
18/10/2012	56	14
19/10/2012	71	14
20/10/2012	*	*
21/10/2012	*	*
22/10/2012	84	14
23/10/2012	*	*
24/10/2012	88	14
25/10/2012	120	13
26/10/2012	111	13
27/10/2012	*	*
28/10/2012	*	*
29/10/2012	124	13
30/10/2012	105	13
31/10/2012	82	14

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) <sup>#</sup>	Opacity (%)
1/11/2012	99	13
2/11/2012	*	*
3/11/2012	*	*
4/11/2012	*	*
5/11/2012	*	*
6/11/2012	*	*
7/11/2012	*	*
8/11/2012	67	14
9/11/2012	98	13
10/11/2012	*	*
11/11/2012	*	*
12/11/2012	*	*
13/11/2012	*	*
14/11/2012	*	*
15/11/2012	*	*
16/11/2012	*	*
17/11/2012	*	*
18/11/2012	*	*
19/11/2012	FGD Plant Outage	18
20/11/2012	*	*
21/11/2012	*	*
22/11/2012	*	*
23/11/2012	*	*
24/11/2012	*	*
25/11/2012	*	*
26/11/2012	*	*
27/11/2012	*	*
28/11/2012	*	*
29/11/2012	*	*
30/11/2012	*	*

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) <sup>#</sup>	Opacity (%)
1/12/2012	*	*
2/12/2012	*	*
3/12/2012	*	*
4/12/2012	*	*
5/12/2012	*	*
6/12/2012	*	*
7/12/2012	*	*
8/12/2012	*	*
9/12/2012	*	*
10/12/2012	*	*
11/12/2012	*	*
12/12/2012	*	*
13/12/2012	*	*
14/12/2012	*	*
15/12/2012	*	*
16/12/2012	*	*
17/12/2012	*	*
18/12/2012	88	19
19/12/2012	*	*
20/12/2012	*	*
21/12/2012	*	*
22/12/2012	*	*
23/12/2012	*	*
24/12/2012	*	*
25/12/2012	*	*
26/12/2012	*	*
27/12/2012	*	*
28/12/2012	*	*
29/12/2012	*	*
30/12/2012	*	*
31/12/2012	7	15

Note: # - Hourly average value. Expressed as at 0°C, 101.325kPa, dry and corrected to 12% CO<sub>2</sub> condition.

\* - Unit L2 was not on load.

### **B.3 Ambient SO<sub>2</sub> and NO<sub>2</sub> monitoring Data at Southern District and Cheung Chau**

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA PEAK  
 POLLUTANT : SULPHUR DIOXIDE  
 MONTH: OCTOBER  
 YEAR : 2012  
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	4	4	4	5	4	5	7	6	6	4	5	7	7	7	7	8	8	6	4	3	4	****	4	5
2	4	2	3	4	2	4	4	5	3	4	3	5	4	6	6	5	7	6	5	5	4	2	****	0	4
3	0	0	0	1	0	1	1	1	1	1	0	2	2	1	3	3	4	5	5	3	5	4	****	3	2
4	4	1	1	3	1	2	3	1	3	3	1	0	0	1	1	0	1	1	0	0	6	3	****	1	2
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	****	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	****	0	0
7	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	5	3	3	3	5	3	2	****	2	2
8	1	1	1	1	1	1	0	0	1	1	1	2	2	3	3	2	1	2	1	3	3	3	****	6	2
9	0	0	0	0	2	0	2	2	1	0	4	15	22	6	11	18	19	17	21	20	14	9	****	6	8
10	6	6	7	9	11	13	12	12	15	14	12	9	11	11	8	14	10	10	11	11	11	8	****	9	10
11	5	3	3	3	3	9	12	11	11	10	10	8	8	10	10	10	9	10	9	9	8	9	****	5	8
12	5	4	4	5	3	2	1	0	2	2	2	2	2	4	6	13	21	15	11	8	5	3	****	2	5
13	2	2	0	0	1	1	2	2	4	2	6	5	8	8	6	12	16	10	12	9	7	3	****	4	5
14	3	5	5	3	3	3	2	4	6	13	10	7	3	6	9	16	18	13	13	16	14	13	****	5	8
15	6	5	3	4	3	4	3	1	3	2	1	3	3	4	4	3	4	4	4	3	5	9	****	5	4
16	6	7	6	4	3	3	2	1	2	2	1	2	2	3	7	16	21	15	9	5	13	****	8	6	
17	14	12	13	11	19	26	33	42	57	33	20	14	10	6	3	2	1	1	2	3	5	0	****	0	14
18	0	0	0	0	0	1	5	4	3	4	1	1	0	0	0	1	0	1	1	0	0	0	****	0	1
19	0	3	3	2	0	0	1	2	2	1	4	5	2	2	0	0	0	0	0	0	0	0	****	0	1
20	0	0	0	0	0	0	1	2	0	1	0	0	0	0	1	1	1	1	1	3	2	2	****	2	1
21	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
22	0	0	0	0	0	0	0	2	5	4	3	19	20	7	8	12	5	5	6	4	1	3	****	5	5
23	0	3	2	8	7	11	11	22	24	27	37	21	26	11	6	4	5	4	6	3	0	0	****	0	10
24	0	0	0	0	0	0	1	1	1	0	0	1	1	1	2	2	2	2	2	4	4	4	****	4	1
25	2	2	2	2	2	2	2	4	3	2	2	1	3	3	4	5	4	5	5	2	1	1	****	0	3
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	3	5	3	1	****	1	1
28	0	3	1	0	0	0	0	1	3	1	1	0	1	3	1	0	0	0	0	0	0	0	****	0	1
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
31	0	0	0	0	0	0	0	0	1	3	2	1	1	3	2	3	4	6	7	9	7	5	****	4	2

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES			
MEAN	MEDIAN	50	90	95	98	99	1-HR				24-HR	VALID DATA	1-HR	24-HR		
2	2	2	10	14	21	25	0	-	57	0	-	14	4	96	0	0

- NOTES:
1. FLAGS FOR INVALID DATA :
    - \*\*\*\* : DAILY ZERO/SPAN CHECK
    - D : DYNAMIC CALIBRATION
    - T : TELEMETRY/DATALOGGR/ANALYZER FAULT
    - M : MAINTENANCE OR MACHINE SHUTDOWN
    - P : POWER FAILURE
  2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA PEAK  
 POLLUTANT : NITROGEN DIOXIDE  
 MONTH: OCTOBER  
 YEAR : 2012  
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	18	14	14	13	15	13	20	32	35	37	37	31	38	39	42	53	53	52	60	47	45	44	****	32	34
2	26	16	12	12	13	14	16	25	30	31	31	32	33	27	28	26	14	18	54	50	45	56	****	22	27
3	16	13	10	9	10	11	23	41	50	32	28	37	30	31	36	26	32	60	42	27	39	22	****	40	29
4	25	16	19	17	12	15	23	48	61	65	55	42	34	29	23	37	32	41	19	53	46	37	****	18	33
5	10	7	9	5	7	9	19	31	37	42	46	39	35	42	36	36	22	33	43	44	49	36	****	20	29
6	11	9	9	10	9	8	14	23	34	35	27	20	25	30	37	29	35	29	22	22	22	24	****	14	22
7	12	9	7	7	6	10	13	22	28	20	20	21	14	12	15	15	21	30	39	39	33	32	****	17	19
8	12	8	7	7	6	5	12	25	29	43	27	37	29	30	27	27	28	20	10	24	18	23	****	22	21
9	16	8	5	5	5	9	21	42	66	63	60	59	53	43	39	60	59	70	110	164	142	131	****	69	57
10	56	51	27	26	22	19	34	50	56	56	59	53	48	41	24	42	38	67	62	77	98	42	****	28	47
11	15	11	10	12	17	32	51	73	80	68	67	46	31	22	21	28	31	59	47	26	27	20	****	23	36
12	25	18	13	14	13	13	17	25	27	31	55	37	34	37	39	60	64	70	43	34	28	34	****	24	33
13	23	17	11	9	13	9	14	26	47	67	57	43	45	41	41	40	45	59	76	63	46	25	****	31	37
14	25	16	10	11	13	18	31	49	47	62	53	57	45	46	58	72	67	72	77	59	37	31	****	26	43
15	19	19	12	13	11	14	21	36	39	29	31	39	20	22	29	31	43	39	45	32	20	16	****	36	27
16	22	21	12	8	9	12	15	23	33	37	32	33	37	29	36	39	59	70	51	44	24	56	****	30	32
17	54	19	30	28	58	46	39	66	94	89	72	49	48	37	38	58	57	53	71	85	83	57	****	44	55
18	40	27	25	21	19	25	41	60	65	59	49	41	45	44	45	50	35	30	37	33	25	23	****	16	37
19	12	11	10	10	8	9	16	32	43	44	45	31	20	33	30	28	29	30	29	27	25	14	****	9	24
20	8	7	8	9	9	8	13	19	28	36	27	26	29	21	21	25	30	42	43	39	33	37	****	23	24
21	16	14	10	7	6	7	13	20	20	27	30	26	22	19	12	13	22	30	36	33	19	18	****	21	19
22	18	20	17	10	10	12	14	33	70	90	62	74	72	36	26	60	44	44	44	47	62	107	****	28	43
23	52	117	101	49	78	69	42	83	103	121	119	80	86	57	34	31	32	33	42	24	13	16	****	11	60
24	8	10	9	6	6	7	10	18	31	39	35	33	22	16	19	35	44	33	30	30	21	****	29	22	
25	15	14	10	7	6	7	14	27	38	46	47	38	30	30	39	63	77	40	33	34	31	28	****	19	30
26	19	17	12	11	9	11	15	27	43	51	62	49	46	45	49	63	59	72	65	67	49	35	****	18	39
27	14	10	9	7	7	8	15	21	22	25	23	27	19	26	26	30	28	34	27	31	41	33	****	25	22
28	19	18	13	9	16	20	22	24	31	25	25	27	25	22	19	18	17	17	14	14	14	16	****	11	19
29	11	10	7	6	7	6	11	14	19	23	22	22	19	16	22	23	23	19	14	13	15	9	****	3	15
30	4	2	3	3	4	8	10	17	31	56	44	44	32	41	48	59	53	67	49	60	41	52	****	33	33
31	28	22	18	14	12	13	18	37	57	70	58	57	52	61	61	64	61	80	88	91	83	53	****	66	51

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
26	29	33	29	61	72	89	105	2	- 164	15	- 60	2	96	0	0

- NOTES:
1. FLAGS FOR INVALID DATA :
    - \*\*\*\* : DAILY ZERO/SPAN CHECK
    - D : DYNAMIC CALIBRATION
    - T : TELEMETRY/DATALOGGR/ANALYZER FAULT
    - M : MAINTENANCE OR MACHINE SHUTDOWN
    - P : POWER FAILURE
  2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA PEAK  
POLLUTANT : SULPHUR DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	10	8	10	11	9	13	8	12	12	6	4	1	0	0	0	0	1	1	0	2	3	****	0	5
2	0	0	2	3	3	3	4	7	5	5	5	4	1	6	4	3	2	0	1	1	3	5	****	1	3
3	0	0	0	0	0	0	1	3	5	7	7	4	5	4	4	7	3	2	1	0	0	0	****	0	2
4	0	0	0	0	0	5	2	1	1	1	1	0	2	5	13	23	9	10	14	21	37	22	****	8	8
5	6	5	5	6	8	7	5	7	8	8	8	8	8	8	7	8	9	6	5	7	6	1	****	7	7
6	3	5	5	5	6	8	8	8	9	11	11	5	5	6	8	9	9	8	6	5	3	3	****	0	6
7	0	2	3	3	3	2	0	1	1	1	3	3	2	2	1	1	1	0	0	0	1	0	****	0	1
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
10	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	2	0	****	1	0
11	4	19	0	0	0	0	0	0	0	0	0	7	4	0	0	1	4	5	9	7	1	1	****	2	3
12	0	0	0	0	0	0	0	1	3	3	4	3	1	0	1	2	2	2	0	0	2	****	0	1	
13	0	0	2	1	3	4	6	1	10	9	30	32	16	22	12	18	13	10	14	17	19	10	****	8	11
14	6	2	2	3	3	3	0	3	7	5	5	6	5	6	5	6	4	2	0	0	0	0	****	0	3
15	0	0	0	0	0	0	1	2	5	5	3	3	2	0	0	0	0	0	0	0	0	0	****	0	1
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
17	0	0	0	0	0	0	0	0	0	0	4	2	2	7	1	1	0	0	0	2	0	0	****	0	1
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
19	0	3	3	6	7	5	5	5	6	8	8	8	6	7	5	5	4	3	1	1	5	2	****	6	5
20	2	0	2	0	0	2	0	2	2	4	5	6	4	5	3	2	0	0	0	0	0	0	****	0	2
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
22	0	0	0	0	0	0	0	0	0	0	D	D	0	5	7	8	8	7	5	2	0	0	****	1	2
23	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	3	5	7	7	9	5	3	****	4	2
24	3	5	3	2	3	1	0	1	3	1	1	2	0	1	0	0	0	0	0	0	0	0	****	0	1
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	****	1	0
26	1	0	0	0	0	0	0	0	4	21	9	5	1	0	4	3	0	2	1	3	0	0	****	0	2
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
28	3	3	3	4	3	3	2	2	2	2	1	0	0	0	0	1	1	1	0	0	0	0	****	0	1
29	0	1	3	0	0	1	0	3	3	4	2	0	0	0	0	0	0	0	0	0	0	0	****	0	1
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	21	23	11	8	2	0	****	0	3

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
4	0	2		0	7	9	16	21	0	-	37	0	-	11	2	96	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA PEAK  
POLLUTANT : NITROGEN DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	56	46	28	24	16	20	31	47	82	88	67	51	46	53	52	43	45	44	46	47	45	37	****	21	45
2	16	12	15	14	15	17	25	47	61	75	89	73	48	63	66	66	51	48	37	41	44	40	****	18	43
3	17	10	16	14	11	12	16	25	42	55	58	46	29	42	45	70	62	66	80	65	60	49	****	62	41
4	46	81	75	64	67	35	23	33	46	59	67	65	57	53	61	77	54	76	85	108	116	123	****	94	68
5	43	26	21	16	15	14	21	33	61	61	57	57	40	54	44	67	94	110	67	65	45	37	****	23	47
6	17	17	14	15	15	19	35	53	69	75	73	50	35	45	59	52	51	54	43	39	26	21	****	17	39
7	11	11	10	10	9	10	13	22	27	40	45	46	28	33	37	45	46	37	24	27	29	26	****	19	26
8	16	12	8	7	8	8	11	22	28	36	32	36	24	26	18	23	37	32	14	12	13	16	****	9	19
9	7	3	3	3	1	1	4	8	20	22	18	17	20	17	15	28	14	17	7	7	8	10	****	15	12
10	14	2	1	1	0	0	2	12	19	21	20	30	13	14	21	25	24	35	32	44	41	33	****	39	19
11	29	56	35	21	16	23	32	40	43	47	43	45	50	43	48	57	63	71	84	78	75	67	****	82	50
12	65	61	45	25	15	13	19	42	65	75	67	67	52	71	82	86	77	85	40	62	39	34	****	11	52
13	48	40	32	29	53	51	67	44	91	92	87	92	89	82	60	74	72	83	124	141	139	119	****	87	78
14	31	7	20	22	12	11	14	30	50	49	46	54	37	55	59	62	50	46	28	42	35	34	****	20	35
15	10	10	8	7	8	9	12	20	33	40	51	42	30	36	40	44	41	39	29	24	17	16	****	10	25
16	9	8	6	6	6	6	7	16	23	35	36	33	28	32	42	45	61	35	23	41	47	42	****	40	27
17	29	33	14	14	19	13	18	28	46	69	70	64	72	96	96	85	89	96	88	93	83	75	****	34	58
18	32	21	47	36	14	16	29	26	31	32	36	37	32	34	35	40	43	55	58	45	37	****	20	35	
19	26	18	16	18	16	15	23	42	56	60	63	65	49	69	64	56	50	57	51	44	48	31	****	15	41
20	15	10	9	9	8	9	13	25	47	41	44	40	31	52	46	48	55	49	24	20	13	15	****	10	28
21	6	7	5	5	4	7	6	12	32	39	36	37	18	27	38	45	39	30	39	18	27	23	****	17	22
22	15	7	6	10	40	11	9	22	18	22	D	D	3	17	22	23	24	25	16	17	9	9	****	2	16
23	0	15	0	0	0	3	5	0	16	28	31	33	39	36	43	66	69	85	87	86	50	52	****	54	35
24	45	55	44	28	17	13	20	38	46	41	32	32	22	28	30	33	34	26	15	11	7	11	****	0	27
25	0	0	0	0	0	0	0	2	1	2	0	0	0	4	10	22	16	23	10	23	38	21	****	12	8
26	11	0	0	0	0	0	1	0	23	51	36	37	31	25	42	49	44	58	52	57	56	45	****	30	28
27	29	16	15	5	1	1	12	14	21	23	28	31	29	40	38	37	36	29	10	9	3	8	****	1	19
28	1	1	1	1	1	1	1	2	23	28	29	38	27	42	56	63	76	75	40	27	49	57	****	0	28
29	0	23	32	9	5	27	13	41	46	50	56	59	34	39	32	45	41	36	16	9	6	7	****	1	27
30	1	1	1	1	1	1	1	7	31	35	52	30	21	33	43	76	83	86	79	80	57	33	****	17	33

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN GEOM		PERCENT		NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR			DEVIATION	VALID DATA	1-HR	24-HR	ABOVE OBJECTIVE		
25	32	34		32	69	83	92	108	0	-	141	8	-	78	3	96	0	0		

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA PEAK  
POLLUTANT : SULPHUR DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
2	0	0	7	4	1	0	0	0	0	0	0	0	3	6	2	0	1	0	0	0	0	3	****	7	1
3	9	1	0	0	0	0	0	0	0	1	3	3	0	0	1	1	3	2	3	14	5	3	****	27	3
4	0	0	0	0	0	2	2	1	0	0	M	0	0	0	0	0	0	0	0	0	0	0	****	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	6	6	7	5	3	1	****	0	2
6	0	0	0	1	1	1	1	3	4	3	M	M	M	M	2	1	1	3	3	5	6	6	5	6	3
7	9	8	6	7	5	5	5	5	12	9	7	6	5	9	6	4	3	3	4	4	5	6	6	6	6
8	4	4	5	5	4	3	1	1	0	0	M	M	4	3	3	2	2	2	7	11	8	4	3	3	4
9	1	0	0	0	0	1	1	1	1	2	2	2	1	1	3	4	3	4	3	3	3	2	2	2	2
10	2	4	4	4	5	5	6	7	8	7	8	7	7	7	6	7	6	6	7	7	5	4	4	3	6
11	2	2	3	3	2	3	3	5	6	8	8	8	8	9	9	7	8	5	4	4	7	5	4	4	5
12	4	6	9	8	7	5	5	6	6	6	4	3	3	3	3	3	2	2	2	2	2	3	2	1	4
13	1	1	1	2	2	2	2	2	3	3	3	6	4	3	4	5	5	4	5	3	1	0	0	0	3
14	0	0	1	0	0	0	0	0	1	1	1	2	1	1	2	2	2	1	0	0	0	0	0	0	1
15	0	0	0	0	0	0	0	0	0	0	4	8	8	0	0	0	0	0	0	0	0	0	0	0	1
16	0	0	0	0	0	0	0	0	0	0	5	12	13	13	14	10	3	1	0	0	0	0	0	0	3
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	2	2	4	6	4	2	2	0	2	3	5	7	12	6	4	3	3	3
19	3	2	3	3	3	2	2	3	4	4	3	3	3	4	4	3	2	1	0	0	0	1	2	4	2
20	5	6	7	5	4	4	5	5	5	5	3	3	2	2	2	2	1	1	0	0	0	0	0	0	3
21	0	1	1	0	0	0	0	0	0	0	0	0	0	1	4	0	3	0	0	0	0	0	0	4	1
22	12	4	3	3	8	13	10	6	4	6	8	6	6	11	9	6	13	5	4	2	3	3	2	3	6
23	3	9	17	7	6	6	11	13	11	18	16	12	11	11	11	12	13	15	19	21	17	19	22	23	13
24	24	24	22	25	10	8	7	11	17	10	9	10	8	7	7	6	7	7	6	6	5	6	6	7	11
25	8	11	11	10	9	6	6	6	9	6	5	5	5	4	3	2	2	2	1	1	1	2	2	2	5
26	7	14	5	2	2	3	3	3	3	3	3	5	5	5	4	6	7	6	4	5	6	6	7	5	5
27	4	3	6	11	12	14	9	6	6	10	10	6	4	5	9	7	14	10	6	3	0	0	0	0	6
28	0	0	0	1	2	3	3	4	6	2	3	2	1	1	2	0	0	1	4	7	6	1	0	0	2
29	0	2	10	6	1	1	6	5	1	0	0	0	0	0	0	0	0	2	9	8	5	2	1	3	3
30	1	0	0	0	1	4	7	13	19	22	22	22	22	22	21	19	18	16	16	14	9	8	8	8	12
31	8	8	8	8	9	9	9	9	12	13	12	9	8	8	7	6	6	6	5	7	8	8	7	7	8

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->					STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR			
4	3	3	9	13	19	22	0	- 27	0	- 13	2	98	0	0	

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA PEAK  
POLLUTANT : NITROGEN DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	2	3	2	2	2	2	2	6	20	23	27	23	14	22	36	44	43	40	1	8	1	1	****	18	15
2	12	5	31	27	22	17	16	14	20	20	33	37	46	41	37	21	32	19	22	5	28	49	****	70	27
3	71	68	48	4	2	1	2	29	50	60	66	60	55	58	65	63	71	66	64	72	61	61	****	50	50
4	26	16	12	0	0	0	0	13	33	39	M	29	27	39	45	40	54	45	38	22	24	2	****	6	23
5	0	0	0	0	0	0	6	23	43	42	51	46	35	35	48	50	46	58	59	49	54	44	****	44	32
6	46	24	6	0	0	1	1	9	18	21	M	M	M	M	43	48	41	32	12	11	6	9	0	7	17
7	6	3	0	0	0	0	8	34	73	86	84	75	75	65	89	107	100	87	46	47	47	38	32	22	47
8	12	4	3	0	0	3	19	43	46	48	M	M	37	51	63	77	88	103	119	114	100	79	58	53	51
9	46	32	28	25	26	27	31	38	34	27	29	15	16	21	15	17	21	32	42	29	18	16	16	18	26
10	14	14	13	14	13	16	20	27	48	59	70	59	39	45	56	75	89	81	40	33	37	29	18	22	39
11	15	15	16	13	13	14	20	46	73	81	92	81	66	80	74	106	110	79	81	72	79	71	73	70	60
12	43	28	24	21	18	18	24	38	45	49	47	43	33	39	53	56	46	44	35	32	28	37	29	35	36
13	30	22	18	16	16	17	19	35	48	43	43	38	21	29	46	69	64	58	33	22	16	14	16	9	31
14	12	12	11	7	5	6	7	17	50	59	54	57	45	74	83	89	103	104	51	60	17	16	8	16	40
15	15	8	12	16	4	2	6	6	30	55	64	43	18	22	32	36	36	53	57	58	35	40	31	7	29
16	8	6	3	4	5	11	14	27	35	40	60	62	50	48	47	43	23	21	20	20	15	7	8	9	24
17	14	10	12	15	14	20	26	35	40	43	37	35	30	34	38	46	52	43	27	28	22	18	19	20	28
18	15	13	12	12	12	12	21	39	58	78	70	64	60	60	61	61	55	65	75	83	76	69	57	56	49
19	51	M	44	39	32	26	26	37	43	42	43	43	36	42	49	56	44	38	24	18	16	24	16	22	35
20	20	20	19	19	17	17	19	23	33	35	33	34	23	37	42	48	49	47	28	22	18	16	14	14	27
21	15	16	12	10	9	10	10	17	41	45	43	34	28	29	44	27	56	58	32	28	8	7	4	88	28
22	92	85	75	75	71	61	54	49	44	47	45	47	53	62	63	66	72	71	63	58	57	58	54	60	62
23	56	51	50	31	23	18	26	33	31	40	44	36	35	38	37	41	43	66	72	70	65	58	55	56	45
24	57	53	55	50	29	26	28	39	49	44	42	46	37	51	65	55	61	58	32	27	34	41	36	39	44
25	35	26	24	26	21	26	20	38	70	49	51	83	66	58	48	52	56	55	37	38	30	34	29	26	42
26	20	24	16	10	10	13	19	23	27	30	30	25	24	27	27	20	24	32	35	36	30	29	31	28	25
27	21	15	16	18	19	18	18	25	38	57	55	60	41	69	82	96	111	95	83	86	63	43	23	20	49
28	23	45	47	31	35	36	26	50	66	58	60	54	34	50	59	39	51	47	14	27	21	21	27	25	39
29	26	16	12	9	8	7	13	18	30	41	42	43	33	59	74	78	95	92	97	98	61	50	44	42	45
30	42	40	38	33	26	27	29	29	30	33	36	37	37	44	55	52	57	71	79	60	46	47	45	36	43
31	38	29	20	18	18	19	26	53	71	77	65	45	35	55	60	74	79	52	30	35	80	84	78	66	50

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
30	35	37		35	71	81	95	103	0	-	119	15	-	62	2	98	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150





THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHUNG HOM KOK ZONE SUBSTATION  
POLLUTANT : SULPHUR DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	3	3	5	4	3	1	2	3	1	0	0	0	1	1	0	0	1	1	1	0	2	****	1	1
2	0	0	1	3	4	2	1	3	3	5	2	3	3	3	4	1	2	0	1	3	2	2	****	0	2
3	1	0	0	0	0	2	0	3	6	9	9	7	6	4	5	5	0	0	0	1	1	0	****	0	3
4	1	2	0	0	1	10	0	0	0	0	0	0	11	24	13	11	15	12	17	20	21	28	****	7	8
5	6	5	4	6	7	6	6	6	7	8	9	10	9	8	8	8	7	4	4	8	3	0	****	1	6
6	2	7	6	3	6	7	12	8	8	11	9	9	8	15	14	11	9	4	2	3	3	2	****	0	7
7	0	2	2	0	1	2	1	1	0	0	1	4	4	3	1	1	2	0	0	0	1	1	****	1	1
8	0	0	2	0	0	0	0	2	0	0	0	0	1	0	1	2	1	1	0	0	0	2	****	0	1
9	0	0	0	1	0	0	0	1	1	0	0	0	1	1	1	0	0	2	1	0	0	9	****	0	1
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	****	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	1	8	3	0	0	0	1	0	0	0	****	0	1
12	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	****	0	0
13	0	0	0	0	0	0	0	0	2	37	61	37	26	1	3	3	1	1	4	5	4	7	****	5	9
14	5	1	2	1	2	2	0	3	5	4	4	4	5	5	6	7	1	0	0	2	0	0	****	0	3
15	0	0	0	0	0	0	0	1	3	2	3	1	0	0	0	0	0	0	0	0	0	0	****	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	****	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
19	1	4	9	10	7	5	6	7	8	10	9	6	6	6	5	3	3	1	1	0	2	1	****	0	5
20	0	0	0	0	0	0	0	0	2	2	4	4	3	4	0	0	0	0	1	0	0	0	****	1	1
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	****	0	0
22	0	0	0	0	0	0	0	0	0	2	0	2	1	5	6	17	16	23	17	13	11	27	****	18	7
23	10	10	9	0	2	10	18	25	6	0	0	0	0	0	0	0	0	1	0	0	1	2	****	0	4
24	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	****	0	0
26	0	0	0	0	0	0	5	57	40	30	12	0	0	0	0	0	0	0	0	0	0	0	****	0	6
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	****	2	0
28	3	3	5	5	7	4	3	4	4	6	4	1	0	0	2	0	0	0	0	0	0	0	****	0	2
29	13	19	20	0	25	34	20	17	7	10	6	0	0	0	0	0	0	0	0	0	0	0	****	0	7
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID	DATA	1-HR	24-HR	
4	0	3		0	7	12	21	28	0	-	61	0	-	9	3	96	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHUNG HOM KOK ZONE SUBSTATION  
POLLUTANT : NITROGEN DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	13	10	8	7	6	6	7	17	22	16	12	13	13	17	15	18	16	19	10	9	9	13	****	11	12
2	7	7	7	8	8	8	9	14	20	20	13	23	22	20	22	24	33	21	14	16	12	15	****	10	15
3	9	5	5	4	6	6	7	11	13	15	15	14	14	12	13	18	16	13	15	12	10	11	****	16	11
4	17	12	11	13	20	14	10	10	11	13	21	20	37	62	42	38	55	72	50	45	43	54	****	18	30
5	13	12	9	9	10	8	12	13	16	17	15	12	10	14	19	26	29	21	12	12	12	14	****	13	14
6	11	10	12	8	11	11	17	23	26	29	27	22	18	27	22	26	40	32	20	17	18	16	****	9	20
7	7	7	7	6	6	7	8	15	12	11	14	14	15	16	11	15	17	18	11	9	12	11	****	9	11
8	6	4	5	5	3	4	7	15	16	15	15	15	12	12	20	24	28	19	21	19	17	19	****	10	14
9	8	5	11	13	6	8	15	30	24	18	15	14	11	14	14	11	19	18	19	19	19	35	****	16	16
10	12	7	5	5	5	5	8	10	9	13	10	8	9	7	10	11	11	18	22	10	14	10	****	12	10
11	44	38	10	6	5	2	12	25	29	36	34	43	39	42	41	33	29	34	34	27	29	45	****	39	29
12	16	25	11	9	9	9	11	15	18	20	21	22	21	19	22	13	14	14	12	11	15	12	****	11	15
13	14	16	15	10	9	16	25	36	52	78	84	69	48	16	15	16	14	18	27	16	11	13	****	11	27
14	11	7	7	8	7	6	7	17	17	18	18	14	11	12	15	21	17	17	12	12	12	8	****	9	12
15	7	7	5	5	5	6	8	15	16	16	12	13	12	13	10	13	11	12	11	8	8	8	****	8	10
16	7	7	5	6	6	6	8	11	12	14	13	14	12	11	15	15	12	14	14	6	8	10	****	11	10
17	12	9	9	7	6	5	11	13	16	15	19	23	36	33	28	32	29	23	31	26	25	22	****	9	19
18	10	6	9	3	4	8	12	15	13	13	13	13	12	16	15	15	13	27	16	13	8	10	****	11	12
19	9	9	11	12	11	9	13	20	20	20	17	14	12	16	20	21	26	17	17	16	24	13	****	8	15
20	8	6	5	6	7	7	8	11	12	16	15	17	15	12	15	17	19	15	15	13	10	14	****	11	12
21	7	7	7	6	8	8	11	18	13	13	12	11	11	17	24	19	23	11	9	12	12	13	****	11	12
22	16	13	12	12	10	9	12	20	16	12	6	5	5	8	11	21	23	35	36	22	22	28	****	20	16
23	18	15	14	13	9	15	25	22	26	30	33	40	37	43	35	53	47	59	52	34	46	58	****	32	33
24	35	47	26	12	10	11	14	14	15	16	16	16	17	18	14	13	13	17	16	17	18	16	****	16	18
25	12	12	14	13	12	14	15	14	14	13	14	14	12	11	15	15	24	37	48	29	19	23	****	27	18
26	24	28	20	24	24	24	33	47	45	63	49	42	36	35	36	50	62	58	60	52	12	13	****	12	37
27	13	11	11	10	10	11	12	17	16	11	12	11	15	16	19	18	12	14	14	12	10	11	****	12	13
28	12	10	11	12	13	13	14	18	17	21	17	12	13	12	16	18	21	29	16	15	13	15	****	14	15
29	56	60	58	35	54	54	51	48	50	50	51	19	13	13	11	12	16	14	13	10	10	9	****	11	31
30	10	8	6	8	7	7	8	8	7	8	9	13	12	16	19	33	48	46	35	25	21	17	****	13	17

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE	1-HR	24-HR
15	14	18		14	35	47	55	60	2	-	84	10	-	37	2	96	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHUNG HOM KOK ZONE SUBSTATION  
POLLUTANT : SULPHUR DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	1	8	8	3	2	3	0	0	1	0	****	12	2
3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	3	2	2	0	****	1	1	
6	0	0	0	2	0	0	0	1	3	2	4	6	6	8	6	6	6	8	10	10	10	11	****	10	5
7	11	11	10	13	11	9	9	9	11	12	11	9	9	8	5	4	7	6	8	7	8	9	****	11	9
8	7	7	9	7	10	8	6	2	3	4	5	6	1	2	6	3	4	1	3	3	4	3	****	1	5
9	1	0	0	0	1	1	1	0	0	1	1	0	1	1	8	3	3	3	3	4	2	0	****	1	2
10	3	3	3	4	5	6	6	7	6	8	M	M	4	5	3	2	1	1	3	1	0	0	0	0	3
11	0	0	0	0	0	0	0	2	3	5	5	5	4	4	4	3	1	1	1	0	2	1	0	2	2
12	3	6	8	7	5	4	4	4	3	2	1	1	1	1	1	1	1	1	1	0	2	1	0	1	2
13	1	0	1	2	1	1	0	1	2	1	3	7	5	4	4	5	3	4	5	3	1	0	0	0	2
14	0	0	0	0	0	0	0	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	1	0	0	3	1	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	1	0	1	1	1	1	1	2	3	2	1	0	0	0	0	0	0	3	2	1
20	3	6	4	0	1	1	3	3	4	3	3	3	2	1	0	0	0	0	0	0	0	1	1	0	2
21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	13	18	10	8	15	14	10	6	6	7	6	5	7	1	0	0	0	0	2	4	1	2	0	6
23	0	1	1	1	1	2	3	5	7	7	7	7	8	8	9	10	10	11	11	11	11	10	10	10	7
24	8	7	7	6	6	5	5	5	6	6	6	5	5	6	5	4	6	5	4	3	3	4	4	5	5
25	7	11	11	9	8	5	4	3	6	4	4	3	2	2	0	2	2	0	0	1	1	1	1	1	4
26	15	14	4	0	0	0	0	0	0	0	6	4	15	5	2	3	2	0	0	0	0	1	3	0	3
27	0	0	1	0	8	5	11	4	3	8	7	3	3	0	0	1	0	0	0	0	0	7	21	28	5
28	10	0	0	6	10	26	16	0	0	0	0	2	0	1	0	0	0	0	0	7	1	0	0	0	3
29	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	7	0	0	0	1
30	0	0	0	0	0	3	6	11	15	19	20	20	19	18	15	13	11	10	8	5	3	3	3	6	9
31	6	6	5	7	7	7	7	7	8	7	7	M	M	13	12	11	11	13	12	14	14	14	12	8	9

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
4	1	3		1	9	11	14	18	0	-	28	0	-	9	2	98	0	0

NOTES: 1. FLAGS FOR INVALID DATA :

- \*\*\*\* : DAILY ZERO/SPAN CHECK
- D : DYNAMIC CALIBRATION
- T : TELEMETRY/DATALOGGR/ANALYZER FAULT
- M : MAINTENANCE OR MACHINE SHUTDOWN
- P : POWER FAILURE

2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHUNG HOM KOK ZONE SUBSTATION  
POLLUTANT : NITROGEN DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	9	8	9	8	8	10	10	9	10	9	9	8	8	8	9	10	12	11	11	10	10	****	7	9
2	10	9	32	41	31	26	23	19	21	29	32	35	40	46	53	58	62	70	70	70	68	70	****	72	43
3	71	53	20	16	7	7	9	19	19	11	13	14	12	13	34	50	54	46	67	42	38	19	****	6	28
4	4	5	5	5	6	9	10	13	11	11	11	12	12	11	12	13	11	12	14	13	13	11	****	8	10
5	7	7	7	6	6	7	13	27	39	28	21	21	17	16	19	19	19	15	18	21	23	11	****	10	16
6	9	9	8	6	4	5	7	13	13	10	9	9	10	12	13	12	12	12	13	12	12	12	****	9	10
7	11	10	8	9	10	11	15	20	26	33	39	32	26	25	21	20	24	20	17	17	18	15	****	13	19
8	9	12	12	11	13	12	25	17	18	18	18	17	10	11	16	19	21	26	34	35	31	24	****	11	18
9	7	6	8	9	10	13	16	15	17	15	13	12	15	11	18	15	20	21	18	17	12	9	****	9	13
10	8	9	10	12	12	12	16	18	14	13	M	M	16	12	16	21	23	17	17	15	13	11	10	8	14
11	7	8	8	7	7	8	9	18	16	16	18	21	25	25	25	34	28	25	27	26	27	25	16	17	18
12	19	16	18	18	14	14	15	22	19	16	12	13	15	12	10	13	10	9	9	11	12	12	10	10	14
13	10	9	9	11	9	11	11	15	14	13	12	14	13	12	12	16	14	14	12	10	12	12	11	9	12
14	9	7	9	8	10	8	8	9	14	10	10	12	11	16	16	16	19	12	23	25	12	6	17	12	12
15	4	12	14	19	13	13	22	25	34	21	14	13	13	13	21	23	30	24	8	12	25	26	16	11	18
16	10	11	12	13	13	12	14	11	18	25	22	16	15	11	13	19	25	30	32	30	16	21	19	14	18
17	12	12	15	17	19	17	20	24	20	16	16	18	16	11	11	13	14	14	13	13	11	8	8	9	14
18	7	6	6	8	9	6	8	15	13	18	25	46	46	51	47	49	56	52	63	54	39	33	33	29	30
19	24	M	18	15	13	13	15	19	21	19	19	18	18	18	20	19	16	13	10	11	9	11	15	17	16
20	15	18	16	15	15	15	16	19	22	19	18	16	16	16	17	17	16	14	11	11	11	13	15	13	16
21	11	10	8	8	8	9	10	12	12	13	12	13	14	18	18	18	26	30	39	28	8	9	8	14	15
22	35	73	79	70	67	60	55	52	49	56	57	57	63	74	59	55	53	63	68	75	76	68	66	31	61
23	37	39	22	17	13	10	13	14	14	13	15	23	20	23	19	19	25	30	25	23	24	27	31	27	22
24	24	21	19	18	17	17	19	20	19	18	19	16	15	15	16	15	18	14	16	12	11	11	9	10	16
25	10	13	15	15	15	9	10	14	18	24	21	19	24	25	15	28	29	16	16	19	22	17	15	13	18
26	14	15	10	7	7	6	7	12	10	9	14	13	20	14	14	16	21	15	15	13	13	14	16	11	13
27	9	9	10	11	12	9	14	13	15	16	16	15	19	28	66	77	79	69	58	67	55	50	82	74	36
28	49	10	16	35	49	52	51	20	16	18	12	15	12	10	8	11	10	16	8	17	12	8	8	9	20
29	7	7	6	4	4	6	6	8	11	11	9	10	9	10	11	11	12	26	84	88	61	50	45	38	22
30	38	37	35	32	25	23	25	26	26	25	23	22	25	26	25	21	22	23	21	11	10	10	12	15	23
31	18	15	13	12	11	12	16	26	30	27	13	M	M	17	16	16	20	15	9	12	14	21	22	11	17

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
16	15	20		15	39	57	70	75	4	-	88	9	-	61	2	98	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA ROAD SUBSTATION  
 POLLUTANT : SULPHUR DIOXIDE  
 MONTH: OCTOBER  
 YEAR : 2012  
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	7	7	7	7	7	7	8	9	8	8	8	9	9	9	10	10	11	9	8	7	7	****	7	8
2	7	6	6	7	7	8	7	7	7	7	6	6	7	7	8	8	7	6	6	6	6	5	****	3	7
3	3	3	3	3	3	3	4	3	4	5	4	4	5	5	5	5	7	7	6	5	5	5	****	4	4
4	5	4	3	4	4	4	4	5	6	6	6	5	4	5	5	4	4	5	4	5	7	7	****	7	5
5	5	5	5	4	2	3	3	3	3	4	4	3	3	3	3	4	3	3	3	3	3	2	****	2	3
6	2	2	2	1	2	1	1	2	2	1	2	1	0	0	1	2	3	2	2	2	3	0	****	0	2
7	1	1	2	2	1	1	2	2	3	3	3	4	4	3	4	5	3	3	3	7	4	3	****	2	3
8	2	3	3	3	2	3	3	2	5	3	4	5	5	5	4	4	5	4	5	5	4	****	4	4	
9	3	3	3	3	3	4	3	5	5	7	18	34	10	11	19	19	26	14	15	14	12	10	****	9	11
10	8	10	10	13	13	14	14	14	16	17	14	12	11	16	15	17	10	14	20	11	12	11	****	12	13
11	8	6	6	6	6	9	14	14	16	14	14	12	10	11	11	10	10	10	10	11	11	12	****	8	10
12	8	8	7	8	7	6	5	4	7	6	7	6	9	14	10	19	15	23	12	10	8	5	****	5	9
13	4	3	3	3	3	3	4	4	7	17	13	12	18	11	11	16	19	20	16	13	10	8	****	9	10
14	8	10	7	6	5	6	6	6	8	12	18	9	11	21	29	31	26	20	26	19	20	17	****	10	14
15	10	9	8	7	6	5	5	5	6	5	5	6	5	5	5	6	7	6	6	9	11	****	8	7	
16	9	7	7	7	4	7	5	4	5	3	3	2	2	4	11	15	24	16	13	9	8	12	****	11	8
17	17	19	14	19	20	22	27	36	54	39	21	15	12	8	6	5	3	3	3	5	4	****	5	16	
18	4	4	5	4	4	6	9	8	6	5	6	5	5	5	5	4	4	5	4	4	4	4	****	3	5
19	3	5	6	6	4	4	6	6	6	6	8	10	8	7	5	4	3	3	3	3	3	6	****	5	5
20	4	4	3	4	3	4	5	6	5	4	4	4	3	3	3	2	3	3	4	4	4	2	****	2	4
21	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	****	1	0
22	0	0	0	0	0	1	1	1	3	4	10	36	30	9	12	22	8	11	14	9	8	6	****	8	9
23	9	8	9	10	11	15	16	28	73	52	44	47	25	18	12	8	8	8	12	9	6	3	****	0	19
24	0	1	0	0	0	1	2	2	2	4	4	3	3	4	4	3	3	3	5	4	5	****	5	3	
25	3	2	3	2	3	4	4	5	4	3	4	4	5	5	5	5	4	6	6	4	5	3	****	2	4
26	2	1	0	0	1	2	2	2	2	2	3	3	3	3	2	2	2	2	3	3	4	5	****	3	2
27	3	1	0	0	0	1	2	3	4	3	2	3	3	3	3	3	4	5	5	7	6	6	****	6	3
28	6	6	6	6	3	4	4	6	9	7	6	4	5	6	4	4	4	2	2	2	2	2	****	2	4
29	2	2	2	2	2	2	3	2	2	1	2	1	1	1	1	1	1	1	0	0	1	0	****	0	1
30	0	0	0	0	0	1	0	0	0	0	0	0	2	2	2	1	1	0	0	1	1	0	****	1	1
31	1	0	1	0	1	3	1	2	3	4	4	3	4	3	3	5	6	8	8	10	10	7	****	7	4

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->					STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE			
MEAN	MEDIAN	50	90	95	98	99	1-HR				24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
4	5	5	14	19	26	35	0	-	73		0	-	19	3	96	0	0

- NOTES:
1. FLAGS FOR INVALID DATA :
    - \*\*\*\* : DAILY ZERO/SPAN CHECK
    - D : DYNAMIC CALIBRATION
    - T : TELEMETRY/DATALOGGR/ANALYZER FAULT
    - M : MAINTENANCE OR MACHINE SHUTDOWN
    - P : POWER FAILURE
  2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA ROAD SUBSTATION  
 POLLUTANT : NITROGEN DIOXIDE  
 MONTH: OCTOBER  
 YEAR : 2012  
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	9	5	4	4	5	7	16	21	24	31	23	14	17	21	18	18	15	21	17	16	19	18	****	16	16
2	14	5	5	4	7	6	10	22	22	19	14	11	15	14	19	31	19	11	14	15	17	15	****	14	14
3	10	5	3	4	2	4	22	38	38	24	17	26	33	16	12	21	16	61	45	48	41	51	****	46	25
4	32	10	10	13	4	7	27	59	45	35	39	23	24	21	21	30	29	25	22	18	25	19	****	11	24
5	4	2	2	1	0	3	17	27	25	29	19	21	29	34	39	28	27	24	29	24	22	21	****	13	19
6	8	5	2	2	2	3	11	17	20	23	17	14	12	16	23	25	25	19	22	19	14	9	****	6	14
7	6	1	2	3	3	4	7	15	22	18	15	15	18	25	26	18	14	19	19	27	18	12	****	12	14
8	7	3	2	2	3	4	20	29	32	26	31	22	24	27	26	12	60	42	34	23	18	23	****	22	21
9	12	8	4	6	6	6	36	42	66	58	51	65	18	21	29	29	35	38	70	63	85	86	****	105	41
10	68	42	19	14	14	24	47	79	71	66	46	42	44	40	31	30	28	27	59	81	93	58	****	22	45
11	13	7	6	12	11	27	38	63	95	72	53	33	25	19	31	48	53	53	71	76	49	27	****	27	39
12	25	22	11	9	9	11	31	31	39	40	35	17	17	19	17	27	21	46	49	42	28	20	****	22	26
13	17	15	9	8	12	19	36	55	44	60	37	20	21	18	15	20	29	34	58	49	39	32	****	27	29
14	23	20	12	11	8	15	38	49	55	34	25	13	15	23	34	38	35	36	44	59	51	37	****	29	31
15	23	16	10	6	8	18	42	49	52	39	32	30	23	11	14	19	28	68	42	29	28	24	****	32	28
16	18	14	8	7	5	12	22	29	34	35	30	33	10	7	18	22	41	29	28	54	41	35	****	46	25
17	76	78	51	48	59	52	68	82	101	96	62	61	58	55	67	63	66	72	87	77	85	60	****	53	69
18	37	27	21	18	17	28	49	72	64	55	39	30	31	31	30	26	31	30	33	20	19	15	****	16	32
19	11	7	7	7	6	7	14	29	29	27	26	23	29	25	25	25	23	20	21	19	15	16	****	14	18
20	10	7	3	5	5	8	17	19	23	24	23	26	23	29	25	35	24	24	23	32	26	24	****	26	20
21	22	19	19	19	18	18	20	20	22	22	24	24	23	22	22	22	24	24	25	26	24	22	****	25	22
22	23	21	21	19	19	21	23	31	33	32	38	56	42	14	17	42	15	44	78	84	91	86	****	88	41
23	42	84	106	97	73	60	101	98	99	106	108	91	40	24	35	32	25	22	24	16	11	11	****	11	57
24	8	6	6	5	5	6	14	28	31	31	26	23	21	30	30	33	44	38	44	43	47	27	****	24	25
25	13	8	5	5	5	8	17	32	32	40	30	23	26	26	33	54	52	42	31	21	20	21	****	23	25
26	14	10	5	5	6	7	16	30	45	44	47	36	42	41	35	42	49	58	49	47	33	20	****	14	30
27	7	5	2	2	2	4	8	12	15	13	15	15	15	17	17	19	21	19	20	19	16	****	16	13	
28	13	14	10	9	11	13	18	19	21	15	14	14	15	11	11	11	12	15	11	11	9	9	****	9	13
29	8	6	5	5	5	5	10	15	19	17	17	19	16	17	16	18	22	22	15	14	12	9	****	9	13
30	7	3	3	2	3	7	10	14	17	35	23	17	19	22	23	36	31	35	35	50	41	40	****	34	22
31	27	17	14	13	11	15	22	40	58	68	55	53	55	59	69	64	64	84	88	89	81	44	****	46	49

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
21	22	22	58	72	89	98	0	- 108	13 - 69	2	96	0	0	

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA ROAD SUBSTATION  
POLLUTANT : SULPHUR DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	8	11	14	13	13	12	15	10	16	10	7	5	5	4	3	3	3	5	3	4	5	5	****	3	8
2	3	4	5	5	6	6	6	8	8	6	7	8	20	14	7	5	5	3	3	3	6	8	****	4	7
3	3	3	2	3	3	3	5	6	8	8	8	6	8	5	5	7	5	4	5	3	3	6	****	7	5
4	19	15	16	24	17	12	8	7	7	5	5	5	8	24	26	38	13	16	29	28	38	32	****	13	18
5	9	8	8	9	11	10	8	10	10	10	10	11	10	11	11	11	11	9	8	10	8	5	****	5	9
6	5	8	9	9	9	11	11	12	12	14	14	9	7	7	10	15	11	11	7	8	6	6	****	4	9
7	3	5	6	6	6	6	5	5	4	4	5	5	5	5	4	3	4	3	3	3	3	3	****	3	4
8	2	2	2	2	2	2	2	3	3	3	2	1	1	0	0	1	1	0	0	0	0	2	****	0	1
9	1	1	2	2	2	0	1	1	1	0	0	0	0	1	0	0	1	0	0	1	0	3	****	1	1
10	0	0	0	0	0	0	0	0	0	8	17	4	5	17	5	1	11	4	5	3	3	5	****	4	4
11	9	27	3	1	1	2	2	2	3	5	7	19	13	11	10	4	4	5	6	7	5	5	****	6	7
12	5	5	5	6	7	5	5	7	16	11	13	6	5	5	5	24	14	5	4	4	5	5	****	16	8
13	18	13	9	6	8	8	9	13	35	46	44	38	22	23	15	18	18	17	14	10	8	9	8	9	17
14	10	6	5	5	5	5	3	5	10	8	8	8	8	9	8	8	6	5	4	5	3	3	****	2	6
15	2	2	2	1	2	4	4	5	8	7	6	6	6	4	3	2	2	3	2	2	2	3	****	4	4
16	3	4	3	3	3	2	2	2	3	3	4	4	3	1	1	2	1	1	1	0	1	0	****	2	2
17	0	0	0	0	1	1	1	2	1	2	4	4	3	5	9	3	2	2	3	5	2	5	****	4	3
18	4	6	4	3	4	8	6	4	3	3	3	2	2	2	2	2	2	3	4	4	3	3	****	4	4
19	5	6	6	9	12	9	8	8	9	11	11	11	10	10	10	9	7	5	5	6	7	5	****	5	8
20	5	4	5	3	3	5	3	4	4	5	D	D	8	7	6	5	4	4	4	5	4	4	****	4	5
21	3	2	2	2	2	3	3	3	2	2	3	2	2	2	2	2	3	2	2	2	3	10	****	9	3
22	8	19	30	20	8	6	10	17	12	13	12	19	13	25	37	37	34	29	27	17	11	14	****	9	19
23	10	10	8	3	3	7	11	8	5	6	2	6	6	3	4	4	4	5	5	9	6	5	****	5	6
24	6	8	8	6	6	5	6	11	8	9	5	4	4	4	3	3	2	2	3	4	4	4	****	3	5
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
26	35	15	6	29	14	12	10	24	41	30	13	6	4	4	4	6	4	3	2	5	4	6	****	16	13
27	14	7	6	4	5	4	7	3	3	2	2	2	3	2	2	2	2	2	5	5	5	6	****	6	4
28	5	6	6	7	7	5	5	5	4	5	4	2	2	13	18	9	8	4	8	17	15	16	****	34	9
29	29	26	9	12	22	20	26	24	38	17	21	38	30	28	31	22	13	4	3	3	3	3	****	4	19
30	3	2	2	1	2	1	3	1	1	1	1	0	5	7	20	28	44	43	36	32	74	38	****	4	15

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID	DATA	1-HR	24-HR	
6	5	7		5	16	26	36	38	0	-	74	0	-	19		96	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA ROAD SUBSTATION  
POLLUTANT : NITROGEN DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	44	29	24	23	15	17	36	56	77	71	51	43	43	41	33	27	38	40	35	35	37	42	****	20	38
2	15	12	9	12	11	14	25	53	60	52	55	55	52	31	22	43	32	41	46	41	30	32	****	19	33
3	14	8	7	7	6	7	12	19	26	35	35	24	25	23	21	36	38	68	101	86	66	61	****	58	34
4	78	86	85	88	81	28	21	30	35	45	48	50	48	61	64	75	37	53	88	105	119	120	****	125	68
5	52	16	16	14	12	12	19	31	47	40	31	29	24	28	26	33	49	57	54	42	28	23	****	26	31
6	15	14	12	13	12	18	45	69	76	66	54	35	25	25	35	53	56	41	39	32	28	18	****	18	35
7	13	10	8	8	7	10	16	25	26	23	22	24	23	20	18	20	24	23	23	19	18	16	****	17	18
8	10	7	5	4	5	5	12	23	25	25	16	16	20	15	23	24	23	21	27	19	22	26	****	20	17
9	11	8	6	5	4	4	13	25	33	34	27	22	14	8	6	21	31	34	25	22	18	27	****	27	18
10	16	10	6	5	2	4	15	29	22	34	40	14	11	23	14	8	21	28	50	49	47	58	****	25	23
11	40	54	27	15	11	14	9	15	18	16	17	36	22	20	32	35	43	47	57	53	52	50	****	56	32
12	38	22	16	11	11	1	8	19	27	26	26	23	16	20	22	M	67	79	59	42	29	30	****	66	30
13	82	66	40	24	46	46	68	79	80	80	74	83	82	39	26	34	35	50	101	91	76	62	60	79	63
14	51	12	9	13	11	6	14	35	36	32	25	20	25	32	33	26	14	23	23	30	19	15	****	11	22
15	5	4	2	1	2	4	10	23	25	27	22	18	19	19	18	19	19	18	15	10	8	6	****	7	13
16	5	3	1	1	1	2	8	14	20	20	19	17	18	13	15	19	24	20	20	18	25	28	****	25	15
17	14	23	8	6	6	8	20	42	41	58	62	54	61	72	70	44	67	81	86	88	66	65	****	53	48
18	48	46	38	42	25	47	43	30	32	28	26	29	31	34	31	38	48	61	64	64	34	27	****	19	38
19	19	13	9	12	10	10	22	42	44	37	34	32	34	34	42	45	40	32	61	49	32	18	****	11	30
20	8	3	3	2	2	4	9	20	34	25	D	D	24	27	24	26	24	27	20	19	17	12	****	12	16
21	7	6	4	4	4	6	11	15	17	17	14	12	15	17	19	23	24	34	34	41	42	71	****	69	22
22	61	61	63	56	37	26	39	52	43	28	15	16	13	27	37	39	44	57	55	48	34	37	****	28	40
23	24	25	20	8	9	18	28	28	32	39	36	48	48	48	51	69	75	91	92	87	71	63	****	58	46
24	63	63	54	42	33	31	38	49	54	50	39	36	33	26	23	28	26	28	27	23	21	19	****	19	36
25	14	11	10	12	12	12	14	17	16	15	13	14	16	30	35	44	68	70	73	70	65	71	****	69	34
26	73	59	44	56	38	35	40	63	64	52	41	40	40	41	52	52	56	58	53	65	62	58	****	58	52
27	54	49	44	33	31	29	42	38	39	31	32	34	45	42	41	34	36	31	27	22	20	20	****	15	34
28	11	9	9	11	11	11	20	25	26	24	21	22	46	65	66	73	78	86	81	72	73	88	****	82	44
29	76	71	55	55	52	48	47	44	47	50	64	63	65	71	65	60	63	35	34	24	23	24	****	17	50
30	13	14	9	5	7	9	22	23	20	16	22	24	52	61	66	78	74	73	68	73	78	67	****	47	40

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
26	28	34		28	67	78	86	91	1	-	125	13	-	68	2	96	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA ROAD SUBSTATION  
POLLUTANT : SULPHUR DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	2	1	1	1	1	1	2	1	2	1	1	1	1	3	14	1	2	1	1	2	2	****	2	2
2	4	30	16	7	9	5	4	3	10	8	9	14	15	24	18	12	14	12	16	17	27	22	****	14	13
3	20	12	3	1	1	2	5	13	9	11	8	4	5	4	18	25	10	6	8	7	7	5	****	10	8
4	15	12	17	14	9	6	6	5	4	4	4	4	4	4	4	4	2	2	2	1	1	1	****	2	6
5	1	2	2	2	1	1	1	2	1	5	2	1	1	4	5	9	9	8	6	6	5	4	****	3	4
6	4	3	3	3	3	3	3	5	5	5	6	8	7	7	8	9	9	11	11	13	14	14	****	12	7
7	13	13	12	11	10	10	11	13	18	20	14	20	30	24	12	9	7	9	10	9	10	12	****	13	13
8	10	9	10	11	10	10	9	6	4	3	5	7	6	5	6	5	6	7	9	12	12	9	****	6	8
9	5	4	3	3	3	5	6	6	5	5	5	5	5	4	6	8	5	7	6	6	6	5	****	5	5
10	5	6	7	8	8	8	9	10	11	10	11	9	8	8	8	8	9	8	8	8	8	8	****	6	8
11	5	4	5	6	5	5	6	6	8	9	11	12	15	17	26	18	12	8	8	8	9	8	****	8	10
12	8	10	13	12	9	8	8	8	8	7	5	5	5	5	5	8	7	8	8	8	8	8	****	6	8
13	6	6	6	8	7	8	6	6	8	7	M	M	M	M	M	M	M	0	0	0	0	0	0	1	4
14	0	0	0	1	0	0	0	0	18	6	0	10	37	31	31	3	1	20	35	32	28	55	50	17	16
15	36	39	23	13	8	11	20	20	39	53	21	23	4	0	0	0	0	0	0	3	1	2	0	0	13
16	1	7	17	61	57	27	20	28	25	73	51	32	31	42	18	34	35	41	24	7	0	0	10	20	28
17	44	50	17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	0	1	0
19	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	7	2	6	12	3	0	0	5	7	3	26	3
22	29	39	35	37	39	36	17	9	11	9	9	5	8	10	4	8	4	0	3	3	11	4	3	0	14
23	0	0	0	0	0	1	3	3	3	5	5	6	6	6	6	7	7	9	11	10	10	14	17	19	6
24	17	16	14	13	6	6	1	3	10	3	3	3	2	1	1	1	1	2	1	0	0	1	0	2	4
25	2	6	6	5	6	13	9	8	10	8	14	17	14	3	2	0	0	0	0	0	0	0	0	0	5
26	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	2	1	0	1
27	0	0	1	5	7	6	4	0	0	0	1	0	0	0	11	4	4	1	1	4	23	7	4	17	4
28	19	10	7	7	16	12	17	18	27	35	29	21	14	13	9	0	0	0	0	3	3	0	0	0	11
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	4	9	21	6	1	0	0	2
30	0	0	0	0	0	0	2	9	15	19	19	18	17	16	15	13	10	8	8	6	2	1	1	1	8
31	1	1	1	2	1	1	2	3	4	6	4	2	1	0	0	3	1	0	0	0	1	2	0	1	2

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
6	4	7		4	17	27	38	49	0	-	73	0	-	28	3	97	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : VICTORIA ROAD SUBSTATION  
POLLUTANT : NITROGEN DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	38	23	20	13	12	12	16	21	20	20	17	18	18	14	24	49	35	38	23	34	21	25	****	44	24
2	43	43	36	30	31	28	26	27	32	39	38	43	42	45	52	50	61	65	69	69	73	75	****	74	47
3	76	67	60	43	40	39	48	54	67	67	60	57	57	60	56	62	71	73	71	72	75	67	****	62	61
4	58	55	54	49	25	10	17	29	33	35	24	26	30	34	42	33	44	41	52	44	52	41	****	39	38
5	31	21	13	12	8	16	28	45	60	55	52	47	42	40	51	52	59	59	61	58	59	66	****	61	43
6	60	46	32	20	18	26	29	33	26	17	26	37	29	32	32	34	32	33	29	29	27	26	****	37	31
7	38	30	25	19	19	25	59	95	84	84	67	51	80	58	42	60	86	83	74	66	59	49	****	40	56
8	34	30	19	16	18	30	48	45	47	45	41	36	29	28	41	51	67	99	108	102	108	84	****	58	51
9	39	23	24	20	29	25	29	39	35	18	20	15	14	14	13	17	21	24	26	21	18	16	****	14	22
10	15	12	11	11	12	14	22	28	32	43	49	35	27	24	26	38	72	73	52	46	43	27	****	24	32
11	16	16	15	13	13	13	25	42	60	55	67	64	57	39	57	69	97	69	81	63	66	64	****	71	49
12	54	24	18	15	14	16	25	41	35	34	27	28	32	23	29	33	32	27	27	24	24	35	****	31	28
13	25	19	14	13	12	14	15	27	36	28	M	M	M	M	M	M	M	43	25	23	23	19	24	12	22
14	11	9	6	9	6	12	25	45	58	44	22	43	73	71	69	54	59	94	92	96	91	95	99	81	53
15	81	78	76	66	58	57	59	57	77	57	39	47	17	13	24	24	44	73	74	81	82	79	65	50	57
16	60	58	57	59	57	56	61	62	56	66	58	53	41	52	26	41	57	85	79	74	43	51	57	54	57
17	54	54	34	8	7	11	21	29	27	22	19	21	20	15	18	21	25	25	21	20	16	11	12	12	22
18	10	7	6	8	9	12	26	40	44	68	61	56	58	55	54	56	52	62	69	73	72	62	54	50	44
19	48	M	40	36	32	34	34	36	37	35	35	30	24	23	28	32	25	22	21	17	13	14	14	16	28
20	15	15	14	13	13	14	17	22	24	21	18	15	15	15	15	20	21	25	23	18	15	14	11	10	17
21	9	9	7	6	5	7	12	17	21	17	16	17	23	42	27	31	44	76	74	77	74	82	73	68	35
22	79	73	64	58	49	46	40	38	37	36	36	42	52	55	53	53	59	62	61	60	62	53	49	45	53
23	48	41	28	19	14	13	21	30	29	31	26	24	24	22	23	28	32	43	54	51	47	57	54	59	34
24	59	52	55	49	29	32	33	40	44	42	35	36	38	34	39	31	37	44	35	30	25	38	42	32	39
25	31	26	27	32	36	55	71	90	90	91	85	108	88	61	55	31	25	24	20	19	18	20	24	21	48
26	17	14	11	8	6	9	15	17	18	20	19	19	18	16	16	15	18	27	26	24	23	22	25	17	18
27	14	10	10	13	13	11	16	23	24	34	37	45	48	69	94	89	100	84	75	84	90	88	90	77	52
28	70	64	59	57	56	53	57	63	63	63	54	46	40	43	39	13	16	24	19	21	16	12	13	12	41
29	10	5	4	2	2	2	8	13	15	18	16	16	28	45	56	65	76	73	87	74	52	45	40	34	33
30	36	34	32	28	24	28	28	25	26	27	30	28	29	29	38	37	36	42	39	33	23	25	31	35	31
31	30	21	18	19	16	19	28	49	62	62	54	32	31	34	38	46	51	57	50	58	87	85	95	61	46

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID	DATA	1-HR	24-HR	
32	34	39		34	73	82	92	97	2	-	108	17	-	61	2	97	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : QUEEN MARY HOSPITAL  
POLLUTANT : SULPHUR DIOXIDE  
MONTH: OCTOBER  
YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	6	5	6	7	7	7	9	8	8	8	8	8	8	9	9	9	10	8	8	6	5	****	6	7
2	7	6	6	8	7	8	8	8	8	8	8	8	8	8	8	8	9	8	7	9	7	7	****	5	8
3	4	5	5	5	5	5	5	6	6	5	5	6	6	6	7	8	8	8	7	7	8	8	****	8	6
4	8	7	5	6	5	5	6	6	8	7	7	5	5	5	5	5	5	5	4	5	7	7	****	7	6
5	4	5	5	4	3	3	3	3	3	4	5	5	4	3	4	5	5	5	4	4	4	3	****	3	4
6	3	4	3	3	3	3	3	3	3	3	3	2	1	3	3	5	4	4	4	4	6	2	****	1	3
7	2	2	3	3	3	3	3	3	5	5	5	6	5	3	5	7	5	5	5	7	5	5	****	3	4
8	3	4	5	4	4	4	3	3	6	5	6	6	6	6	7	6	5	5	5	6	8	7	****	5	5
9	5	5	4	5	5	5	6	7	7	6	17	40	22	12	18	20	31	19	17	23	24	14	****	12	14
10	11	12	13	15	16	16	16	16	18	18	16	15	13	12	14	18	12	12	17	14	14	15	****	14	15
11	10	8	8	8	8	13	16	16	18	17	15	14	11	12	12	11	12	11	11	12	13	14	****	10	12
12	10	10	9	10	10	9	6	6	8	8	8	10	14	14	18	22	23	17	13	11	7	****	7	11	
13	5	7	6	5	6	6	7	8	11	12	20	19	19	18	13	17	24	18	19	16	13	11	****	12	13
14	10	13	11	10	8	9	10	12	12	16	26	15	11	17	33	26	27	19	20	25	26	22	****	11	17
15	12	11	8	7	8	8	6	6	7	6	6	7	5	6	6	5	6	7	7	6	10	13	****	9	7
16	9	9	8	8	6	8	6	5	6	5	4	3	3	5	12	13	27	20	15	10	13	15	****	14	10
17	22	23	19	21	25	28	32	44	65	43	24	17	13	9	7	5	4	3	5	3	10	5	****	5	19
18	5	5	6	5	5	7	8	10	7	6	7	6	5	5	5	7	6	5	6	5	5	5	****	5	6
19	5	7	8	7	5	5	5	7	6	6	9	10	8	8	5	4	3	3	3	2	3	3	****	3	5
20	3	3	3	3	3	4	5	6	5	4	5	5	3	4	4	3	3	3	4	7	8	7	****	7	4
21	4	4	5	5	5	3	3	3	3	3	4	4	4	3	3	3	3	2	2	3	2	3	****	4	3
22	3	3	3	5	3	2	7	8	14	21	30	39	32	16	16	32	11	8	13	11	9	10	****	10	13
23	7	14	11	8	17	20	21	34	53	33	39	43	32	20	11	7	8	7	10	9	6	3	****	0	18
24	1	1	1	1	1	1	2	3	3	3	4	5	3	3	4	5	4	3	3	4	5	5	****	9	3
25	3	3	3	3	3	5	5	5	5	5	5	5	6	7	8	6	5	6	8	5	5	4	****	3	5
26	3	3	2	2	2	3	3	3	3	4	5	4	5	5	4	3	3	3	5	5	5	7	****	5	4
27	5	4	2	3	2	3	4	4	6	5	4	4	5	5	5	5	5	6	8	8	7	6	****	6	5
28	5	6	7	5	3	4	4	6	9	7	6	5	6	6	5	4	3	3	1	2	1	1	****	1	4
29	1	1	1	1	2	3	3	3	3	3	3	2	3	2	3	3	3	3	2	2	3	3	****	1	2
30	1	1	1	0	2	4	2	2	3	3	3	3	3	3	3	3	3	3	3	3	1	2	****	2	2
31	2	2	2	2	3	3	2	3	5	6	6	5	4	5	5	5	7	8	8	10	12	9	****	8	5

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE			
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	1-HR	24-HR			
6	6	6	16	21	32	37	0	-	65	2	-	19	2	96	0	0

- NOTES:
1. FLAGS FOR INVALID DATA :
    - \*\*\*\* : DAILY ZERO/SPAN CHECK
    - D : DYNAMIC CALIBRATION
    - T : TELEMETRY/DATALOGGR/ANALYZER FAULT
    - M : MAINTENANCE OR MACHINE SHUTDOWN
    - P : POWER FAILURE
  2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : QUEEN MARY HOSPITAL  
POLLUTANT : NITROGEN DIOXIDE  
MONTH: OCTOBER  
YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	12	12	10	10	10	9	12	16	17	19	20	17	18	20	22	26	30	32	28	26	23	20	****	24	19	
2	18	12	12	9	9	8	9	15	17	17	16	16	17	17	12	9	13	15	17	16	13	****	11	14		
3	10	8	7	8	8	8	9	11	19	35	31	19	25	27	30	29	29	32	31	23	30	34	35	****	15	22
4	25	18	14	15	10	9	12	31	38	39	24	22	22	21	16	20	20	36	24	16	34	28	****	9	22	
5	6	6	7	5	6	8	8	21	28	28	25	19	21	22	22	16	13	15	31	36	32	27	****	16	18	
6	11	9	9	9	8	8	10	17	27	21	14	12	16	17	23	28	19	22	15	15	17	10	****	10	15	
7	6	4	7	6	8	9	13	15	16	14	12	13	10	9	13	14	10	14	33	35	27	19	****	16	14	
8	15	8	7	7	7	8	11	30	34	31	24	26	32	21	28	32	24	15	10	18	16	24	****	20	20	
9	14	13	9	8	8	9	13	26	22	55	66	75	37	31	33	38	61	44	75	116	148	91	****	83	47	
10	65	53	23	22	20	25	30	38	52	66	54	53	40	35	37	35	28	58	47	40	64	34	****	11	40	
11	8	7	9	11	13	24	23	63	90	78	40	32	19	15	18	20	33	35	55	41	19	13	****	11	29	
12	11	13	11	13	15	12	9	17	16	23	33	28	22	25	26	32	43	44	29	21	12	12	****	15	21	
13	14	10	11	9	10	10	10	11	33	58	56	37	29	24	21	21	31	28	30	18	14	9	****	9	22	
14	9	10	6	8	7	10	24	24	35	39	37	23	19	21	36	29	31	23	28	29	23	14	****	9	21	
15	8	7	5	5	7	10	15	27	33	17	21	33	26	22	20	23	30	26	17	10	10	13	****	22	18	
16	17	12	6	4	4	7	8	26	34	19	24	34	27	20	28	37	53	53	26	18	21	28	****	39	24	
17	68	67	43	44	55	46	56	71	92	84	59	49	38	35	43	46	45	47	64	55	59	42	****	38	54	
18	32	32	25	20	20	30	43	51	40	39	43	32	24	33	37	32	26	29	26	20	19	17	****	18	30	
19	14	13	13	12	10	11	14	21	24	26	30	38	24	32	27	21	24	29	32	32	30	23	****	17	23	
20	11	9	10	11	12	10	16	25	23	24	21	20	23	17	19	16	19	24	36	26	23	22	****	17	19	
21	18	16	12	10	12	12	16	17	15	15	13	14	14	16	9	8	12	12	12	15	7	6	****	14	13	
22	16	22	12	7	6	2	17	26	68	57	52	54	55	29	25	48	34	33	39	55	122	90	****	103	42	
23	35	108	106	99	52	33	54	83	87	89	91	81	61	34	23	22	20	14	24	14	13	10	****	10	51	
24	9	8	9	8	7	9	11	20	26	28	29	32	26	27	18	21	33	51	61	47	38	38	****	31	25	
25	19	13	11	10	9	10	15	31	40	36	30	27	25	26	32	34	51	44	28	32	34	25	****	22	26	
26	20	14	9	8	7	7	9	13	20	21	29	21	18	19	20	10	20	20	27	21	23	26	****	17	17	
27	13	8	8	6	4	7	9	12	16	16	16	18	14	17	18	19	20	26	20	25	27	26	****	31	16	
28	20	20	20	14	18	18	18	16	20	18	13	13	9	8	8	9	9	7	8	8	11	****	8	13		
29	9	9	6	5	6	5	8	9	12	11	13	14	12	9	13	15	16	15	14	12	11	8	****	6	10	
30	4	2	3	3	4	7	7	16	25	25	31	27	25	24	24	25	30	28	31	20	26	23	****	27	19	
31	24	18	15	13	14	14	13	31	48	53	49	53	45	55	54	58	60	80	80	87	70	40	****	30	44	

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES			
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	1-HR	24-HR			
20	20	20	49	61	86	92	2	-	148	10	-	54	2	96	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : QUEEN MARY HOSPITAL  
POLLUTANT : SULPHUR DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	9	12	14	15	11	9	8	8	12	8	7	5	6	5	5	4	4	5	5	4	6	8	****	3	8
2	4	5	6	7	8	8	8	9	8	8	8	8	19	16	13	7	5	5	5	5	7	9	****	5	8
3	5	3	4	4	5	5	6	7	9	10	10	8	10	10	8	11	6	5	5	7	8	13	****	13	7
4	46	39	18	15	9	12	8	6	6	6	6	6	11	20	17	27	13	15	21	30	50	26	****	13	18
5	10	9	10	11	13	11	10	11	12	11	12	13	14	13	13	13	13	19	16	12	11	6	****	5	12
6	6	10	10	10	11	15	15	15	14	15	16	9	8	9	13	14	13	11	9	10	8	7	****	5	11
7	4	6	6	7	8	7	5	6	5	5	7	6	7	7	6	5	6	5	5	5	6	5	****	5	6
8	4	5	4	3	3	3	4	4	5	5	4	3	3	3	3	3	3	2	2	1	2	4	****	2	3
9	2	2	3	3	2	1	2	2	2	1	2	1	1	2	2	1	2	1	1	1	1	3	****	1	2
10	0	0	1	1	0	0	0	1	8	53	51	17	3	10	4	3	6	4	2	2	1	3	****	2	7
11	10	24	4	2	1	3	3	3	3	5	7	20	14	10	8	3	5	5	6	7	5	6	****	6	7
12	6	5	5	5	6	5	5	5	11	6	13	7	6	5	5	12	7	5	5	5	5	6	****	2	6
13	4	8	9	6	14	11	8	11	25	45	58	35	28	23	18	19	21	22	21	16	17	20	****	13	20
14	12	7	6	7	8	7	5	6	11	10	10	11	11	11	8	9	8	6	5	5	5	4	****	3	8
15	3	3	3	3	3	5	6	7	10	10	8	7	6	4	3	3	3	3	2	2	2	2	****	3	4
16	3	4	3	3	3	3	3	3	3	3	4	5	4	3	3	3	3	3	3	2	2	3	****	3	3
17	3	2	2	1	2	3	3	3	3	3	5	5	5	6	7	8	4	5	6	5	4	6	****	2	4
18	2	2	2	3	2	5	5	5	3	3	3	3	3	3	4	3	4	5	5	5	5	5	****	4	4
19	4	6	7	9	11	10	8	9	10	13	12	12	11	12	11	10	8	7	7	9	8	7	****	6	9
20	7	5	6	5	6	6	5	5	6	7	8	10	9	8	7	5	5	3	3	5	3	4	****	4	6
21	3	3	2	2	2	2	2	2	2	2	D	D	0	0	1	1	2	1	0	1	1	3	****	2	2
22	4	11	2	4	4	4	5	12	6	6	10	12	7	13	22	23	22	15	11	8	5	6	****	9	10
23	6	5	5	3	3	4	5	9	7	6	3	6	4	5	5	5	6	7	7	8	8	8	****	8	6
24	8	8	8	7	7	7	10	8	8	6	5	5	5	5	4	3	3	3	4	5	5	5	****	4	6
25	3	3	3	4	4	5	5	5	5	4	3	2	2	2	3	2	3	4	5	10	7	3	****	6	4
26	3	2	2	10	3	3	11	11	30	34	13	5	4	4	4	5	4	2	3	6	4	6	****	17	8
27	12	7	4	3	3	3	4	3	2	2	2	3	2	2	3	3	3	3	5	6	7	7	****	7	4
28	7	8	8	8	8	8	7	8	8	7	6	5	5	8	16	7	7	6	10	18	16	9	****	14	9
29	29	22	8	13	21	13	19	24	26	13	8	24	32	22	9	17	8	3	3	2	2	3	****	3	14
30	2	2	2	2	2	2	2	2	2	1	1	3	5	6	11	20	45	41	33	22	40	74	****	12	14

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->					STN GEOM	PERCENT	NO. OF TIMES			
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	ABOVE OBJECTIVE	ABOVE OBJECTIVE	
6	5	8	5	14	21	32	45	0	-	74	2	-	20	2	96	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : QUEEN MARY HOSPITAL  
POLLUTANT : NITROGEN DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	41	30	25	20	11	8	10	18	43	29	41	30	23	24	31	19	20	22	21	18	37	28	****	19	25
2	14	13	12	10	11	11	14	25	28	35	57	49	54	42	42	35	21	36	37	42	46	41	****	21	30
3	17	11	11	9	10	10	11	16	25	25	28	27	24	30	38	45	38	35	39	45	45	41	****	40	27
4	75	91	73	79	44	27	16	18	19	32	46	41	41	48	50	61	33	45	58	90	126	90	****	75	56
5	29	20	12	12	12	11	13	31	44	42	37	35	30	33	26	40	51	71	83	35	30	25	****	22	32
6	23	19	15	16	15	16	25	33	49	48	41	26	23	27	37	33	29	37	23	27	22	11	****	17	27
7	14	11	10	9	10	10	13	24	23	28	28	25	18	14	19	21	33	28	24	20	24	25	****	19	20
8	15	11	10	9	10	9	16	30	40	31	20	14	16	8	5	5	7	7	6	5	6	9	****	6	13
9	5	3	4	5	4	3	5	5	6	8	10	8	7	14	11	12	17	11	8	6	5	9	****	6	7
10	4	3	2	3	3	3	5	18	23	49	52	28	14	14	13	15	22	36	33	29	17	36	****	25	19
11	29	47	27	14	11	25	24	38	41	41	40	49	45	45	41	36	43	46	59	59	49	70	****	78	42
12	77	57	52	44	32	15	17	31	64	63	60	50	45	49	57	57	50	51	38	42	32	22	****	30	45
13	49	40	37	29	63	54	51	67	77	80	82	78	87	64	44	43	45	65	68	62	107	139	****	118	67
14	52	7	18	20	12	12	12	30	53	33	28	32	27	30	35	41	30	37	37	49	41	32	****	20	30
15	9	8	7	7	7	9	12	19	19	21	31	25	21	16	19	24	30	28	18	18	16	13	****	10	17
16	8	8	7	7	6	6	8	17	19	26	21	19	18	16	20	28	46	31	28	42	25	24	****	28	20
17	15	17	11	13	12	12	18	27	39	47	62	55	61	77	79	56	63	57	79	84	66	58	****	24	45
18	56	40	55	51	29	39	43	30	23	25	27	23	28	23	31	33	43	47	47	54	55	55	****	36	39
19	29	21	19	17	19	17	21	32	41	47	42	36	35	38	35	25	32	48	70	55	44	40	****	17	34
20	18	11	11	10	9	12	16	33	45	31	33	27	28	40	27	33	31	35	31	26	14	10	****	10	24
21	6	6	5	4	5	6	4	6	8	12	D	D	6	4	4	3	5	4	7	3	5	27	****	18	7
22	38	29	6	20	24	10	11	22	19	17	20	16	11	14	22	22	34	35	19	18	14	17	****	24	20
23	10	15	9	3	2	4	11	17	29	32	27	27	36	35	38	54	59	89	89	76	54	44	****	69	36
24	64	61	48	38	32	29	37	44	47	38	34	25	28	36	39	44	50	43	36	30	30	30	****	23	39
25	22	15	15	17	17	18	19	20	19	17	14	13	15	20	27	14	21	17	22	32	39	25	****	26	20
26	13	8	7	27	10	8	19	23	54	50	42	41	39	38	51	56	54	52	49	62	63	62	****	62	39
27	56	51	44	31	26	23	36	23	29	25	26	36	32	39	46	45	51	52	43	32	26	29	****	22	36
28	18	16	14	13	15	14	20	28	35	25	24	28	52	50	70	65	75	67	76	84	82	73	****	75	44
29	74	64	53	57	54	51	49	47	52	46	55	63	67	67	51	61	56	59	55	43	39	38	****	19	53
30	15	12	11	8	11	12	17	26	32	18	34	24	46	46	71	76	72	73	72	79	80	82	****	58	42

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE	1-HR	24-HR
25	28	32		28	61	74	82	89	2	-	139	7	-	67	2	96	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : QUEEN MARY HOSPITAL  
POLLUTANT : SULPHUR DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	3	3	3	3	****	10	2
2	5	24	19	9	7	5	4	3	1	4	6	8	17	26	16	15	15	11	14	17	19	24	****	20	13
3	23	8	3	3	3	3	6	8	8	9	M	M	M	M	M	23	8	6	7	5	5	6	5	9	8
4	14	9	12	10	10	7	6	5	5	4	4	4	4	4	5	4	3	2	2	2	1	7	1	0	5
5	0	0	1	0	0	0	1	1	0	0	0	1	0	4	7	10	11	9	7	7	6	5	6	M	3
6	5	4	4	3	3	3	5	7	6	5	7	8	7	7	8	8	8	10	11	13	13	14	12	12	8
7	14	14	17	16	18	20	20	14	13	29	29	19	31	29	18	14	8	8	10	9	9	10	12	14	16
8	11	10	11	11	11	11	9	5	4	2	5	7	5	4	6	6	7	11	9	8	11	10	6	5	8
9	3	2	2	2	1	3	4	5	7	4	4	4	3	3	5	7	5	7	5	5	5	4	4	5	4
10	5	6	7	8	8	8	9	10	11	11	12	9	8	9	9	24	8	7	7	8	8	8	6	4	9
11	4	4	4	4	3	6	4	6	7	8	10	12	14	17	30	22	11	9	7	6	11	7	7	6	9
12	8	11	14	13	11	8	8	9	8	7	6	5	5	6	5	5	5	5	5	5	5	5	5	3	7
13	3	3	3	4	5	4	3	4	4	4	5	7	6	5	5	6	6	5	5	4	4	2	1	1	4
14	2	2	2	1	1	0	1	1	3	12	2	7	14	30	34	6	2	16	23	17	15	3	5	4	8
15	25	23	5	10	4	10	9	6	3	55	33	28	15	1	2	1	1	1	0	0	0	0	1	0	10
16	0	6	3	3	20	5	17	25	21	67	62	34	24	23	22	20	30	7	10	0	0	0	1	5	17
17	2	6	3	1	0	1	1	2	0	0	0	0	1	1	0	1	0	0	2	2	1	1	1	1	1
18	1	1	1	1	1	3	2	4	3	4	4	6	5	2	0	2	4	5	8	7	6	5	7	4	4
19	6	5	6	6	5	5	5	6	7	6	6	5	6	8	7	6	5	3	2	2	2	4	5	8	5
20	9	10	10	8	7	7	8	8	8	8	6	5	5	4	4	3	3	3	2	2	2	2	3	1	5
21	2	2	2	2	1	1	0	1	0	0	0	0	2	16	9	6	20	2	0	0	0	0	22	16	4
22	39	42	38	39	45	41	22	13	18	15	13	9	14	13	11	13	8	5	9	7	12	10	8	5	19
23	6	6	6	6	8	9	10	10	12	13	13	15	14	14	13	14	16	17	18	17	17	21	19	22	13
24	20	21	16	16	18	17	11	13	16	11	12	12	10	9	9	9	9	10	9	8	8	9	9	9	12
25	10	14	13	12	10	13	12	11	14	13	20	31	25	12	4	3	3	3	2	2	2	3	3	4	10
26	7	17	7	4	4	5	5	6	5	5	5	7	7	7	6	8	10	9	7	7	8	9	9	8	7
27	6	6	9	13	15	17	11	8	8	9	11	8	7	7	18	11	9	7	6	3	5	8	6	26	10
28	19	7	3	8	18	11	18	13	22	30	47	38	23	24	13	8	3	2	7	12	9	4	2	2	14
29	1	3	10	8	2	2	6	7	2	1	1	0	1	6	6	11	9	15	15	22	12	7	2	6	6
30	6	2	1	2	6	9	12	19	25	28	28	27	27	26	24	21	18	17	16	15	11	10	10	9	15
31	9	9	9	10	10	10	10	11	12	14	14	11	9	8	7	8	8	7	7	7	11	13	11	10	15

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID	DATA	1-HR	24-HR	
6	7	9		7	18	24	31	39	0	-	67	1	-	19	2	99	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : QUEEN MARY HOSPITAL  
POLLUTANT : NITROGEN DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	46	29	27	24	17	16	20	26	25	30	27	25	29	24	17	39	39	36	33	40	31	26	****	52	29
2	34	45	37	35	33	29	28	26	17	33	40	45	47	51	53	58	62	67	68	72	74	74	****	79	48
3	75	70	56	43	44	39	51	60	70	67	M	M	M	M	M	67	71	74	72	71	71	68	66	54	63
4	60	55	52	47	28	11	16	23	27	28	33	32	30	31	40	45	47	63	65	60	50	66	38	33	41
5	33	M	17	9	6	15	23	35	48	34	41	41	38	40	52	56	56	67	67	56	63	66	59	M	42
6	54	41	32	22	21	27	32	40	35	25	34	28	35	40	43	42	53	50	50	42	42	35	33	25	37
7	26	27	24	21	24	25	32	49	72	85	81	61	84	73	62	80	75	62	67	69	61	67	49	37	55
8	25	22	17	13	18	32	33	34	27	38	36	29	21	20	44	58	67	97	107	81	68	54	32	30	42
9	33	30	19	14	16	18	19	35	47	25	19	11	12	13	10	10	15	18	33	29	22	16	19	18	21
10	13	12	13	13	12	14	21	32	36	31	27	26	31	39	38	50	49	37	43	29	52	46	26	24	30
11	16	15	15	9	7	11	12	31	54	54	55	72	62	61	78	84	94	76	60	53	65	49	74	63	49
12	37	21	18	18	17	18	21	34	33	33	32	27	29	31	37	33	41	32	33	30	28	21	17	16	27
13	16	12	10	11	11	10	13	23	29	33	32	28	20	23	31	42	51	52	43	30	28	24	21	15	25
14	15	13	9	2	1	2	6	21	41	43	22	34	57	64	78	40	51	76	98	80	69	23	35	43	38
15	89	76	16	40	18	38	46	33	28	81	59	51	32	14	27	18	27	27	11	14	3	2	2	3	31
16	11	55	50	45	61	48	50	60	60	67	64	56	48	38	42	34	54	34	55	5	4	2	21	37	42
17	19	21	16	11	11	16	22	29	38	32	32	31	26	27	29	40	47	43	34	35	24	19	19	21	27
18	17	12	9	7	6	9	9	16	22	60	54	55	57	54	48	54	50	57	63	76	73	63	55	52	41
19	49	M	40	38	35	34	34	31	36	32	27	31	25	27	32	33	35	26	28	22	19	27	18	22	30
20	22	20	19	19	18	17	20	26	32	29	24	22	22	18	19	19	22	32	31	23	19	13	9	11	21
21	14	15	9	7	5	5	4	6	10	9	6	11	28	57	47	44	81	35	9	5	16	22	86	77	25
22	87	76	68	61	53	49	43	40	40	41	38	41	53	56	58	57	62	59	56	54	60	51	43	45	54
23	49	39	26	19	15	14	22	27	31	31	23	24	25	23	24	24	31	40	57	62	50	55	35	50	33
24	51	48	51	40	33	33	27	33	34	26	32	34	29	31	32	36	45	39	33	32	41	26	21	33	35
25	25	26	37	30	24	37	50	79	98	94	105	115	104	75	34	34	35	47	30	29	28	26	35	33	51
26	28	18	9	5	6	6	8	11	14	16	20	12	13	16	18	18	26	27	27	25	24	25	27	21	18
27	17	12	12	12	12	13	16	20	30	34	33	35	46	67	93	87	93	56	70	71	78	79	67	68	47
28	63	34	14	29	43	28	54	57	64	67	58	51	43	51	43	35	31	40	26	25	22	22	27	22	40
29	16	12	9	4	3	3	10	21	22	27	23	20	24	51	55	70	77	90	88	89	54	46	41	37	37
30	37	34	32	27	23	29	27	23	23	25	27	26	24	27	36	33	32	33	37	50	30	31	26	30	30
31	28	19	19	18	16	19	26	48	59	60	61	30	27	25	35	43	63	54	36	42	52	66	58	51	40

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
30	33	37		33	67	76	87	94	1	-	115	18	-	63	2	99	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : AP LEI CHAU  
 POLLUTANT : SULPHUR DIOXIDE  
 MONTH: OCTOBER  
 YEAR : 2012  
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	1	2	2	1	2	2	3	2	2	1	2	3	4	4	3	5	6	3	2	0	1	****	1	2
2	2	0	0	2	2	2	2	2	2	2	1	1	1	1	3	2	4	3	3	3	2	2	****	0	2
3	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	1	6	4	4	3	3	3	****	2	1
4	1	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	1	****	3	1
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	****	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	0	****	0	0
8	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	1	0	0	1	0	****	1	0
9	0	0	0	0	0	0	0	0	0	0	14	18	0	2	20	19	20	11	11	10	8	8	****	6	6
10	3	2	6	7	13	11	10	10	11	10	9	7	8	6	17	14	6	10	9	9	9	8	****	9	9
11	5	1	1	1	0	5	8	9	10	10	8	6	3	4	4	5	7	6	9	8	7	9	****	5	6
12	4	3	3	5	3	1	0	0	3	1	2	2	1	3	7	21	15	18	7	8	3	1	****	1	5
13	1	0	0	0	0	0	0	0	0	0	1	2	15	8	7	17	12	11	12	8	6	4	****	7	5
14	6	7	4	2	0	0	1	1	4	5	4	1	1	12	17	29	15	12	14	14	12	13	****	5	8
15	6	6	2	2	1	2	0	0	0	0	0	0	0	0	0	0	1	3	1	2	5	7	****	6	2
16	6	3	4	4	1	3	1	1	0	0	0	0	0	3	8	14	11	11	8	5	6	****	14	4	
17	15	18	11	14	20	24	29	31	43	35	15	9	8	7	2	1	0	0	0	0	0	0	****	0	12
18	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	****	0	0
19	0	1	2	1	0	0	0	0	0	0	2	4	1	1	0	0	0	0	0	0	0	0	****	0	1
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	****	2	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
22	0	0	0	0	0	0	0	0	0	2	2	20	6	0	4	4	0	10	12	6	3	3	****	10	4
23	8	7	8	17	10	5	85	59	70	139	66	50	14	10	4	0	2	8	4	1	0	****	0	25	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	****	3	0
25	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	2	3	3	0	1	0	****	1	1
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	****	1	0
27	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1	2	3	6	3	2	****	5	1
28	3	4	4	1	0	1	0	2	3	1	1	0	1	1	0	0	0	0	0	0	0	0	****	0	1
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0
30	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
31	0	0	0	0	1	0	0	0	2	1	2	2	3	1	2	1	2	4	3	5	6	2	****	4	2

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
2	0	0	9	14	20	33	0 - 139	0 - 25	5	96	0	0		

- NOTES:
1. FLAGS FOR INVALID DATA :
    - \*\*\*\* : DAILY ZERO/SPAN CHECK
    - D : DYNAMIC CALIBRATION
    - T : TELEMETRY/DATALOGGR/ANALYZER FAULT
    - M : MAINTENANCE OR MACHINE SHUTDOWN
    - P : POWER FAILURE
  2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : AP LEI CHAU  
 POLLUTANT : NITROGEN DIOXIDE  
 MONTH: OCTOBER  
 YEAR : 2012  
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	1	1	4	4	4	11	17	21	19	10	6	9	8	11	4	4	11	9	6	4	7	****	6	8
2	8	5	4	4	3	6	9	8	8	11	11	5	6	5	4	2	3	3	8	19	18	4	****	2	7
3	2	1	1	1	2	4	11	26	27	7	4	5	1	0	0	1	4	4	5	7	27	10	****	30	8
4	30	26	12	8	8	13	31	49	30	17	6	4	1	0	0	0	2	3	2	13	6	4	****	5	12
5	1	0	1	1	0	3	5	13	9	4	6	14	14	16	3	1	2	2	3	2	3	3	****	4	5
6	4	2	1	0	3	4	4	8	13	10	13	14	12	4	0	2	1	1	5	4	2	0	****	1	5
7	1	0	0	0	0	4	6	7	13	7	8	6	1	1	3	1	2	4	5	6	1	1	****	3	3
8	0	1	1	0	0	0	1	10	13	7	6	3	1	0	0	0	1	6	4	5	7	3	****	5	3
9	4	3	2	2	6	14	33	58	28	15	32	29	4	7	26	25	28	19	10	9	9	31	****	39	19
10	15	72	36	26	26	17	35	51	52	53	46	46	41	24	33	24	7	14	12	12	8	26	****	34	31
11	18	11	8	13	13	21	40	60	67	44	22	20	17	6	3	5	5	8	13	14	36	21	****	31	22
12	36	31	20	14	13	13	30	16	10	5	5	3	6	11	15	25	23	22	7	11	11	9	****	21	16
13	24	27	19	11	8	15	30	62	39	17	14	14	18	17	15	25	11	9	14	7	7	11	****	25	19
14	6	17	23	12	9	14	28	23	17	10	7	4	3	11	18	30	14	14	15	15	13	13	****	7	14
15	6	4	3	2	3	4	11	23	9	6	1	1	0	0	0	0	2	6	3	5	12	11	****	19	6
16	15	11	3	2	1	6	8	6	10	7	6	1	0	2	9	12	31	24	15	17	20	31	****	39	12
17	51	55	33	56	56	45	48	67	84	86	51	46	42	48	54	52	59	66	66	64	58	42	****	47	55
18	43	30	24	19	18	21	38	61	52	30	25	15	11	13	11	10	7	5	7	5	4	3	****	5	20
19	3	4	3	3	1	2	6	8	7	14	11	6	9	8	5	5	2	1	4	1	0	2	****	3	5
20	1	1	0	0	1	1	4	5	10	12	8	10	5	5	2	0	1	2	4	5	3	3	****	9	4
21	3	2	1	0	4	9	7	9	11	12	8	5	7	5	3	7	2	3	7	3	1	6	****	15	6
22	8	21	15	10	5	10	26	45	21	22	23	36	17	9	22	15	3	16	21	16	5	8	****	31	18
23	30	34	67	80	85	81	91	87	85	103	100	70	22	12	10	3	4	7	13	3	1	1	****	4	43
24	0	0	1	0	0	2	4	13	7	6	19	17	6	1	0	2	1	2	6	15	9	6	****	15	6
25	4	1	5	3	2	5	8	11	15	18	15	6	1	1	2	12	11	7	5	5	7	4	****	9	7
26	6	10	4	1	1	3	10	18	19	26	25	22	21	22	26	37	46	37	27	16	13	8	****	10	18
27	5	4	1	0	0	2	6	13	15	7	8	4	4	5	8	10	9	6	10	10	11	****	16	7	
28	12	12	7	5	3	6	11	9	8	4	4	2	2	2	1	3	2	1	0	0	0	0	****	4	4
29	4	1	0	0	0	2	2	6	4	6	6	2	6	7	9	6	0	0	0	1	0	****	2	3	
30	0	0	0	0	0	1	1	4	8	24	19	12	15	21	25	29	32	37	24	26	35	42	****	29	17
31	24	14	9	7	7	10	18	32	50	54	49	49	47	55	55	58	59	80	87	87	64	47	****	47	44

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
7	8	8	37	54	69	85	0	- 103	3 - 55	5	96	0	0	

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : AP LEI CHAU  
POLLUTANT : SULPHUR DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	6	6	8	9	8	10	8	7	4	2	1	0	0	1	0	0	1	0	0	2	3	****	2	4
2	0	0	2	2	3	4	3	3	4	2	3	1	0	21	27	1	0	0	0	0	0	0	****	0	3
3	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	****	0	0
4	0	0	1	10	25	1	0	0	0	0	0	6	14	19	14	42	7	12	30	29	34	25	****	1	12
5	0	0	0	0	1	0	0	0	0	1	1	2	0	2	1	M	M	2	3	6	3	0	****	0	1
6	0	3	4	3	4	6	8	7	7	10	9	3	2	8	11	9	6	7	0	1	0	0	****	0	5
7	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	****	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	****	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	****	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	3	****	10	1
11	6	11	1	0	0	0	0	0	0	0	1	11	7	7	1	0	0	0	3	5	1	3	****	0	2
12	0	0	0	0	0	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	1	****	0	0
13	23	0	0	0	0	1	1	5	34	48	68	65	38	13	16	33	27	27	18	13	11	9	****	9	20
14	6	4	2	3	2	3	0	3	9	5	29	M	4	8	11	11	8	7	6	7	5	5	****	8	7
15	5	3	2	4	3	5	5	7	13	10	8	9	10	6	5	4	3	3	2	2	2	2	****	5	5
16	1	3	1	0	0	0	0	0	0	0	0	0	0	8	10	9	7	6	5	4	3	2	****	2	3
17	2	1	1	2	2	5	4	3	3	4	4	7	7	12	5	3	3	4	4	5	5	5	****	4	4
18	3	3	3	3	3	3	4	4	4	4	5	5	5	5	5	5	5	5	6	5	5	5	****	6	4
19	6	9	10	13	14	10	10	10	10	13	13	12	10	11	10	9	7	4	4	6	7	5	****	6	9
20	5	4	4	3	3	4	3	3	4	7	8	10	7	5	5	5	3	2	4	4	3	3	****	4	4
21	2	1	2	1	2	3	2	2	2	1	2	0	0	0	1	0	2	1	0	1	0	0	****	1	1
22	0	1	4	3	6	5	20	27	15	20	16	25	22	32	28	42	76	67	57	28	20	38	****	22	25
23	24	22	18	7	14	12	15	15	9	9	6	8	9	9	8	8	12	11	12	10	10	8	****	8	11
24	7	8	7	7	7	7	7	7	7	6	6	6	6	6	5	5	4	4	4	6	7	6	****	6	6
25	4	4	4	5	5	6	6	6	6	5	5	4	3	3	2	3	8	12	3	3	8	23	****	26	7
26	39	22	21	63	38	30	110	71	40	40	17	9	6	6	7	6	7	6	7	7	7	3	****	5	25
27	4	4	3	2	3	3	4	3	3	3	M	M	M	M	0	0	0	0	3	3	4	4	5	7	3
28	7	7	8	9	9	8	7	7	8	8	6	5	4	3	10	14	22	5	3	10	22	14	4	50	10
29	37	56	15	26	14	13	22	14	20	14	9	6	38	29	37	9	0	0	0	0	0	0	0	2	15
30	1	0	0	1	1	0	0	1	1	1	1	1	2	1	17	28	42	42	40	22	9	2	0	1	9

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
6	3	7		3	16	28	42	58	0	-	110	0	-	25	3	95	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : AP LEI CHAU  
POLLUTANT : NITROGEN DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	40	31	17	19	15	17	31	52	64	61	52	23	18	18	16	9	8	7	17	17	33	29	****	6	26	
2	3	3	6	7	5	6	23	35	29	29	36	14	36	45	32	4	3	4	5	5	14	6	****	5	15	
3	1	0	0	0	0	1	5	8	13	14	15	5	5	1	4	8	20	36	31	16	13	30	****	24	11	
4	42	52	64	71	80	38	11	17	25	30	36	47	49	61	39	66	28	31	39	45	80	92	****	80	49	
5	36	8	10	5	4	6	13	28	37	19	11	6	1	1	3	M	M	16	15	26	19	10	****	11	14	
6	10	9	12	11	13	18	37	39	38	33	29	16	12	10	12	12	13	12	17	14	13	10	****	9	17	
7	9	8	7	7	7	9	9	12	15	18	22	19	13	17	10	15	18	11	10	7	9	7	****	10	12	
8	6	5	5	5	4	5	6	10	13	12	10	13	12	7	4	8	10	9	7	5	4	8	****	5	8	
9	4	5	8	8	6	4	7	8	7	6	6	1	0	0	0	4	4	4	6	7	4	17	****	7	5	
10	4	3	5	12	4	4	6	11	11	5	5	3	4	4	7	4	11	7	9	8	2	26	****	56	9	
11	49	53	29	20	15	21	28	39	43	44	46	46	43	46	51	52	59	61	73	83	76	67	****	82	49	
12	63	50	47	23	12	15	33	46	45	44	48	36	32	44	40	47	54	41	41	32	17	36	****	42	39	
13	77	64	34	28	43	54	63	72	80	80	86	91	75	27	##	##	##	##	##	##	##	##	##	****	54	62
14	50	59	31	28	17	20	16	16	18	13	13	M	14	16	24	25	16	15	17	25	18	11	****	12	22	
15	9	10	9	9	8	10	11	13	17	19	18	17	17	14	15	18	17	17	14	12	9	8	****	9	13	
16	9	9	8	8	9	8	9	11	16	19	18	17	13	13	17	25	38	27	24	28	25	25	****	25	17	
17	23	29	17	15	15	21	28	45	55	63	61	65	66	77	43	30	28	62	81	88	77	77	****	45	48	
18	49	45	43	42	23	24	29	26	28	23	25	25	28	28	23	25	32	42	44	37	25	29	****	19	31	
19	18	20	18	18	21	17	23	35	36	24	26	31	17	15	13	12	12	18	34	27	22	13	****	11	21	
20	14	10	10	9	10	12	15	23	21	16	17	17	15	24	20	18	18	26	22	15	12	13	****	13	16	
21	11	10	9	9	9	13	16	21	20	15	13	13	12	11	14	14	18	23	50	47	44	50	****	44	21	
22	33	33	26	46	34	15	25	27	17	19	15	26	23	27	31	42	52	55	37	26	20	33	****	19	30	
23	27	28	23	14	22	24	26	23	35	43	47	51	53	63	69	83	94	95	100	86	81	79	****	71	54	
24	65	71	62	51	40	36	42	50	55	48	37	33	30	34	23	22	23	25	22	23	24	23	****	20	37	
25	18	15	16	16	16	18	21	20	19	17	19	19	17	22	19	39	58	77	38	35	65	64	****	80	32	
26	78	77	65	67	58	56	64	69	58	59	47	49	46	50	50	61	65	69	69	72	65	58	****	64	62	
27	61	52	33	31	29	25	41	40	38	31	M	M	M	M	49	43	33	28	22	19	19	23	24	21	33	
28	25	19	17	18	17	20	21	26	30	30	27	34	34	51	67	75	74	83	75	76	76	80	69	80	47	
29	76	75	65	60	56	55	53	50	52	54	69	60	62	70	66	47	33	24	22	17	18	21	23	21	48	
30	23	16	14	12	13	14	23	27	26	30	36	37	31	10	41	69	79	81	76	73	67	47	32	32	38	

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN GEOM		PERCENT		NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR			DEVIATION	VALID DATA	1-HR	24-HR	ABOVE OBJECTIVE	
21	23	29		23	65	76	81	86	0	-	100	5	-	62	2	94	0	0	

NOTES: 1. FLAGS FOR INVALID DATA :

- \*\*\*\* : DAILY ZERO/SPAN CHECK
- D : DYNAMIC CALIBRATION
- T : TELEMETRY/DATALOGGR/ANALYZER FAULT
- M : MAINTENANCE OR MACHINE SHUTDOWN
- P : POWER FAILURE

2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

REMARKS: ##: DATA WAS INVALIDATED DUE TO INTERFERENCE FROM UNKNOWN LOCALIZED SOURCES

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : AP LEI CHAU  
POLLUTANT : SULPHUR DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0
2	0	15	23	8	5	2	2	1	2	5	10	18	15	24	18	14	12	8	13	13	18	22	16	17	12
3	15	10	0	0	0	0	1	4	3	8	6	2	2	4	12	19	11	6	6	5	6	3	1	2	5
4	1	0	0	1	3	4	4	3	3	2	2	1	2	2	3	2	1	0	0	0	0	0	0	2	2
5	0	1	1	0	0	0	0	0	5	1	1	1	0	3	5	10	9	8	8	11	6	5	4	M	3
6	3	2	2	1	1	1	1	3	3	4	5	7	7	7	8	7	8	10	12	13	13	12	11	6	
7	13	12	11	13	11	9	9	9	12	10	10	9	21	9	8	6	7	9	9	8	8	10	11	14	10
8	10	9	11	10	10	10	9	5	5	2	6	7	5	4	6	5	5	4	7	7	8	7	6	4	7
9	2	2	2	1	1	3	4	3	2	2	3	2	3	3	6	7	5	6	6	5	5	3	4	3	3
10	4	5	6	6	7	6	7	8	8	8	9	8	7	6	7	7	6	5	7	7	5	4	3	4	6
11	3	6	4	3	2	3	4	5	6	7	9	10	9	9	13	10	8	6	6	6	7	6	5	5	6
12	5	8	11	10	8	6	6	6	5	4	3	3	4	3	4	3	3	4	3	3	3	3	2	4	5
13	3	2	3	3	4	4	3	3	4	4	5	6	7	6	5	6	6	6	6	5	4	2	2	3	4
14	2	2	2	1	1	1	0	1	1	2	2	2	6	23	2	1	1	1	3	1	0	0	3	12	3
15	22	22	15	5	1	11	37	14	14	18	6	0	0	0	0	0	0	0	0	0	0	3	3	2	7
16	2	1	12	104	24	69	39	38	25	60	47	57	35	66	23	39	51	39	9	8	2	2	4	2	32
17	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0
18	0	0	0	1	0	1	1	4	3	2	7	8	4	2	1	1	4	6	9	10	10	5	4	5	4
19	4	4	3	5	4	2	2	3	4	3	3	4	5	5	4	M	3	2	0	0	1	1	5	7	3
20	9	10	9	6	6	7	7	7	7	7	6	5	4	4	4	3	2	2	1	1	1	1	4	4	5
21	5	3	3	4	3	4	4	4	4	2	1	1	0	0	1	0	0	0	0	2	7	12	4	34	4
22	21	28	29	28	27	32	20	12	13	15	14	9	10	14	11	13	9	11	4	6	8	4	5	3	14
23	4	9	10	8	9	9	9	11	14	13	12	12	15	14	15	14	13	15	14	17	17	15	14	15	12
24	15	12	15	13	9	9	8	8	10	8	9	10	8	8	9	8	9	10	9	7	7	7	6	7	9
25	8	12	12	12	10	9	8	7	8	8	12	16	7	9	4	3	3	2	1	0	1	2	3	40	8
26	44	53	45	45	44	45	44	44	43	40	33	41	39	41	34	40	43	41	39	39	39	41	40	32	41
27	4	2	7	12	14	13	13	8	8	8	9	6	6	7	11	12	10	9	20	14	9	10	6	33	10
28	18	7	3	5	7	9	24	46	49	36	5	3	3	2	1	1	0	2	6	14	6	2	1	2	11
29	1	1	7	4	0	1	5	4	1	0	1	1	0	0	0	0	1	2	12	29	14	6	2	6	4
30	3	1	0	0	2	7	10	15	21	25	25	25	24	23	21	19	18	16	15	14	10	9	10	8	13
31	9	8	8	9	9	9	9	10	13	14	11	9	8	8	6	6	7	7	7	8	8	9	7	8	9

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID	DATA	1-HR	24-HR	
6	6	8		6	18	35	44	48	0	-	104	0	-	41	3	100	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : AP LEI CHAU  
POLLUTANT : NITROGEN DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	26	18	13	12	13	13	16	17	19	20	20	19	17	19	20	30	33	34	15	14	14	14	25	35	20	
2	36	42	41	38	34	30	30	29	33	36	43	46	47	49	56	56	63	68	71	71	77	76	77	78	51	
3	76	77	65	44	32	29	45	54	60	64	70	64	61	61	63	67	77	77	79	77	74	71	65	59	63	
4	49	33	27	17	13	15	22	27	37	34	30	31	28	35	39	29	40	37	34	33	35	24	21	19	30	
5	16	M	18	17	16	20	28	48	58	59	52	52	45	43	55	60	55	66	71	70	69	68	65	M	48	
6	56	49	40	27	29	27	35	36	24	15	25	31	23	26	30	26	18	17	16	16	16	18	18	24	27	
7	23	24	18	17	17	18	35	57	75	66	37	57	80	28	20	22	27	37	37	47	54	54	47	39	39	
8	32	27	19	22	23	33	57	56	33	24	32	32	25	22	21	31	43	70	113	95	64	44	30	29	41	
9	28	24	24	27	25	24	33	36	24	13	10	9	11	10	11	13	13	15	22	15	12	10	11	11	18	
10	12	13	14	15	15	15	18	19	27	35	39	33	22	16	20	25	44	37	30	21	20	22	15	18	23	
11	14	17	16	13	14	18	25	46	50	47	40	48	41	29	41	33	46	46	47	45	55	48	50	73	38	
12	51	29	23	21	19	20	25	34	30	28	28	24	19	21	23	25	24	37	31	27	25	23	24	20	26	
13	19	15	13	15	15	18	22	30	33	22	19	18	13	13	17	19	29	30	29	19	14	15	11	14	19	
14	16	17	16	13	11	16	18	33	43	23	23	22	29	46	18	35	41	72	82	59	27	45	58	67	35	
15	81	72	75	68	49	68	76	72	64	40	24	11	9	6	8	12	13	10	11	15	59	22	18	28	38	
16	25	38	58	70	44	70	67	60	66	68	50	51	32	49	23	31	41	61	40	53	36	33	40	25	47	
17	31	21	21	20	18	21	23	29	24	22	19	18	17	15	16	27	18	17	12	13	10	10	10	12	19	
18	10	11	13	12	11	14	22	36	46	60	64	60	57	58	60	59	60	64	73	80	79	69	59	57	47	
19	53	M	39	37	34	25	33	34	36	33	37	35	30	31	33	M	26	21	20	18	15	19	19	23	30	
20	20	22	21	20	20	19	22	26	31	29	30	27	23	23	23	25	24	24	22	19	17	16	16	16	22	
21	17	14	13	12	12	14	16	16	18	15	11	11	9	12	9	6	10	14	10	36	88	81	74	76	25	
22	80	79	70	62	59	53	47	44	43	43	41	44	53	60	61	60	69	77	72	68	66	62	60	60	60	
23	56	46	43	38	33	29	28	29	38	33	34	34	39	36	40	43	50	56	52	58	53	52	49	51	43	
24	50	48	50	43	29	27	31	40	41	32	28	28	23	25	24	19	23	26	34	21	22	30	30	24	31	
25	29	22	27	31	27	32	41	48	67	57	61	65	45	51	42	42	41	47	28	22	22	31	33	##	40	
26	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##	##
27	17	14	15	17	15	14	18	24	27	42	40	47	45	60	81	93	99	83	80	79	81	84	81	80	52	
28	79	77	75	66	68	68	63	62	62	62	31	26	16	17	20	23	11	14	14	19	15	12	13	13	39	
29	15	11	10	8	7	9	15	19	24	31	24	27	24	41	45	57	66	86	93	78	57	50	45	39	37	
30	41	39	38	36	31	28	31	32	33	33	35	35	40	40	39	38	39	46	41	41	28	27	31	35	36	
31	38	26	22	20	20	23	34	53	58	66	44	24	20	23	21	14	18	20	29	60	70	85	84	55	39	

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
30	30	36		30	68	77	81	85	6	-	113	18	-	63	2	96	0	0

NOTES: 1. FLAGS FOR INVALID DATA :

- \*\*\*\* : DAILY ZERO/SPAN CHECK
- D : DYNAMIC CALIBRATION
- T : TELEMETRY/DATALOGGR/ANALYZER FAULT
- M : MAINTENANCE OR MACHINE SHUTDOWN
- P : POWER FAILURE

2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

REMARKS: ##: DATA WAS INVALIDATED DUE TO INTERFERENCE FROM UNKNOWN LOCALIZED SOURCES

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHEUNG CHAU  
POLLUTANT : SULPHUR DIOXIDE  
MONTH: OCTOBER  
YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	8	9	15	19	8	9	9	13	15	15	11	13	16	15	15	14	15	17	19	10	8	7	****	8	12	
2	7	7	9	7	7	9	9	9	12	10	12	13	9	9	10	9	11	11	8	9	10	14	****	5	9	
3	5	4	5	6	6	5	7	8	7	11	14	12	9	8	9	10	16	15	14	19	16	10	****	10	10	
4	9	11	8	10	8	13	18	19	21	17	12	7	5	6	5	6	6	5	4	5	6	8	****	8	9	
5	5	5	6	6	5	7	5	3	5	6	7	8	8	10	6	4	7	7	6	7	8	7	****	6	6	
6	6	7	9	6	5	5	5	5	6	7	6	8	6	5	5	7	9	5	6	8	8	6	****	5	6	
7	3	3	4	6	7	5	5	5	6	7	8	7	7	5	6	8	7	6	6	9	8	7	****	4	6	
8	4	5	5	5	3	4	5	5	7	11	6	8	7	9	8	10	13	9	8	6	7	7	****	6	7	
9	5	6	5	5	6	7	15	20	14	17	15	13	11	13	14	10	7	7	8	10	18	15	****	12	11	
10	10	11	14	14	16	14	14	18	18	16	16	16	16	18	15	18	24	15	16	16	19	20	****	16	16	
11	13	9	11	10	11	13	14	26	30	27	27	<-----P----->										2	4	****	6	
12	7	8	8	8	7	7	7	8	9	8	8	8	9	<----D---->			13	13	13	15	20	13	****	11	10	
13	8	11	9	9	7	9	6	10	14	15	20	15	11	12	13	10	9	8	7	6	7	7	****	13	10	
14	15	13	14	13	10	11	12	26	25	20	18	13	13	18	17	12	10	9	8	8	7	8	****	16	14	
15	17	18	22	26	20	12	9	11	14	8	9	9	11	13	17	11	13	13	9	9	9	10	****	13	13	
16	9	11	13	11	8	9	10	9	11	9	8	8	7	13	13	16	13	8	6	6	7	8	****	6	10	
17	9	12	15	11	11	29	41	61	72	58	33	19	14	11	8	8	7	7	7	8	5	6	****	5	20	
18	5	8	8	7	7	8	9	11	14	16	11	11	8	7	9	10	8	6	6	6	7	7	****	6	9	
19	5	6	9	8	7	7	8	9	8	8	11	11	10	10	6	6	3	3	3	4	4	4	****	5	7	
20	4	5	4	4	4	4	7	9	11	10	12	7	6	6	5	4	4	5	7	8	8	****	8	6		
21	9	5	7	6	6	5	4	4	6	6	9	6	8	9	5	6	5	5	5	6	6	5	****	10	6	
22	6	9	7	10	17	11	14	23	32	43	16	15	16	19	20	19	22	16	14	26	24	26	****	23	19	
23	18	19	20	20	20	21	26	30	29	31	33	32	40	26	20	13	9	11	14	7	8	6	****	0	20	
24	0	1	1	1	3	2	3	3	7	5	6	6	9	4	5	7	4	3	5	5	5	4	****	12	4	
25	6	9	6	5	5	8	8	9	6	7	6	5	6	10	9	9	8	7	9	6	8	7	****	5	7	
26	5	3	2	1	1	2	5	7	6	6	6	6	8	8	5	3	7	10	17	21	20	12	****	4	7	
27	6	6	5	4	9	5	3	3	6	6	8	9	11	11	8	9	8	9	10	12	10	6	****	8	7	
28	8	9	9	8	7	5	4	6	8	11	11	9	8	8	7	8	4	3	2	2	6	5	****	4	7	
29	5	3	3	3	6	5	4	15	11	13	9	11	8	7	5	9	5	1	1	1	1	2	****	3	6	
30	1	2	2	2	3	4	2	3	7	4	5	3	5	6	6	5	5	3	4	13	12	9	****	2	5	
31	1	2	0	0	1	2	2	3	6	6	8	6	5	5	5	6	6	6	9	11	12	11	****	11	5	

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE			
MEAN	MEDIAN	50	90	95	98	99	1-HR				24-HR	VALID DATA	1-HR	24-HR		
8	8	8	17	20	28	33	0	-	72	4	-	20	2	94	0	0

NOTES:

1. FLAGS FOR INVALID DATA :
  - \*\*\*\* : DAILY ZERO/SPAN CHECK
  - D : DYNAMIC CALIBRATION
  - T : TELEMETRY/DATALOGGR/ANALYZER FAULT
  - M : MAINTENANCE OR MACHINE SHUTDOWN
  - P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHEUNG CHAU  
 POLLUTANT : NITROGEN DIOXIDE  
 MONTH: OCTOBER  
 YEAR : 2012  
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	1	2	8	11	1	13	28	25	31	38	15	13	10	11	10	9	13	16	17	6	4	4	****	5	13	
2	3	1	4	1	2	17	15	15	21	18	8	5	1	1	3	2	3	5	4	7	9	10	****	1	7	
3	0	0	0	1	1	0	3	8	14	16	8	7	2	1	2	2	12	12	10	12	9	5	****	6	6	
4	4	15	8	24	4	29	56	56	61	47	29	7	2	1	1	2	3	3	1	2	2	6	****	3	16	
5	0	0	1	0	4	24	6	3	8	11	11	10	15	27	11	4	4	4	9	14	10	****	7	8		
6	3	14	11	4	4	1	2	5	6	10	10	9	7	1	2	2	3	0	4	7	10	2	****	0	5	
7	0	0	1	6	12	3	4	4	6	5	9	0	0	0	1	1	2	1	6	8	11	6	****	1	4	
8	0	0	0	0	2	5	9	8	12	25	3	3	2	5	3	6	16	7	7	2	2	2	****	8	6	
9	5	5	3	10	12	12	40	57	30	49	33	22	10	7	7	5	4	4	4	5	10	8	****	10	15	
10	10	21	17	14	19	18	21	24	24	30	21	27	35	32	23	13	19	11	15	11	13	13	****	13	19	
11	8	4	8	8	16	32	23	46	60	68	72	<----- P ----->										13	9	****	10	
12	7	9	11	9	5	5	11	12	12	7	6	4	4	<---- D ---->		6	5	5	4	9	4	****	4	7		
13	0	4	3	5	5	7	2	10	18	26	25	12	6	7	6	6	4	3	3	3	2	1	****	9	7	
14	6	6	5	5	4	7	14	42	31	35	18	7	7	9	11	9	7	8	8	5	6	4	****	9	11	
15	8	7	11	14	11	6	5	13	20	5	4	5	9	12	16	8	9	11	5	3	3	4	****	9	9	
16	4	4	6	2	1	1	5	4	7	5	5	2	1	8	10	11	9	7	3	6	12	25	****	24	7	
17	30	53	56	11	8	67	64	67	76	82	53	26	21	22	22	26	32	35	42	43	27	24	****	24	40	
18	15	13	8	5	5	5	13	24	43	67	21	29	12	12	19	21	9	1	1	0	1	0	****	1	14	
19	2	6	7	4	5	9	15	17	13	8	8	3	5	13	1	2	0	1	2	0	0	1	****	1	5	
20	1	1	0	0	2	3	14	11	16	16	12	3	1	2	2	2	1	3	4	4	5	4	****	10	5	
21	9	2	4	5	8	2	5	6	9	12	18	7	10	11	4	5	4	5	5	7	5	2	****	14	7	
22	5	14	11	20	38	30	38	41	46	62	20	14	11	19	17	13	26	17	13	23	20	27	****	22	24	
23	46	52	46	47	41	50	84	82	71	68	52	64	49	26	18	15	11	11	15	0	1	2	****	1	37	
24	0	0	2	4	10	4	11	9	13	7	7	9	13	2	2	5	2	2	5	4	3	1	****	15	6	
25	18	24	14	16	8	22	24	15	12	14	11	5	2	7	6	8	6	7	9	5	12	11	****	13	12	
26	10	4	4	1	0	2	15	29	26	31	28	21	29	34	21	33	45	60	89	84	72	41	****	8	30	
27	15	17	11	5	26	18	9	5	10	12	17	17	23	17	14	21	21	20	24	25	15	6	****	12	16	
28	11	15	12	12	13	8	8	12	11	19	20	15	14	13	15	21	8	7	8	11	20	15	****	16	13	
29	20	6	18	16	24	27	14	31	35	37	19	25	21	20	17	27	20	3	0	1	0	0	****	1	17	
30	0	0	0	0	0	6	6	11	17	29	50	17	24	29	42	27	24	17	29	79	67	36	****	14	23	
31	9	8	5	2	2	3	6	14	22	25	20	23	25	24	19	18	22	22	35	50	43	36	****	31	20	

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE			
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	1-HR	24-HR			
7	9	9	31	47	67	72	0	-	89	4	-	40	4	94	0	0

- NOTES:
1. FLAGS FOR INVALID DATA :
    - \*\*\*\* : DAILY ZERO/SPAN CHECK
    - D : DYNAMIC CALIBRATION
    - T : TELEMETRY/DATALOGGR/ANALYZER FAULT
    - M : MAINTENANCE OR MACHINE SHUTDOWN
    - P : POWER FAILURE
  2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHEUNG CHAU  
POLLUTANT : SULPHUR DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	10	9	9	10	11	12	12	14	14	14	16	14	9	10	7	3	4	4	5	6	7	7	****	8	9
2	5	6	6	6	8	8	9	18	14	13	16	12	11	11	9	8	7	7	7	5	7	9	****	7	9
3	5	5	4	4	4	3	6	6	10	12	12	11	17	10	9	8	9	6	6	6	6	9	****	11	8
4	14	20	17	11	12	14	13	9	13	18	15	9	8	8	8	9	12	10	11	18	13	12	****	15	13
5	22	21	23	26	22	27	23	24	30	25	15	16	15	14	12	12	12	13	18	13	17	37	****	13	20
6	12	11	12	12	11	14	19	32	22	19	21	16	12	15	18	16	11	11	8	10	10	8	****	4	14
7	3	4	5	5	6	7	5	6	7	19	14	10	13	13	8	7	12	7	6	7	8	8	****	6	8
8	4	4	5	5	6	5	4	6	6	7	6	4	5	4	4	5	6	5	2	4	3	6	****	8	5
9	6	7	5	7	6	10	9	7	5	5	2	4	3	3	3	4	4	2	8	6	5	8	****	9	6
10	13	6	3	4	3	4	3	5	9	9	6	3	5	10	10	10	18	22	17	16	22	15	****	16	10
11	16	15	4	2	2	2	2	2	2	3	4	6	5	5	6	5	6	6	6	6	6	5	****	4	5
12	5	3	4	4	5	5	5	8	7	8	9	12	13	13	13	12	11	12	12	6	6	9	****	12	8
13	16	16	17	12	11	12	12	T	T	T	11	12	20	25	20	13	10	8	15	17	18	18	****	14	15
14	12	12	13	10	9	11	17	10	12	12	11	13	13	11	12	9	9	6	6	8	11	8	****	4	10
15	3	4	4	4	3	5	4	5	7	16	13	17	17	6	9	6	6	9	4	5	13	19	****	3	8
16	3	4	6	12	11	8	5	6	11	20	28	23	27	17	13	24	10	13	17	13	16	12	****	8	13
17	10	6	2	2	3	2	2	4	5	6	5	6	5	5	5	4	5	4	3	6	7	5	****	5	5
18	4	5	3	4	6	3	3	9	17	14	9	6	6	9	7	6	8	6	6	5	7	6	****	5	7
19	6	6	9	9	11	12	9	10	18	14	16	18	13	11	12	9	8	6	7	7	6	8	****	5	10
20	6	5	6	5	4	5	4	5	6	14	12	9	9	9	8	5	6	5	8	6	4	4	****	5	7
21	3	3	3	3	3	3	5	6	4	4	4	3	3	3	3	4	3	4	5	10	10	11	****	11	5
22	11	10	10	10	10	13	15	17	20	21	18	18	24	19	13	10	8	11	9	8	5	5	****	4	13
23	4	3	4	3	3	3	3	5	14	10	4	3	6	8	7	7	8	8	8	8	7	7	****	7	6
24	6	7	7	6	5	4	4	5	6	6	9	14	11	9	8	8	7	6	6	8	10	9	****	8	7
25	7	5	5	6	6	6	6	6	9	8	6	5	5	6	7	11	12	15	18	21	21	21	****	20	10
26	20	18	19	20	22	22	14	16	20	25	19	8	7	6	5	5	3	3	4	4	6	6	****	4	12
27	2	1	1	0	2	2	0	2	3	5	4	5	5	4	4	7	6	6	8	8	8	7	****	10	4
28	10	10	11	11	11	12	10	11	11	12	12	10	13	11	12	17	22	22	23	29	30	25	****	19	15
29	13	12	12	9	8	8	6	7	6	8	9	16	24	19	16	13	10	3	3	4	4	7	****	5	10
30	3	5	3	3	3	3	2	4	5	5	4	10	10	7	12	23	17	13	13	21	21	22	****	7	9

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID	DATA	1-HR	24-HR	
8	8	9		8	18	21	24	27	0	-	37	4	-	20	2	95	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHEUNG CHAU  
POLLUTANT : NITROGEN DIOXIDE

MONTH: NOVEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	21	22	15	11	7	10	19	28	27	43	38	44	35	36	24	7	5	5	5	8	14	11	****	12	19
2	9	9	5	6	10	8	24	45	49	45	52	48	41	15	8	7	7	6	7	4	12	13	****	12	19
3	14	13	9	8	6	2	6	9	15	13	19	9	23	9	10	6	15	14	23	13	7	42	****	54	15
4	69	88	68	40	31	30	29	20	28	42	34	23	27	25	15	12	13	13	11	40	49	44	****	46	35
5	63	57	55	44	28	39	39	50	60	51	14	13	3	2	1	2	4	7	12	4	12	18	****	6	25
6	7	7	10	6	9	8	37	55	47	42	42	14	5	5	8	8	5	5	4	5	8	1	****	1	15
7	2	1	0	0	0	4	4	10	5	17	13	8	11	7	1	5	11	7	7	7	6	2	****	4	6
8	1	1	3	3	4	3	2	3	4	9	3	1	4	0	0	0	2	1	0	0	0	6	****	13	3
9	4	5	0	4	2	8	9	4	1	2	0	1	0	0	0	0	0	0	7	3	2	8	****	13	3
10	16	4	1	3	0	2	1	3	14	20	2	0	1	4	4	5	19	36	22	36	45	22	****	51	14
11	44	35	6	2	1	7	9	11	16	23	23	27	31	29	29	45	39	40	41	41	40	28	****	26	26
12	25	26	25	17	16	17	19	31	30	45	42	50	52	58	48	45	61	92	74	16	10	21	****	62	38
13	69	80	92	80	61	59	53	T	T	T	34	39	40	34	8	4	2	1	6	6	10	14	****	27	36
14	14	3	22	15	8	20	44	14	7	7	4	8	32	5	6	4	8	4	4	12	14	7	****	3	12
15	3	11	13	15	10	14	8	9	9	19	13	20	19	8	13	8	11	12	5	5	15	18	****	0	11
16	1	2	7	14	12	11	5	7	15	19	28	24	23	17	19	23	14	23	24	55	68	56	****	35	22
17	54	31	2	0	1	4	9	16	22	26	31	34	34	35	24	13	21	37	47	59	49	40	****	34	27
18	29	32	26	19	22	11	15	33	40	42	27	18	21	34	31	21	31	24	24	20	29	16	****	16	25
19	9	7	10	8	18	12	9	14	25	19	16	17	8	6	5	4	4	2	10	6	6	8	****	5	10
20	9	7	8	9	4	7	3	12	12	23	21	14	12	16	15	11	15	22	28	19	8	4	****	5	12
21	2	1	1	1	1	2	5	6	3	3	3	1	4	1	1	8	4	7	38	86	83	82	****	78	18
22	74	66	63	61	62	59	46	30	21	14	10	12	15	14	11	12	10	22	25	18	10	10	****	8	29
23	15	9	13	7	7	5	11	11	31	31	20	24	30	47	42	44	41	46	50	41	33	31	****	31	27
24	32	35	29	16	13	12	21	25	27	29	33	40	30	21	18	24	25	25	24	30	30	26	****	25	26
25	23	18	21	27	18	15	18	20	21	20	21	17	18	39	39	46	56	65	73	77	78	75	****	72	38
26	68	64	66	67	71	67	51	50	53	37	30	21	27	25	30	35	35	35	34	27	36	40	****	35	44
27	32	26	18	14	16	17	17	26	31	35	25	40	46	47	47	44	29	35	28	24	14	13	****	31	28
28	27	23	29	34	29	30	21	25	28	20	26	28	55	54	58	68	76	77	84	84	83	92	****	75	49
29	69	70	62	53	51	46	42	42	37	40	38	46	51	54	58	56	47	7	10	25	17	24	****	18	42
30	13	38	13	6	7	16	14	18	25	20	18	42	58	58	66	69	60	57	53	62	68	70	****	32	38

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID	DATA	1-HR	24-HR		
16	18	24		18	55	68	77	83	0	-	92	3	-	49		3	95	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE
2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHEUNG CHAU  
POLLUTANT : SULPHUR DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	4	5	3	3	4	3	6	4	6	6	7	7	7	7	4	3	3	2	2	2	3	****	11	5
2	15	24	17	11	6	8	2	3	4	3	4	4	4	4	3	4	7	7	5	10	8	8	****	8	7
3	5	4	2	2	2	1	1	2	3	3	3	3	3	3	3	3	3	5	5	5	6	6	****	4	3
4	4	7	5	3	5	5	6	6	8	10	7	8	6	7	6	6	6	6	6	6	5	4	****	5	6
5	3	3	4	3	4	3	3	3	3	3	4	4	7	6	9	9	9	10	9	9	8	9	****	7	5
6	7	7	8	6	7	8	8	12	19	10	10	9	10	10	10	9	10	12	13	12	16	14	****	11	10
7	12	12	14	12	11	15	16	18	24	27	36	27	25	18	14	10	10	11	10	13	12	13	****	19	16
8	20	15	13	14	18	18	8	10	9	8	9	9	12	12	12	13	14	9	14	20	25	19	****	8	13
9	5	4	5	9	9	9	15	24	16	11	8	6	6	6	6	7	5	7	8	7	6	6	****	6	8
10	6	8	9	9	10	11	8	11	11	10	11	13	12	12	12	11	11	12	13	13	10	9	****	6	10
11	8	7	7	7	7	7	6	10	14	23	24	25	23	16	14	12	12	10	12	10	11	10	****	8	12
12	18	19	18	19	12	11	13	18	18	11	M	M	M	M	4	4	1	1	2	3	2	2	4	6	9
13	6	6	6	4	4	6	6	8	8	8	8	7	10	13	9	7	7	7	6	6	6	4	3	4	7
14	3	4	4	6	5	5	4	7	10	7	12	8	13	7	5	5	6	11	17	19	9	15	13	9	9
15	9	9	12	16	18	24	21	21	25	35	37	24	32	22	25	26	18	15	8	11	11	11	9	10	19
16	11	11	11	10	14	19	18	26	46	45	31	22	26	23	26	43	36	22	14	16	13	14	17	16	22
17	15	14	8	17	9	5	4	5	4	5	7	5	5	5	5	5	3	3	5	2	2	2	2	3	6
18	2	2	4	3	3	3	4	6	10	16	10	5	4	3	2	3	4	6	6	6	6	5	6	5	5
19	5	5	5	5	5	5	6	7	9	10	9	8	8	6	8	7	6	5	3	3	3	3	5	9	6
20	8	10	10	8	7	8	8	14	10	10	10	9	9	9	7	6	5	5	4	4	3	4	6	5	7
21	4	4	5	4	4	4	4	5	11	16	12	7	8	7	9	8	11	8	8	8	13	5	9	14	8
22	16	18	18	19	18	18	20	18	14	13	14	17	19	16	11	10	7	6	5	5	6	6	6	7	13
23	7	7	6	5	6	7	8	9	10	12	13	13	13	14	14	14	14	15	15	15	14	14	13	13	11
24	12	11	10	11	12	10	10	9	14	17	18	17	13	12	12	11	10	9	9	8	6	6	8	14	11
25	10	9	13	15	13	10	10	11	12	18	19	16	14	13	15	20	17	13	13	4	8	10	5	5	12
26	6	9	9	8	11	12	11	14	14	6	7	8	9	11	9	8	9	9	7	7	6	8	9	7	9
27	4	5	4	8	9	10	10	8	8	10	11	11	14	15	14	12	11	8	6	5	5	5	6	5	9
28	4	5	5	6	8	7	8	12	15	19	17	7	9	6	8	9	6	5	5	8	9	6	5	5	8
29	3	3	5	5	5	4	4	7	7	5	2	2	1	2	2	3	3	5	10	14	11	8	8	5	5
30	4	3	3	2	2	5	13	21	26	28	29	32	29	23	23	21	19	17	16	15	14	11	9	10	16
31	8	9	9	9	9	9	9	11	11	12	14	14	16	15	13	9	9	9	9	10	12	18	21	12	12

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->				STN	GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE		
																1-HR	24-HR	
8	8	10		8	18	22	26	32	1	-	46	3	-	22	2	98	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 800 OR 24-HR OBJECTIVE 350

THE HONGKONG ELECTRIC COMPANY, LTD.  
AIR QUALITY DATA MONTHLY TIME SERIES REPORT

STATION : CHEUNG CHAU  
POLLUTANT : NITROGEN DIOXIDE

MONTH:DECEMBER

YEAR : 2012  
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	37	15	11	9	12	15	10	15	17	18	22	16	14	11	17	9	14	10	3	6	6	4	****	51	15
2	43	36	29	26	23	21	12	14	16	21	22	23	24	26	30	42	54	59	56	61	55	58	****	62	35
3	61	41	21	14	9	8	13	23	27	32	36	33	35	37	42	44	55	61	61	39	41	39	****	27	35
4	26	30	22	16	15	15	24	32	41	45	28	37	27	37	31	23	48	66	72	68	64	35	****	41	37
5	19	17	17	7	22	30	19	19	27	33	25	16	16	16	21	18	21	33	37	36	37	42	****	28	24
6	19	18	18	10	11	14	21	33	46	22	17	19	20	18	21	18	23	25	22	18	28	13	****	10	20
7	20	21	24	16	13	32	34	48	52	55	77	57	72	35	18	13	15	22	15	22	16	33	****	78	34
8	62	29	23	22	39	44	41	48	30	20	16	23	29	27	31	39	36	32	89	88	95	63	****	18	41
9	14	8	14	35	37	37	42	52	37	20	8	1	2	2	1	3	2	8	10	12	5	7	****	11	16
10	14	17	19	22	32	30	10	18	15	16	17	21	16	13	17	10	18	26	23	22	12	11	****	6	18
11	14	8	11	5	6	10	5	22	31	66	74	63	59	51	48	28	26	31	69	34	59	58	****	39	36
12	59	59	45	34	10	19	29	39	33	28	M	M	M	M	16	32	18	21	20	23	16	21	33	22	29
13	24	18	12	9	6	18	18	34	22	21	19	16	16	32	17	17	25	36	21	20	18	13	7	11	19
14	9	14	21	23	24	34	21	39	42	15	41	17	60	22	2	9	19	67	104	101	50	88	89	81	41
15	24	49	85	82	78	78	75	68	60	54	34	18	20	14	19	27	45	54	48	69	76	43	38	57	51
16	42	43	38	23	45	58	58	56	68	67	52	14	20	21	22	35	38	38	38	49	35	55	70	64	44
17	46	44	32	54	27	16	13	21	23	24	18	19	19	17	22	19	22	19	21	11	6	2	10	18	22
18	24	15	11	10	8	12	14	28	54	69	50	42	41	40	41	48	48	51	55	50	44	44	45	39	37
19	31	M	25	22	20	19	24	30	35	37	40	39	35	27	37	36	33	30	19	22	17	15	19	45	29
20	35	32	30	27	27	29	32	35	34	30	32	36	40	35	36	33	36	41	29	27	26	26	30	22	32
21	23	25	25	29	26	30	23	24	53	65	44	36	41	36	29	36	74	65	69	62	92	38	77	83	46
22	68	57	56	57	48	43	38	35	32	31	34	36	41	45	41	41	37	47	50	51	50	47	47	48	45
23	45	41	34	26	25	21	16	17	16	16	19	21	23	23	22	23	26	29	39	39	35	31	30	34	27
24	31	26	24	26	28	24	28	28	31	39	42	39	32	36	29	26	30	31	36	23	13	15	22	61	30
25	33	24	41	46	43	43	47	46	58	78	71	68	75	76	86	93	93	93	107	20	72	72	18	16	59
26	15	9	14	17	25	24	29	46	34	12	15	9	21	16	16	12	16	14	12	14	16	17	9	15	18
27	8	7	4	12	10	12	10	19	18	49	40	51	70	90	88	78	65	61	54	50	45	50	61	62	42
28	58	57	54	56	54	51	50	55	54	55	39	4	5	1	8	10	7	5	6	3	16	16	23	17	29
29	15	19	16	15	16	15	10	20	35	19	12	15	30	38	47	56	60	79	98	69	49	42	38	31	35
30	29	29	27	26	24	19	22	25	23	23	21	19	18	18	21	22	24	25	29	25	19	13	5	16	22
31	11	12	10	9	7	8	11	20	25	30	32	39	43	34	28	15	29	33	31	42	71	105	108	59	34

MONTHLY STATISTICS:

GEOM		ARITH		<-----PERCENTILE----->					<-----RANGE----->					STN	GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN		50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA		ABOVE OBJECTIVE	1-HR	24-HR
26	27	32		27	61	72	88	93	1	-	108	15	-	59	2	98	0	0

- NOTES: 1. FLAGS FOR INVALID DATA :  
 \*\*\*\* : DAILY ZERO/SPAN CHECK  
 D : DYNAMIC CALIBRATION  
 T : TELEMETRY/DATALOGGR/ANALYZER FAULT  
 M : MAINTENANCE OR MACHINE SHUTDOWN  
 P : POWER FAILURE  
 2. BRACKETED READINGS EXCEED 1-HR OBJECTIVE 300 OR 24-HR OBJECTIVE 150

## Appendix C Summary Results on Water Quality Monitoring

### LAMMA POWER STATION FGD WASTEWATER TREATMENT PLANT EFFLUENT DISCHARGE TO ASH LAGOON SUSPENDED SOLIDS AND PH

Period : October – December 2012

Week Ending	No. of Samples	Suspended Solids, mg/L			pH		
		Maximum	Minimum	Average	Maximum	Minimum	Average
06/10/12	6*	17	11	12	8.2	8.0	8.1
13/10/12	1*	15	15	15	8.3	8.3	8.3
20/10/12	0*	N/A	N/A	N/A	N/A	N/A	N/A
27/10/12	6*	19	11	14	8.2	8.0	8.1
03/11/12	7	16	11	14	8.2	8.1	8.1
10/11/12	6*	17	11	14	8.2	8.1	8.1
17/11/12	7	15	10	12	8.1	8.0	8.1
24/11/12	6*	15	11	13	8.1	8.0	8.0
01/12/12	7	13	11	11	8.2	8.0	8.1
08/12/12	7	13	12	12	8.2	8.1	8.1
15/12/12	2*	19	13	16	8.4	8.2	8.3
22/12/12	6*	13	10	12	8.2	8.1	8.2
29/12/12	4*	13	11	12	8.2	8.2	8.2

Remark :

\* - No sampling for the remaining day(s) of the week / no sampling due to no discharge

**LAMMA POWER STATION  
FGD WASTEWATER TREATMENT PLANT  
EFFLUENT DISCHARGE TO ASH LAGOON  
TRACE METAL, TOTAL PHOSPHORUS  
AND TOTAL NITROGEN ANALYSIS**

Period : October – December 2012

Sampling date		9/10/2012	15/11/2012	11/12/2012
Barium,	ug/L	<150	<150	<150
Mercury,	ug/L	<0.5	<0.5	<0.5
Cadmium,	ug/L	2	2	<1
Iron,	ug/L	<400	<400	<400
Total Phosphorous,	mg/L	<0.8	<0.8	<0.8
Total Nitrogen,	mg/L	57	74	44
Cyanide,	mg/L	0.02	<0.01	<0.01

Remark:

According to the WPCO Ash Lagoon Discharge Licence, contents at exact levels of trace metals below 1/10 th of the WPCO Licence permitted limits will not be reported. When the concentration of a metal exceeds 1/10 th of the limit, the exact value of the metal concentration will be reported.

## Appendix D Summary of EMIS

<b>EM&amp;A Log Ref.</b>	<b>Mitigation Measures</b>	<b>Implementation Status</b>
	<b>GENERAL</b>	
A1	No other process, except the Wet Limestone-Gypsum process used in the FGD plants of the coal-fired Units L6, L7 and L8 within the Lamma Power Station, shall be used in the FGD plants for the projects unless otherwise agreed by EPD.	Complied
	<b>WATER QUALITY</b>	
B1	All wastewater arising from the operation of the projects shall be collected and directed to the existing wastewater treatment plant within the Lamma Power Station for treatment.	Complied
B2	The operational plant effluent from the FGD plants should be reused as much as possible in order to minimise discharge to the WWTP.	Complied
B3	Maintenance of the WWTP should be performed regularly to ensure the effluent from the WWTP would not exceed the current requirements stipulated in the WPCO licence for Ash Lagoon.	Complied
	<b>WASTE</b>	
C1	No gypsum or sludge arising from the operation of the projects shall be disposed of anywhere. All gypsum and sludge shall be collected and reused.	Complied
	<b>NOISE</b>	
D1	Equipments including the Absorber Recirculation Pump, Oxidation Air Blower, Booster Fan and Booster Fan Motor of the FGD plants shall be acoustically insulated and the Gas-Gas Heater (untreated side) of the FGD plants shall be provided with reinforced lagging to reduce the noise impact.	Complied