

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

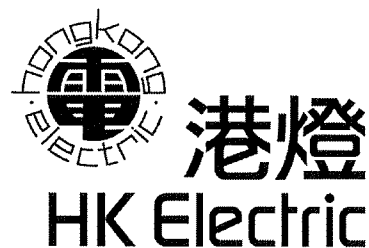


**Lamma Power Station
Units L2, L4 & L5 Flue Gas Desulphurization
Plants Retrofit
Operational Phase**

Quarterly Environmental Monitoring & Audit Report

January – March 2011

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 (January to March 2011)
Date	21 June 2011
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 January to March 2011.

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	28/02/2011 23:19 to 01/03/2011 07:28	BUF rotor modification
L2	01/03/2011 19:39 to 07/03/2011 13:04	BUF rotor modification
L2	07/03/2011 19:31 to 12/03/2011 04:45	BUF rotor modification
L4	11/12/2010 21:18 to 11/01/2011 07:27	Unit overhaul
L4	05/03/2011 22:09 to 07/03/2011 03:43	Defect rectification
L5	15/01/2011 03:06 to after 31/3/2011	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
L2 FGD	31/01/2011 19:27 to 01/02/2011 02:27	Inlet gas temperature trip caused by defective temperature sensors.	EPD was informed by letter dated 01/02/2011.
L2 FGD	01/03/2011 03:00 to 11/03/2011 15:20	Booster fan modification work	EPD was informed by letter dated 12/03/2011.

Equipment	Period	Cause	Actions Taken
L4 FGD	24/01/2011 11:47 to 12:40	Limestone feed system disturbance	EPD was informed by letter dated 26/01/2011.

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	L-7-002(8)	01/01/2011	31/12/2012	HK Electric	30/12/2010
WPCO discharge licence for Ash Lagoon	EP890/W2/XD018	16/04/2007	31/12/2011	HK Electric	16/04/2007

Implementation Status of Environmental Mitigation Measures

Environmental mitigation measures were implemented in the reporting period.

Environmental Complaints

There was one (1) complaint concerning “smoke from Lamma P/S”. Yet no abnormality that might have caused any abnormal emission was identified. There was no further enquiry since then.

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 January to March 2011.

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 SO₂ 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 SO₂ 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	28/02/2011 23:19 to 01/03/2011 07:28	BUF rotor modification
L2	01/03/2011 19:39 to 07/03/2011 13:04	BUF rotor modification
L2	07/03/2011 19:31 to 12/03/2011 04:45	BUF rotor modification
L4	11/12/2010 21:18 to 11/01/2011 07:27	Unit overhaul
L4	05/03/2011 22:09 to 07/03/2011 03:43	Defect rectification
L5	15/01/2011 03:06 to after 31/3/2011	Unit overhaul

1.4 Malfunction/Outage Records of Pollution Control Equipment

Equipment	Period	Cause	Actions Taken
L2 FGD	18/01/2011 16:16 to 16:30	Furnace disturbance	EPD was informed by letter dated 19/01/2011.
L2 FGD	29/01/2011 04:48 to 04:57	Routine checking of bypass dampers	EPD was informed by letter dated 01/02/2011.
L2 FGD	31/01/2011 19:27 to 01/02/2011 02:27	Inlet gas temperature trip caused by defective temperature sensors.	EPD was informed by letter dated 01/02/2011.

Equipment	Period	Cause	Actions Taken
L2 FGD	10/02/2011 1. 15:48 to 16:12 2. 16:32 to 16:43 3. 19:47 to 19:58	Furnace disturbance	EPD was informed by letter dated 11/02/2011.
L2 FGD	12/02/2011 19:51 to 20:04	Booster fan inlet damper control sluggish	EPD was informed by letter dated 14/02/2011.
L2 FGD	17/02/2011 23:03 to 23:11	Booster fan inlet damper control sluggish	EPD was informed by letter dated 21/02/2011.
L2 FGD	01/03/2011 03:00 to 11/03/2011 15:20	Booster fan modification work	EPD was informed by letter dated 12/03/2011.
L4 FGD	22/01/2011 03:03 to 03:07	Routine checking of bypass dampers	EPD was informed by letter dated 24/01/2011.
L4 FGD	24/01/2011 11:47 to 12:40	Limestone feed system disturbance	EPD was informed by letter dated 26/01/2011.
L4 FGD	05/02/2011 02:00 to 02:15	Routine checking of bypass dampers	EPD was informed by letter dated 09/02/2011.
L4 FGD	12/02/2011 00:58 to 01:02	Routine checking of bypass dampers	EPD was informed by letter dated 14/02/2011.
L4 FGD	19/02/2011 02:55 to 02:57	Routine checking of bypass dampers	EPD was informed by letter dated 21/02/2011.
L4 FGD	26/02/2011 02:03 to 02:13	Routine checking of bypass dampers	EPD was informed by letter dated 01/03/2011.
L4 FGD	19/03/2011 02:17 to 02:19	Routine checking of bypass dampers	EPD was informed by letter dated 23/03/2011.
L4 FGD	26/03/2011 02:05 to 02:09	Routine checking of bypass dampers	EPD was informed by letter dated 30/03/2011.
L5 FGD	08/01/2011 01:36 to 01:53	Routine checking of bypass dampers	EPD was informed by letter dated 10/01/2011.

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.

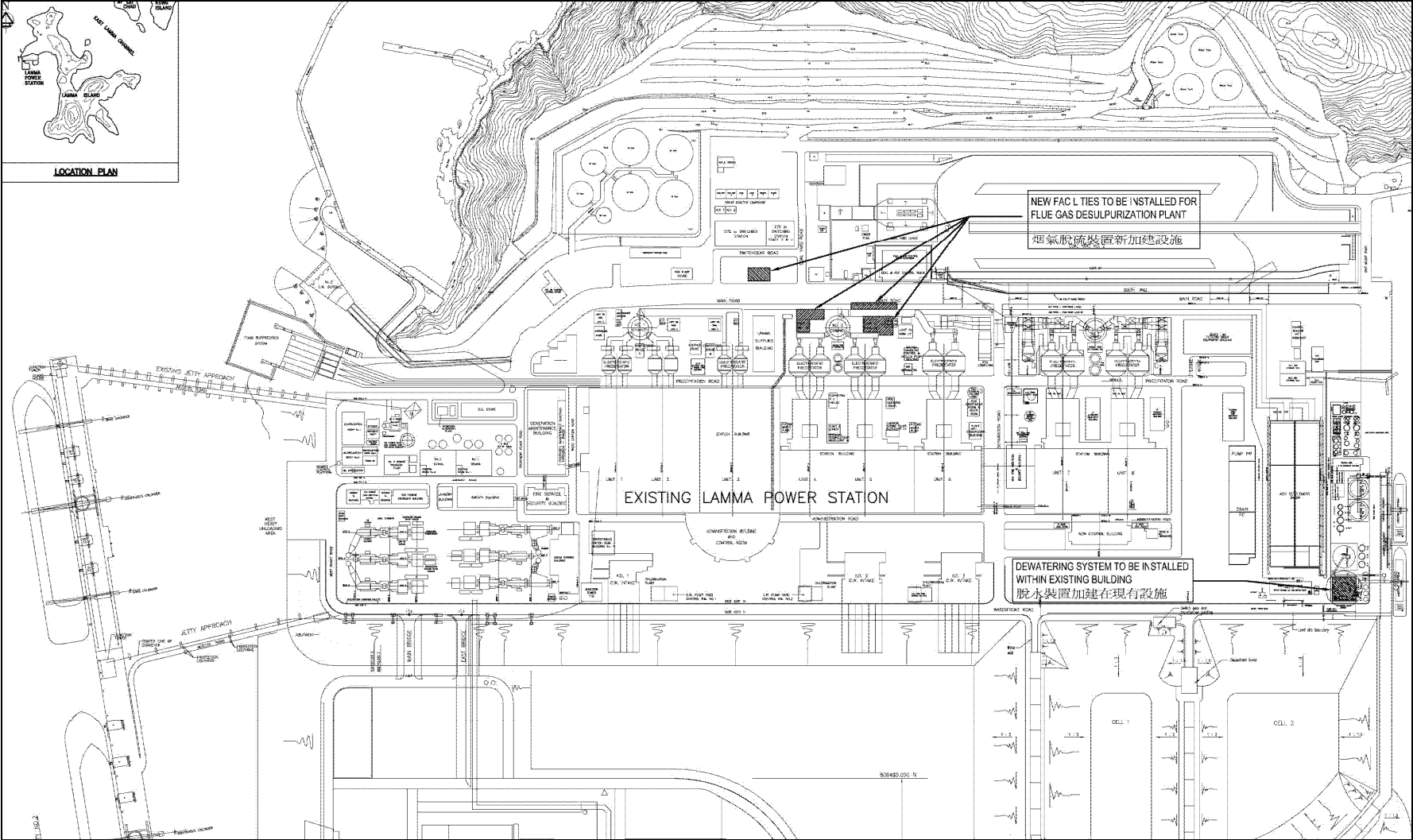


Figure 1.1a Location of New Facilities for L4 & L5 FGD Plants

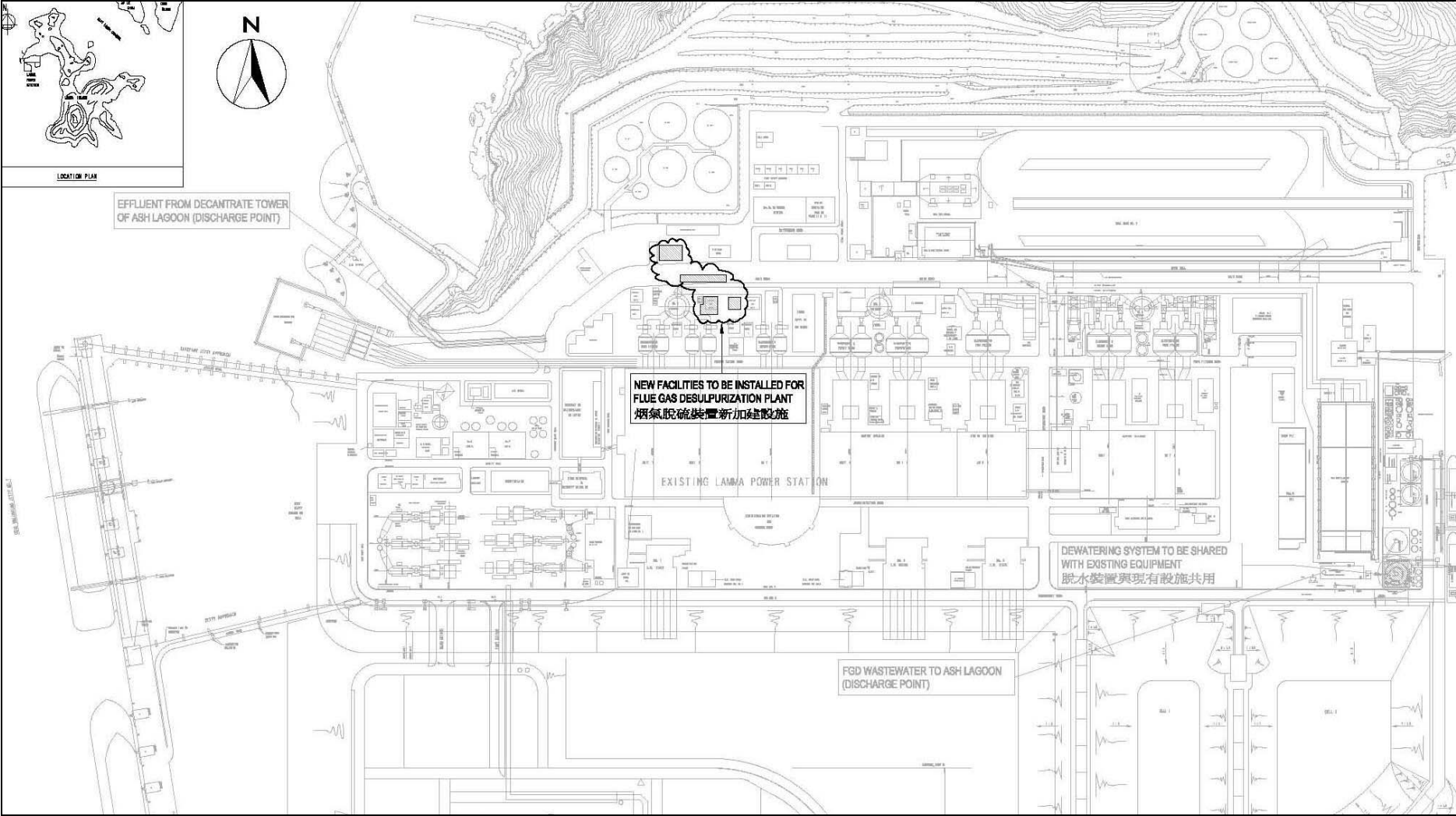


Figure 1.1b Location of New Facilities for L2 FGD Plant

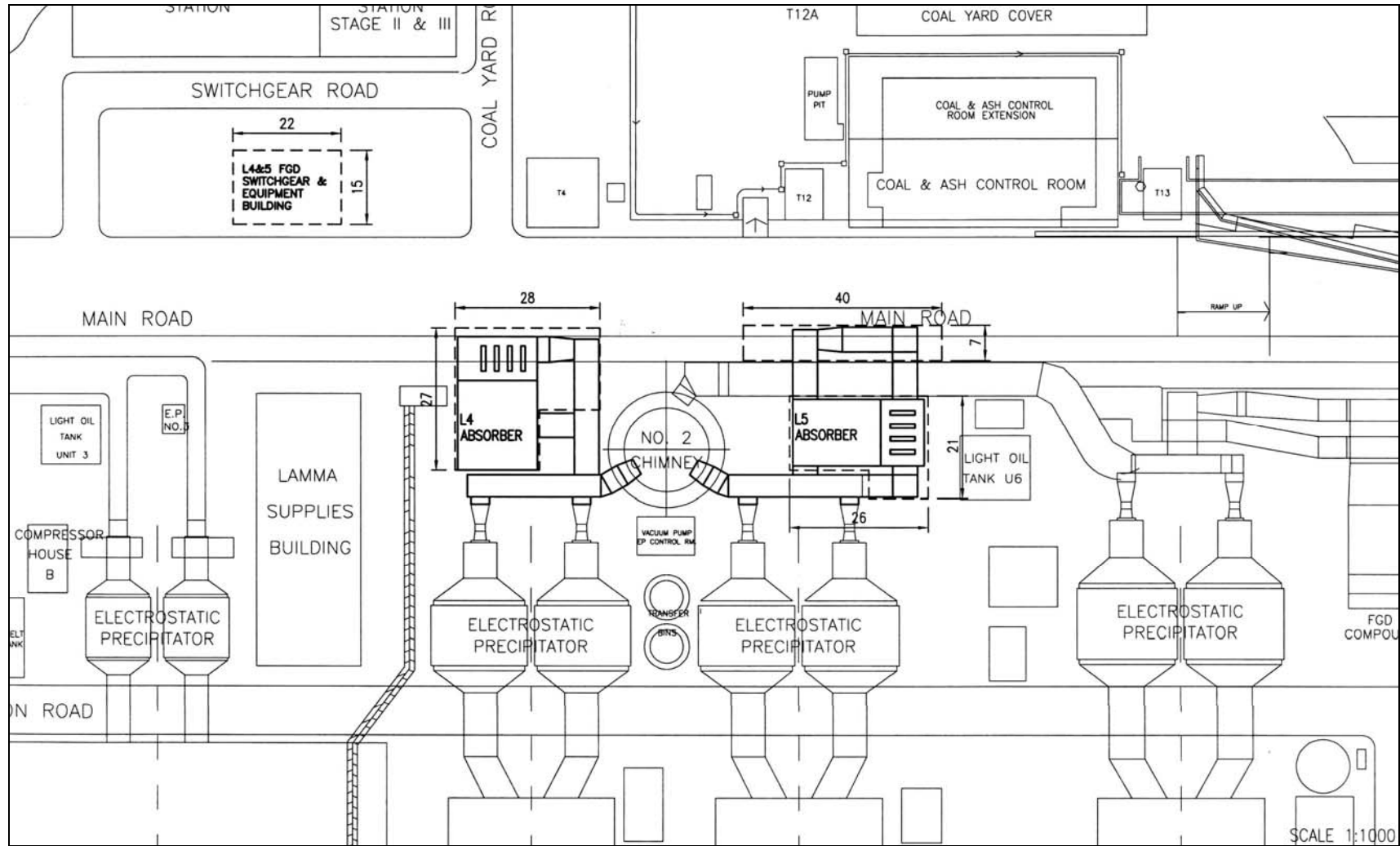


Figure 1.2a General Arrangement of L4 & L5 FGD Plants

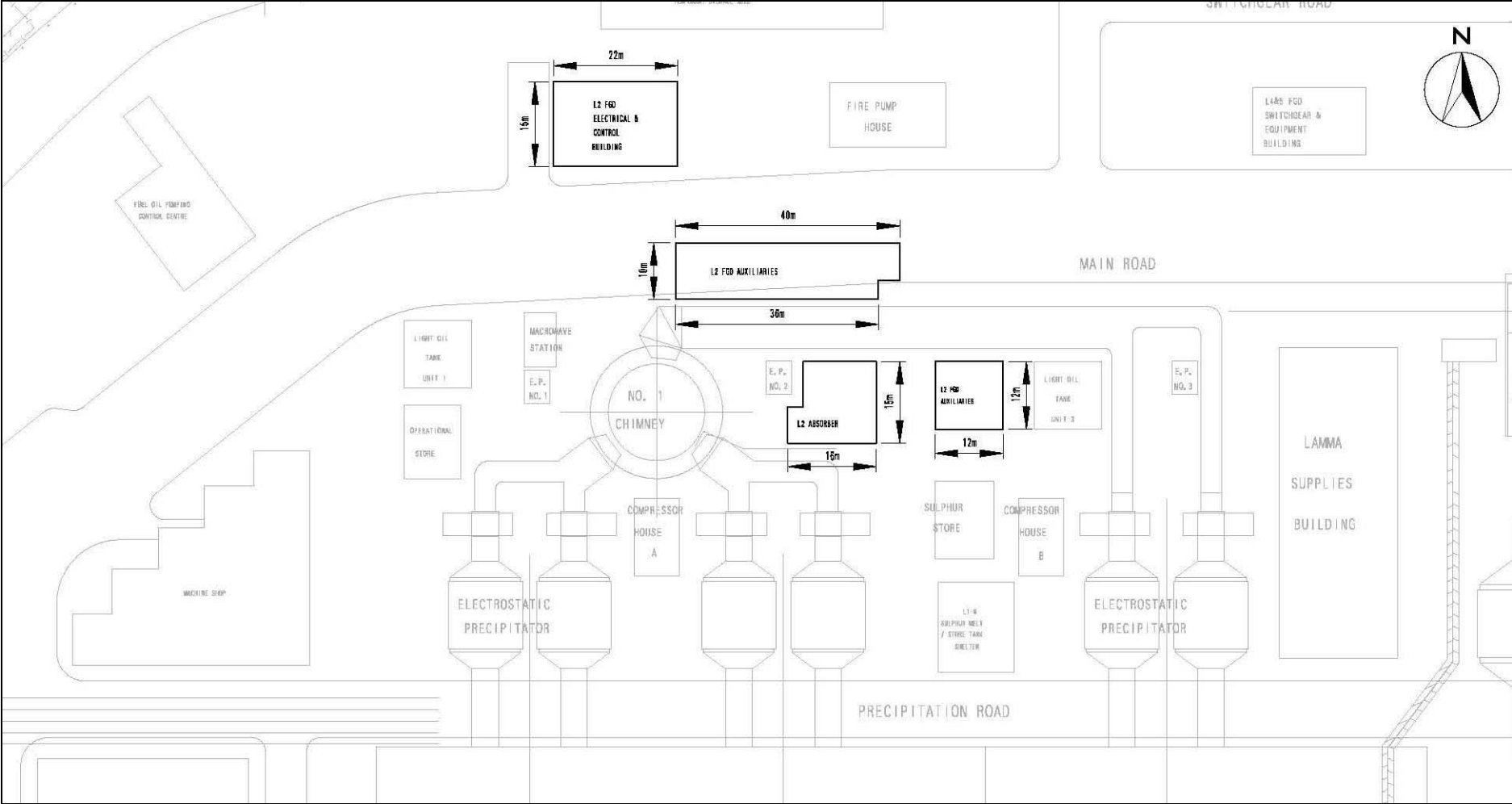


Figure 1.2b General Arrangement of L2 FGD Plant

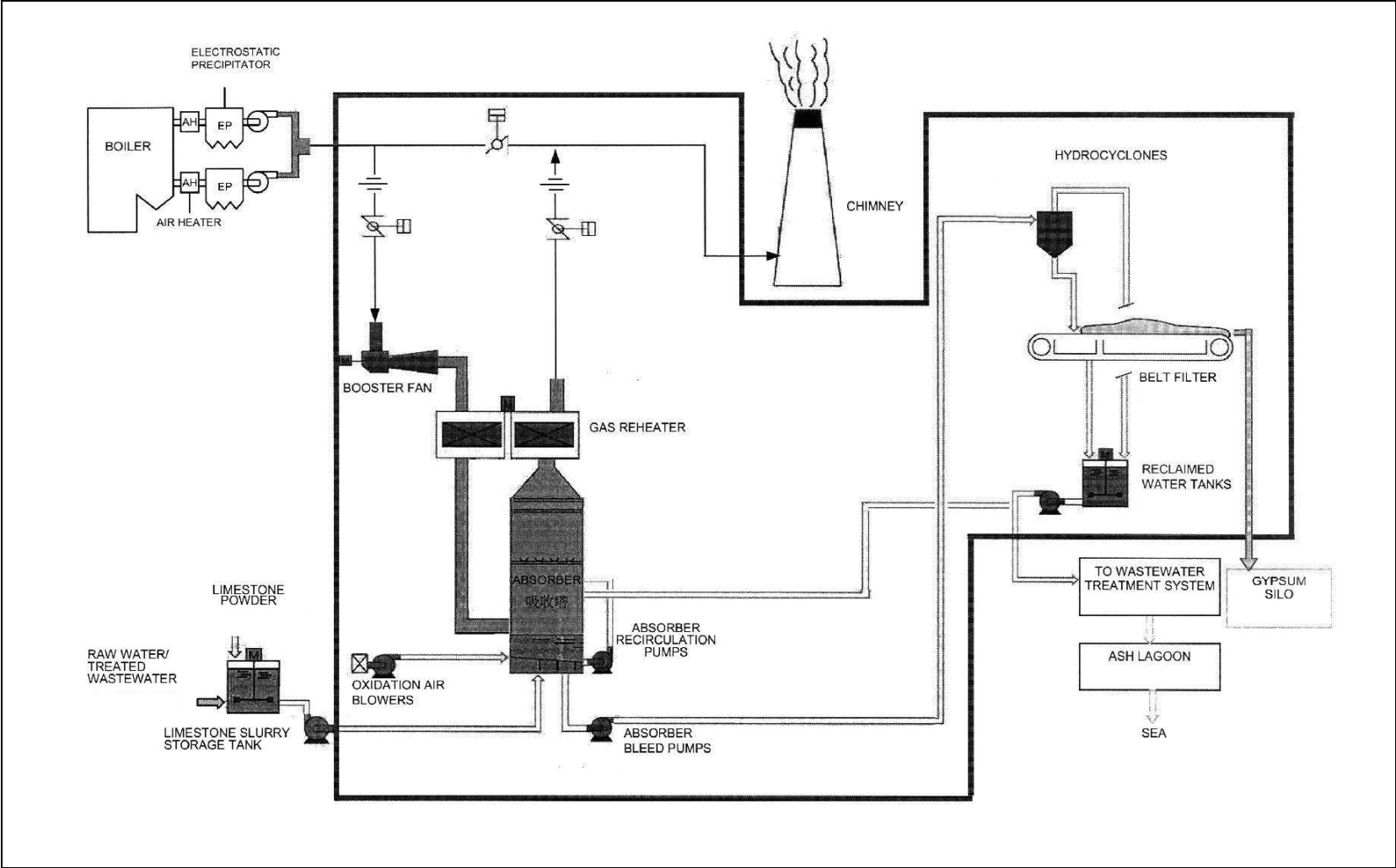


Figure 1.3 Schematic Diagram of the L4 & L5 FGD Plant

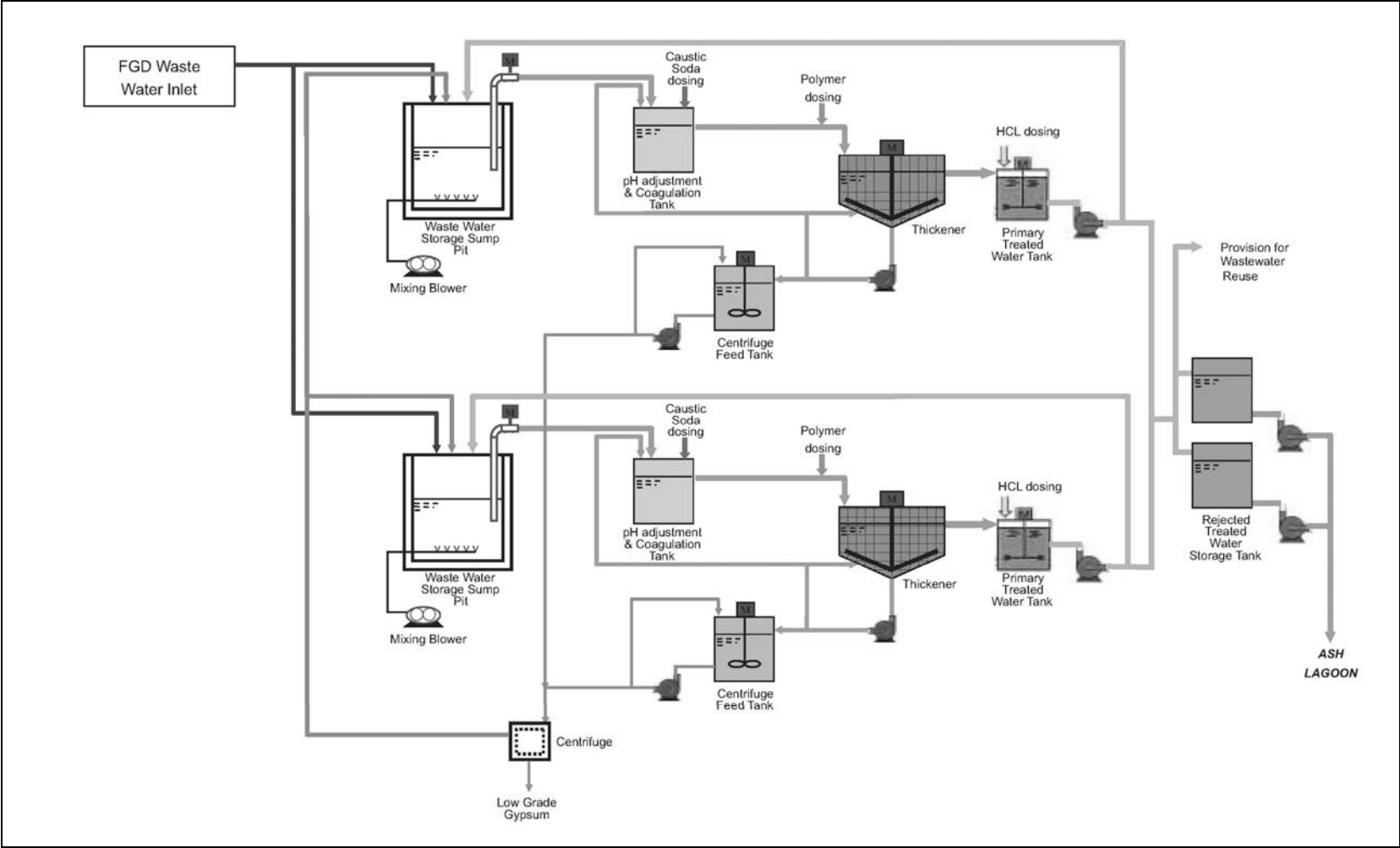


Figure 1.4 Simplified Schematic Diagram of FGD Wastewater Treatment Plant

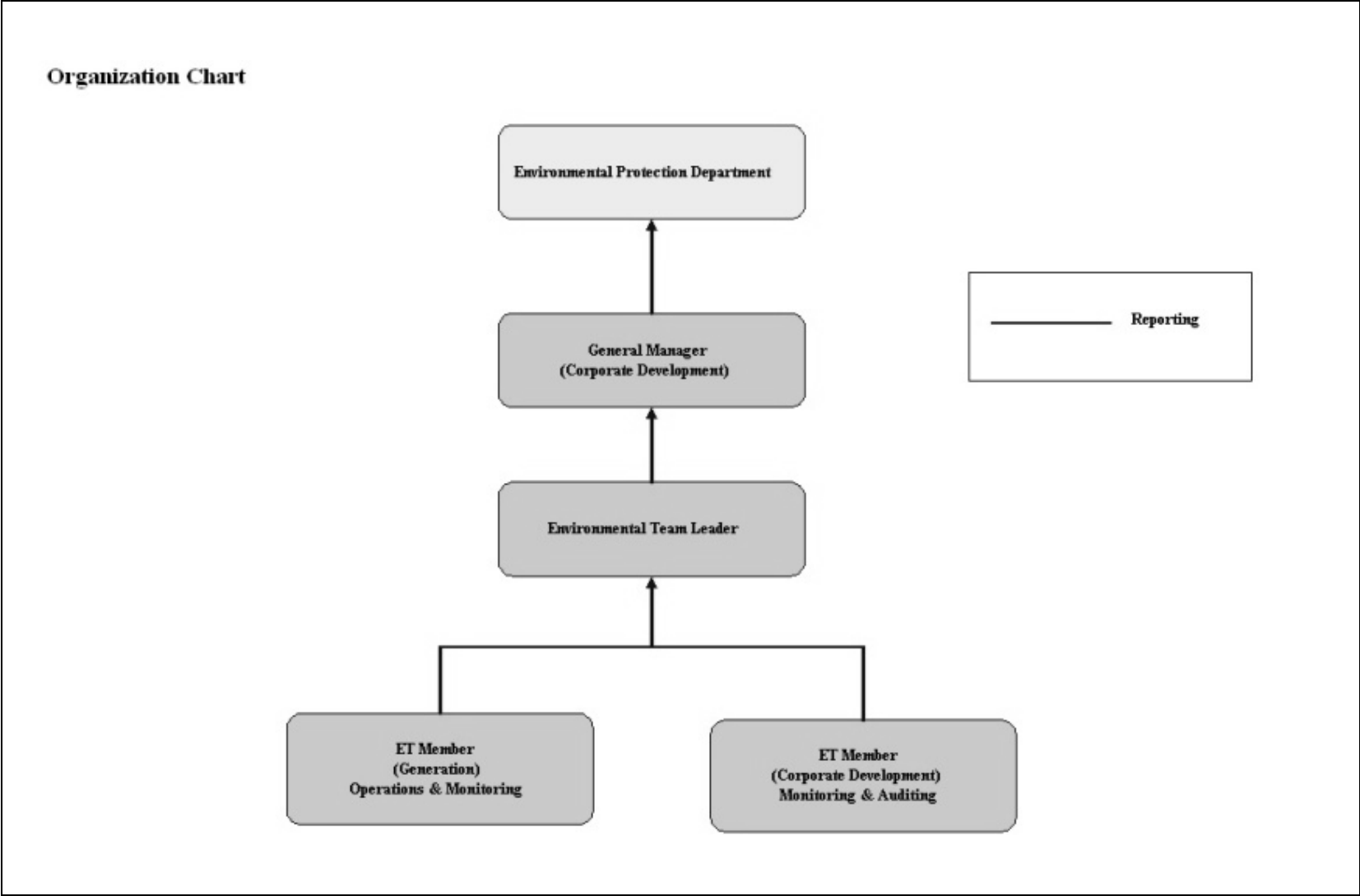


Figure 1.5 Organization Structure at Operational Phase of the Projects

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 ₂	Continuous
	NO _x expressed as NO ₂ (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 ₂	
	NO ₂	

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.

The ambient air monitoring station at Cheung Chau was temporarily suspended since October 2010 and the preparation work for installation of a new station at Cheung Chau was in progress.

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.	01/01/11-31/03/11	N.A.	0	
2	Continuous monitoring of opacity, NOx, SO2 and CO2 in the flue gas at the chimney stacks	01/01/11-31/03/11	0	0	
3	TSP monitoring at Lamma Power Station Boundary (ie East Gate and Reservoir).	01/01/11-31/03/11	0	0	
4	Ambient SO2 & NOx monitoring at the Peak, Queen Mary Hospital, Victoria Road, Chung Hom Kok, Ap Lei Chau and	01/01/11-31/03/11	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	01/01/11-31/03/11	0	0	
2	Suspended Solids in WWTP Effluent	01/01/11-31/03/11	0	0	
3	Iron in WWTP Effluent	01/01/11-31/03/11	0	0	
4	Barium in WWTP Effluent	01/01/11-31/03/11	0	0	
5	Mercury in WWTP Effluent	01/01/11-31/03/11	0	0	
6	Cadmium in WWTP Effluent	01/01/11-31/03/11	0	0	
7	Cyanide in WWTP Effluent	01/01/11-31/03/11	0	0	
8	Total Phosphorus in WWTP Effluent	01/01/11-31/03/11	0	0	
9	Total Nitrogen in WWTP Effluent	01/01/11-31/03/11	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

Period	Amount of Gypsum Collected	Amount of Sludge Collected
January 2011	5245.7 MT	1.3 MT
February 2011	7594.3 MT	0 MT
March 2011	9343.4 MT	32.5 MT

4.3 Status of Environmental Licensing and Permitting

All permits/licenses obtained as of March 2011 are summarised in Table 4.3.

Table 4.3 Summary of Environmental Licensing and Permit Status

Description	Permit / Licence No.	Valid Period		Status
		From	To	
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	L-7-002(8)	01/01/2011	31/12/2012	Valid
WPCO discharge licence for Ash Lagoon	EP890/W2/XD018	16/04/2007	31/12/2011	Valid

4.4 Implementation Status of Environmental Mitigation Measures

Mitigation measures detailed in the EIA Report and EP are required to be implemented. An updated 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) complaint concerning “smoke from Lamma P/S” 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
<p><i>Reference:</i> EC110200167</p> <p><i>Received:</i> 15/02/2011 a.m.</p> <p><i>Concerned:</i> 14/02/2011 a.m.</p>	<p>EPD informed HK Electric via email that they had received a complaint against “smoke” from the chimneys of Lamma P/S. HK Electric had reviewed the relevant operation records and could not find any abnormality which could have caused any abnormal emission during the concerned period. HK Electric had replied EPD accordingly. There was no further enquiry since then.</p>	<p>Nothing abnormal was identified. EPD was replied and there was no further enquiry.</p>

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
L5	01/04/2011 to 19/05/2011	Unit Overhaul
L2 FGD	13/05/2011 to 24/05/2011	Defect rectification
L2 FGD	04/06/2011 to 30/06/2011	Defect rectification

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 January to March 2011. 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. There was one (1) complaint concerning “smoke from Lamma P/S”. Yet no abnormality that might have caused any abnormal emission was identified. 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 ³	-	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 ₂	continuous	200 mg/Nm ³ (1h)	190	200	
	NO _x expressed as NO ₂ (For L4 and L5 only)	continuous	615 mg/Nm ³ (1h)	585	615	
Fugitive dust (Coal, PFA, limestone, gypsum)	TSP	Once every six days.	260 (µg/m ³) (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 ₂	Continuous at existing ambient air monitoring stations	800 (µg/m ³) (1h)	-	800	ET to review data on post-hoc basis and check for possible power station contribution.
	NO ₂		300 (µg/m ³) (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.
	Suspended Solids	Daily	30 mg/L	25	30	
	Iron	Monthly	4 mg/L	3.6	4	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.
	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_x and SO₂ for Unit L5

Date	Daily Maximum		
	SO ₂ concentration (mg/Nm ³) [#]	NO _x concentration (mg/Nm ³) [#]	Opacity (%)
1/1/2011	62	368	13
2/1/2011	69	363	13
3/1/2011	126	353	13
4/1/2011	99	380	13
5/1/2011	89	421	14
6/1/2011	122	458	14
7/1/2011	109	354	14
8/1/2011	106	341	13
9/1/2011	72	412	13
10/1/2011	76	389	13
11/1/2011	131	378	13
12/1/2011	114	353	13
13/1/2011	117	360	14
14/1/2011	92	334	14
15/1/2011	38	299	13
16/1/2011	*	*	*
17/1/2011	*	*	*
18/1/2011	*	*	*
19/1/2011	*	*	*
20/1/2011	*	*	*
21/1/2011	*	*	*
22/1/2011	*	*	*
23/1/2011	*	*	*
24/1/2011	*	*	*
25/1/2011	*	*	*
26/1/2011	*	*	*
27/1/2011	*	*	*
28/1/2011	*	*	*
29/1/2011	*	*	*
30/1/2011	*	*	*
31/1/2011	*	*	*

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/2/2011	*	*	*
2/2/2011	*	*	*
3/2/2011	*	*	*
4/2/2011	*	*	*
5/2/2011	*	*	*
6/2/2011	*	*	*
7/2/2011	*	*	*
8/2/2011	*	*	*
9/2/2011	*	*	*
10/2/2011	*	*	*
11/2/2011	*	*	*
12/2/2011	*	*	*
13/2/2011	*	*	*
14/2/2011	*	*	*
15/2/2011	*	*	*
16/2/2011	*	*	*
17/2/2011	*	*	*
18/2/2011	*	*	*
19/2/2011	*	*	*
20/2/2011	*	*	*
21/2/2011	*	*	*
22/2/2011	*	*	*
23/2/2011	*	*	*
24/2/2011	*	*	*
25/2/2011	*	*	*
26/2/2011	*	*	*
27/2/2011	*	*	*
28/2/2011	*	*	*

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/3/2011	*	*	*
2/3/2011	*	*	*
3/3/2011	*	*	*
4/3/2011	*	*	*
5/3/2011	*	*	*
6/3/2011	*	*	*
7/3/2011	*	*	*
8/3/2011	*	*	*
9/3/2011	*	*	*
10/3/2011	*	*	*
11/3/2011	*	*	*
12/3/2011	*	*	*
13/3/2011	*	*	*
14/3/2011	*	*	*
15/3/2011	*	*	*
16/3/2011	*	*	*
17/3/2011	*	*	*
18/3/2011	*	*	*
19/3/2011	*	*	*
20/3/2011	*	*	*
21/3/2011	*	*	*
22/3/2011	*	*	*
23/3/2011	*	*	*
24/3/2011	*	*	*
25/3/2011	*	*	*
26/3/2011	*	*	*
27/3/2011	*	*	*
28/3/2011	*	*	*
29/3/2011	*	*	*
30/3/2011	*	*	*
31/3/2011	*	*	*

Note: # - Hourly average value. Expressed as at 0°C, 101.325kPa, dry and corrected to 12% CO₂ condition.

* - Unit L5 was not on load.

B.2.2 Monthly Summary of Stack NO_x and SO₂ for Unit L4

Date	Daily Maximum		
	SO ₂ concentration (mg/Nm ³) [#]	NO _x concentration (mg/Nm ³) [#]	Opacity (%)
1/1/2011	*	*	*
2/1/2011	*	*	*
3/1/2011	*	*	*
4/1/2011	*	*	*
5/1/2011	*	*	*
6/1/2011	*	*	*
7/1/2011	*	*	*
8/1/2011	*	*	*
9/1/2011	*	*	*
10/1/2011	*	*	*
11/1/2011	94	235	12
12/1/2011	126	393	13
13/1/2011	119	387	13
14/1/2011	101	375	14
15/1/2011	60	383	13
16/1/2011	71	319	13
17/1/2011	91	436	13
18/1/2011	70	368	12
19/1/2011	97	358	12
20/1/2011	53	490	15
21/1/2011	29	418	19
22/1/2011	25	386	18
23/1/2011	30	466	20
24/1/2011	28	490	24
25/1/2011	46	487	17
26/1/2011	58	488	19
27/1/2011	69	435	15
28/1/2011	93	399	17
29/1/2011	74	263	18
30/1/2011	53	371	18
31/1/2011	64	384	18

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/2/2011	48	443	14
2/2/2011	68	436	18
3/2/2011	22	450	20
4/2/2011	22	317	16
5/2/2011	27	439	16
6/2/2011	36	418	23
7/2/2011	51	469	22
8/2/2011	73	369	17
9/2/2011	112	327	12
10/2/2011	97	473	12
11/2/2011	120	481	18
12/2/2011	85	504	25
13/2/2011	120	485	17
14/2/2011	106	471	15
15/2/2011	102	421	15
16/2/2011	80	454	16
17/2/2011	87	483	17
18/2/2011	71	455	15
19/2/2011	120	490	16
20/2/2011	50	482	12
21/2/2011	105	405	14
22/2/2011	84	435	12
23/2/2011	78	439	12
24/2/2011	65	428	13
25/2/2011	78	421	14
26/2/2011	114	420	13
27/2/2011	130	435	13
28/2/2011	143	472	13

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/3/2011	71	468	14
2/3/2011	123	481	14
3/3/2011	67	497	13
4/3/2011	84	469	13
5/3/2011	59	458	13
6/3/2011	*	*	*
7/3/2011	116	405	16
8/3/2011	98	377	11
9/3/2011	88	423	11
10/3/2011	103	355	12
11/3/2011	66	351	15
12/3/2011	101	450	13
13/3/2011	74	489	12
14/3/2011	77	518	15
15/3/2011	73	394	11
16/3/2011	92	380	12
17/3/2011	62	392	12
18/3/2011	90	424	13
19/3/2011	41	357	12
20/3/2011	29	457	12
21/3/2011	111	425	20
22/3/2011	103	449	13
23/3/2011	108	484	11
24/3/2011	89	439	14
25/3/2011	112	501	13
26/3/2011	34	463	13
27/3/2011	42	495	12
28/3/2011	104	461	15
29/3/2011	111	522	13
30/3/2011	89	436	12
31/3/2011	109	488	13

Note: # - Hourly average value. Expressed as at 0°C, 101.325kPa, dry and corrected to 12% CO₂ condition.

* - Unit L4 was not on load.

B.2.3 Monthly Summary of Stack SO₂ for Unit L2

Date	Daily Maximum	
	SO ₂ concentration (mg/Nm ³) [#]	Opacity (%)
1/1/2011	*	*
2/1/2011	*	*
3/1/2011	*	*
4/1/2011	*	*
5/1/2011	*	*
6/1/2011	*	*
7/1/2011	*	*
8/1/2011	*	*
9/1/2011	*	*
10/1/2011	*	*
11/1/2011	*	*
12/1/2011	*	*
13/1/2011	*	*
14/1/2011	*	*
15/1/2011	*	*
16/1/2011	*	*
17/1/2011	78	16
18/1/2011	94	13
19/1/2011	*	*
20/1/2011	*	*
21/1/2011	*	*
22/1/2011	FGD Bypassed	22
23/1/2011	88	17
24/1/2011	81	18
25/1/2011	72	15
26/1/2011	102	15
27/1/2011	100	20
28/1/2011	113	18
29/1/2011	98	22
30/1/2011	106	20
31/1/2011	65	21

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) #	Opacity (%)
1/2/2011	93	20
2/2/2011	52	16
3/2/2011	*	*
4/2/2011	*	*
5/2/2011	*	*
6/2/2011	*	*
7/2/2011	52	18
8/2/2011	58	14
9/2/2011	102	14
10/2/2011	116	13
11/2/2011	104	17
12/2/2011	*	*
13/2/2011	*	*
14/2/2011	119	16
15/2/2011	113	14
16/2/2011	113	14
17/2/2011	126	16
18/2/2011	131	17
19/2/2011	*	*
20/2/2011	*	*
21/2/2011	*	*
22/2/2011	*	*
23/2/2011	*	*
24/2/2011	*	*
25/2/2011	*	*
26/2/2011	*	*
27/2/2011	*	*
28/2/2011	102	14

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) [#]	Opacity (%)
1/3/2011	FGD Bypassed	12
2/3/2011	*	*
3/3/2011	*	*
4/3/2011	*	*
5/3/2011	*	*
6/3/2011	*	*
7/3/2011	*	*
8/3/2011	*	*
9/3/2011	*	*
10/3/2011	*	*
11/3/2011	*	*
12/3/2011	112	14
13/3/2011	*	*
14/3/2011	81	14
15/3/2011	86	12
16/3/2011	*	*
17/3/2011	*	*
18/3/2011	*	*
19/3/2011	*	*
20/3/2011	*	*
21/3/2011	61	15
22/3/2011	31	14
23/3/2011	*	*
24/3/2011	*	*
25/3/2011	*	*
26/3/2011	*	*
27/3/2011	*	*
28/3/2011	*	*
29/3/2011	*	*
30/3/2011	*	*
31/3/2011	*	*

Note: # - Hourly average value. Expressed as at 0°C, 101.325kPa, dry and corrected to 12% CO₂ condition.

* - Unit L2 was not on load.

B.2.4 Summary of Annual Stack Particulate Sampling

No stack particulate sampling was conducted in the reporting period.

B.3 Ambient SO₂ and NO₂ 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: JANUARY
 YEAR : 2011
 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	12	12	14	14	14	13	12	13	13	13	12	12	13	14	15	14	13	10	9	7	6	****	5	12
2	5	4	4	4	4	5	5	6	6	7	7	10	9	9	7	6	7	6	7	7	10	10	****	7	7
3	6	5	6	7	7	10	11	12	20	21	16	13	9	8	7	6	7	8	8	9	7	5	****	5	9
4	6	4	4	2	2	1	1	1	1	2	2	2	3	3	4	4	4	5	5	7	8	8	****	9	4
5	8	8	8	8	8	7	7	6	7	7	7	8	9	8	7	7	6	9	19	18	18	15	****	7	9
6	11	11	9	8	11	T	7	6	9	5	4	5	5	10	9	8	8	9	7	11	7	7	****	7	8
7	7	6	6	6	7	7	7	8	9	12	12	13	14	16	22	24	24	28	31	34	31	25	****	29	16
8	23	22	23	28	24	20	16	17	16	17	17	17	15	17	18	16	19	16	23	30	34	36	****	18	21
9	20	31	42	34	27	24	24	23	24	24	22	20	24	23	23	21	31	24	25	23	24	22	****	23	25
10	30	27	25	25	25	26	27	28	30	36	35	33	28	32	36	44	43	49	44	35	32	28	****	27	32
11	27	28	25	26	26	25	28	32	37	34	33	31	30	21	16	11	9	10	11	15	7	5	****	4	21
12	3	0	0	0	0	0	1	1	1	2	2	2	1	2	2	3	3	1	3	4	4	4	****	4	2
13	2	2	2	2	2	3	6	6	7	7	8	9	10	11	12	11	10	9	7	8	16	37	****	34	10
14	23	16	12	11	12	12	11	11	9	6	5	3	2	10	5	5	8	31	46	38	38	45	****	70	19
15	95	37	53	44	32	23	16	12	10	9	11	13	13	12	13	16	17	21	22	22	22	20	****	19	24
16	17	15	15	14	14	13	13	13	16	17	14	14	13	13	13	13	12	11	9	10	10	10	****	9	13
17	9	10	9	10	11	12	14	17	22	19	17	16	15	17	19	21	15	10	10	8	7	6	****	6	13
18	6	5	6	5	6	7	9	10	10	11	11	10	9	8	8	7	6	6	6	7	8	7	****	7	8
19	8	8	10	11	8	6	5	5	7	11	12	13	12	13	14	17	10	7	6	5	5	4	****	4	9
20	3	3	3	4	5	11	6	5	10	19	26	15	15	16	14	17	21	20	31	28	22	15	****	10	14
21	10	18	8	9	7	11	12	13	12	7	4	6	10	9	12	14	13	20	23	19	13	9	****	8	12
22	7	7	6	7	8	12	11	9	8	7	8	7	7	7	7	6	6	7	5	7	5	4	****	4	7
23	5	4	4	5	5	3	4	5	12	26	17	19	25	19	33	38	34	30	28	25	28	18	****	30	18
24	23	11	8	9	11	12	18	15	18	17	23	16	26	28	30	31	26	24	25	22	14	14	****	11	19
25	8	8	8	8	9	8	8	7	9	12	15	14	14	13	16	17	19	18	19	13	10	8	****	6	12
26	6	6	6	7	7	8	7	8	15	19	15	18	37	26	27	14	20	16	9	7	5	5	****	5	13
27	5	5	3	4	4	3	3	14	15	9	9	9	12	13	15	11	8	8	6	6	4	****	6	8	
28	5	4	4	4	4	4	12	8	9	9	9	6	6	6	11	15	11	11	8	8	7	6	****	5	8
29	5	4	3	4	7	8	8	6	10	9	11	13	17	16	12	13	13	15	14	16	15	11	****	8	10
30	7	10	9	8	8	9	7	10	10	8	9	11	12	13	13	10	16	18	20	17	12	12	****	10	11
31	9	9	8	8	9	9	9	9	16	11	10	10	10	10	10	11	11	10	7	6	5	5	****	4	9

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	
10	10	10	26	32	37	44	0 - 95	2 - 32	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: JANUARY
 YEAR : 2011
 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	61	54	27	25	17	17	24	30	31	32	37	37	34	34	27	36	45	40	45	44	36	37	****	16	34
2	16	11	8	7	7	8	10	13	19	26	29	30	31	32	29	30	28	39	34	32	32	35	****	25	23
3	23	19	21	19	21	30	42	58	67	70	69	68	65	65	72	73	80	84	81	77	67	59	****	42	55
4	32	21	12	10	9	10	13	22	33	37	37	39	43	52	58	52	53	47	53	60	53	48	****	30	36
5	32	28	22	19	18	17	21	33	48	48	45	51	44	51	49	55	69	96	122	122	118	101	****	48	55
6	73	75	42	36	41	T	34	40	46	45	50	41	41	53	58	54	53	58	63	70	64	62	****	51	52
7	54	40	36	28	24	26	30	44	48	52	54	54	60	64	74	75	89	98	100	97	82	81	****	79	60
8	67	66	68	64	52	39	40	45	47	49	48	55	49	57	64	77	87	98	109	148	170	170	****	135	78
9	107	115	116	108	97	47	46	45	54	56	60	57	60	63	55	56	70	63	62	48	54	75	****	74	69
10	66	51	28	23	23	22	32	51	71	84	83	78	74	82	77	87	96	114	110	96	100	116	****	101	72
11	109	101	72	48	45	33	38	53	68	70	64	71	62	56	59	63	78	88	89	83	74	70	****	67	68
12	56	53	43	26	23	28	36	51	59	61	64	64	54	53	62	68	72	62	64	58	53	46	****	36	52
13	29	24	21	20	21	16	17	36	46	46	43	45	45	47	59	55	52	43	85	121	134	140	****	132	55
14	117	88	72	58	40	24	21	40	49	44	63	45	53	66	70	87	108	154	194	175	171	127	****	124	87
15	163	129	139	117	77	52	37	43	33	39	45	50	56	54	56	66	72	89	73	60	58	57	****	48	70
16	53	46	34	32	27	27	30	41	54	56	47	47	38	37	41	50	43	41	39	43	41	29	****	22	40
17	18	18	14	17	15	17	22	45	60	66	69	61	55	62	65	74	76	61	72	47	41	29	****	24	45
18	18	12	14	11	10	12	22	38	55	58	46	40	40	37	41	49	64	69	98	81	62	51	****	81	44
19	76	46	37	26	14	18	23	30	53	58	50	46	47	55	93	103	98	80	51	36	34	24	****	26	49
20	24	22	17	21	29	48	40	57	68	89	105	102	93	89	90	122	127	149	132	112	99	91	****	69	78
21	58	61	44	46	40	47	50	52	60	71	68	75	83	72	78	92	98	116	119	114	103	102	****	86	75
22	78	77	42	59	66	57	50	52	50	52	53	57	52	45	49	57	56	77	79	95	90	75	****	38	61
23	43	32	35	24	30	21	45	54	61	81	84	78	76	81	90	95	94	91	90	106	122	106	****	111	72
24	91	59	41	43	38	49	59	63	66	72	71	55	68	70	75	87	86	96	104	109	72	42	****	35	67
25	31	22	16	14	15	15	19	35	51	59	53	49	47	47	62	77	94	102	128	133	79	60	****	38	54
26	28	18	21	28	29	44	22	53	78	106	102	93	75	62	64	61	93	112	122	69	41	45	****	29	61
27	22	16	15	17	15	19	29	57	69	84	74	62	66	61	74	86	93	91	121	106	38	35	****	30	56
28	23	14	13	12	17	20	50	56	63	65	65	59	65	58	77	87	86	88	81	79	60	52	****	58	54
29	53	35	25	18	21	25	30	47	62	63	68	64	61	62	65	60	67	79	82	79	68	63	****	62	55
30	48	46	32	26	23	23	29	46	49	51	54	52	57	54	55	64	75	81	113	92	81	63	****	31	54
31	24	40	33	19	13	7	14	34	66	55	43	37	51	39	47	60	64	61	54	29	25	28	****	24	38

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	
49	53	53	98	115	132	149	7	- 194	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: FEBRUARY
 YEAR : 2011
 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	3	2	3	2	3	3	3	5	7	11	13	15	21	21	22	25	29	29	29	30	28	****	40	15	
2	15	11	9	9	8	10	11	12	16	17	23	17	18	18	22	21	14	10	9	8	7	8	****	5	13	
3	4	5	4	3	4	4	3	4	5	5	6	7	8	9	10	9	9	8	9	14	13	16	****	21	8	
4	23	21	18	18	15	12	17	30	44	40	36	23	28	24	28	18	21	27	17	16	16	18	****	17	23	
5	16	15	14	13	11	8	6	4	4	5	5	6	7	8	7	7	6	6	6	6	4	2	****	4	8	
6	4	4	4	5	7	7	6	7	7	7	7	8	9	8	7	5	4	3	3	2	1	2	****	3	5	
7	2	2	3	4	5	5	4	6	6	6	7	7	7	5	3	2	2	2	2	2	2	2	****	4	4	
8	3	2	1	0	0	0	0	0	0	1	4	7	13	8	2	6	5	7	2	0	1	1	****	1	3	
9	1	0	0	0	0	1	1	1	1	1	2	2	1	0	1	0	0	1	1	1	1	1	****	1	1	
10	0	0	0	0	0	0	0	0	0	0	0	1	24	19	7	2	8	5	8	11	10	17	****	4	5	
11	6	6	3	2	2	2	1	1	1	1	2	1	1	2	3	3	7	5	4	5	7	4	****	3	3	
12	2	2	2	2	2	2	2	2	2	3	3	2	3	3	3	4	4	6	5	6	6	5	****	5	3	
13	6	6	6	6	5	5	4	4	4	4	3	2	2	1	1	1	2	3	1	1	0	0	****	0	3	
14	0	0	2	1	1	1	2	4	4	12	5	6	4	4	7	15	5	4	8	4	4	3	****	2	4	
15	2	2	2	2	2	2	2	2	1	1	1	0	1	1	1	0	0	0	0	0	0	0	****	1	1	
16	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	****	0	0	
17	0	0	0	0	0	0	0	0	0	4	0	1	5	8	8	14	21	13	7	2	2	2	1	****	3	4
18	2	2	3	3	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	****	1	1	
19	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	0	2	****	2	1	
20	2	1	0	1	1	0	1	2	2	4	7	7	11	9	12	10	8	5	6	4	4	5	****	3	5	
21	2	2	2	3	2	2	2	2	2	3	4	4	4	3	3	2	2	2	1	1	2	3	****	3	2	
22	2	2	2	2	1	1	2	2	2	2	3	2	3	5	5	4	3	4	3	3	3	3	****	3	3	
23	3	3	3	3	2	2	3	4	3	4	5	7	9	15	8	9	5	5	4	4	3	4	****	8	5	
24	6	6	6	4	4	4	3	3	4	6	25	33	40	23	18	14	11	11	6	6	5	4	****	6	11	
25	6	5	5	3	3	3	2	3	4	4	7	5	7	6	6	4	4	4	3	2	3	2	****	0	4	
26	1	1	1	0	0	0	1	1	3	3	3	4	5	3	4	2	3	3	2	2	3	1	****	1	2	
27	1	1	1	1	1	1	0	0	1	1	2	2	3	2	2	0	0	1	1	1	1	1	****	1	1	
28	1	1	1	1	1	1	1	1	1	1	1	3	3	5	8	2	1	1	1	1	1	1	****	2	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	3	3	13	19	28	30	0	44	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: FEBRUARY
 YEAR : 2011
 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	13	8	7	8	9	12	30	55	70	78	71	85	67	56	58	60	72	128	165	165	134	****	147	66
2	92	40	29	38	42	19	25	39	88	92	100	88	78	70	71	60	47	39	60	72	49	28	****	22	56
3	17	19	17	15	14	15	16	14	11	17	26	22	33	41	36	60	54	68	94	77	60	49	****	30	35
4	28	30	23	20	15	11	12	17	24	35	78	76	94	76	74	79	110	135	157	66	77	40	****	23	57
5	18	21	23	17	18	27	16	16	19	29	37	54	46	49	47	58	63	42	45	42	47	34	****	30	35
6	30	10	7	7	8	6	8	12	18	26	39	65	73	59	70	67	60	60	65	52	27	12	****	13	35
7	10	11	15	20	10	10	18	25	37	40	61	56	52	57	44	65	61	31	26	26	17	35	****	34	33
8	30	19	19	9	6	6	5	4	22	70	84	85	79	34	35	61	67	60	59	37	32	21	****	15	37
9	13	8	7	6	6	6	7	10	18	28	26	19	18	17	19	31	26	25	24	21	12	13	****	11	16
10	11	7	3	3	5	5	10	22	29	40	64	73	93	77	48	35	51	56	71	59	67	104	****	18	41
11	71	65	31	40	16	8	12	27	50	54	43	48	50	60	62	62	78	83	83	90	85	69	****	48	54
12	53	42	21	19	17	16	22	33	38	35	33	29	26	24	30	25	29	32	28	26	22	17	****	18	28
13	18	14	11	10	12	9	11	16	20	29	38	55	63	52	44	50	49	63	55	60	53	52	****	50	36
14	48	40	33	25	17	12	25	40	64	69	61	62	51	55	65	79	71	77	82	73	54	44	****	28	51
15	30	17	9	8	10	9	12	24	33	39	34	37	31	37	34	39	37	30	29	30	29	21	****	16	26
16	16	14	12	10	9	10	11	16	22	30	32	44	35	56	64	72	58	37	42	52	38	26	****	25	32
17	30	15	8	10	8	13	8	12	21	49	38	43	55	77	58	80	94	93	67	43	62	47	****	53	43
18	33	47	59	53	40	36	29	23	31	33	37	32	37	33	40	43	52	48	48	46	34	40	****	36	40
19	36	22	19	19	20	20	20	26	29	30	34	50	46	42	50	48	58	57	60	61	61	65	****	57	40
20	54	41	41	38	41	37	39	44	45	51	50	56	58	65	72	68	67	57	74	79	70	58	****	31	54
21	27	20	11	12	17	18	20	37	47	49	48	45	42	47	52	55	58	56	65	47	63	54	****	23	40
22	25	16	14	11	11	11	15	24	32	29	32	33	34	50	55	53	56	56	44	47	34	31	****	41	33
23	14	28	17	12	13	10	16	37	46	47	50	76	79	72	83	86	83	111	122	61	38	32	****	38	51
24	16	9	7	6	5	5	8	8	35	76	102	101	94	63	85	89	104	113	96	92	45	21	****	11	52
25	7	15	19	9	9	10	11	20	30	44	40	36	40	56	46	36	57	82	57	30	31	22	****	15	31
26	15	11	8	9	8	9	14	11	23	37	38	42	33	25	55	49	61	54	39	45	25	26	****	14	28
27	17	24	19	31	34	31	11	13	26	34	51	33	36	49	45	26	38	44	35	30	28	18	****	13	30
28	11	4	4	8	5	3	5	12	22	65	48	32	29	33	36	30	24	17	14	15	32	13	****	11	21

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		
31	34	34	73	85	103	125	3	- 165	16	- 66	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: MARCH
YEAR : 2011
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	5	26	****	2	1
2	0	0	0	0	1	1	2	3	3	3	3	6	18	13	13	16	16	5	4	3	2	****	1	5	
3	1	2	1	2	2	2	1	2	4	6	6	7	7	7	8	13	10	14	11	6	5	3	****	3	5
4	3	3	4	5	5	5	5	5	6	7	8	8	8	8	9	10	10	10	8	7	6	6	****	5	7
5	6	6	6	6	8	7	8	7	8	9	11	11	12	10	10	10	11	12	9	8	8	9	****	9	9
6	8	7	7	6	5	4	4	3	4	6	4	4	5	4	4	5	18	17	5	2	1	1	****	0	5
7	0	0	0	5	14	18	14	5	14	10	6	4	5	6	8	9	10	13	16	5	3	3	****	2	7
8	2	3	3	2	3	3	3	4	5	5	8	10	10	10	9	9	8	8	9	9	10	11	****	8	7
9	7	7	9	8	6	6	5	4	5	6	7	8	8	7	6	7	7	6	5	5	6	4	****	5	6
10	3	2	3	3	3	4	5	4	5	6	6	7	8	8	8	8	8	9	11	8	6	7	****	4	6
11	4	3	3	3	3	3	4	4	5	5	8	12	14	19	13	7	9	10	11	10	8	10	****	6	8
12	3	2	0	0	1	2	2	2	2	5	8	7	4	2	2	2	2	3	2	1	1	4	****	5	3
13	5	5	5	4	2	0	2	5	7	21	25	26	33	16	7	6	7	6	5	3	3	3	****	3	9
14	2	2	1	1	2	1	1	0	1	2	7	2	4	12	7	11	11	16	17	18	16	16	****	20	8
15	25	24	26	33	34	40	43	43	34	6	3	4	7	7	6	6	6	5	5	6	3	2	****	3	16
16	3	4	4	4	3	3	3	4	6	7	8	6	5	6	7	9	9	11	11	14	11	10	****	11	7
17	10	10	11	11	11	11	11	11	13	12	12	11	11	11	12	12	12	13	11	10	9	8	****	6	11
18	6	7	7	7	6	6	5	6	4	4	3	3	3	3	2	1	1	1	1	0	0	0	****	0	3
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
20	0	0	0	1	0	1	0	0	1	0	1	1	2	1	1	1	1	0	1	0	0	0	****	0	1
21	0	0	0	0	0	0	1	7	3	3	1	1	0	0	0	0	0	0	0	0	0	0	****	1	1
22	1	1	0	0	4	12	2	4	15	7	18	9	1	2	5	15	15	11	12	12	7	6	****	2	7
23	2	1	2	2	2	3	2	3	7	3	3	4	4	4	4	5	5	5	4	4	4	3	****	2	3
24	2	3	3	4	4	3	3	3	5	8	10	10	10	14	12	12	5	4	6	6	5	3	****	2	6
25	4	4	4	6	6	6	7	9	19	12	10	12	14	14	13	11	17	21	13	10	10	10	****	9	10
26	7	6	7	8	9	9	9	10	11	12	15	16	19	20	19	18	17	16	15	14	12	11	****	8	13
27	8	10	10	10	11	16	21	16	19	16	12	10	10	6	6	6	8	5	6	16	8	7	****	5	11
28	4	3	1	2	2	1	3	8	8	7	7	<-----D----->											****	5	5
29	7	7	7	8	7	7	8	10	17	15	<-- M -->	15	17	17	18	18	17	16	21	25	16	****	16	14	
30	17	13	13	15	15	16	17	17	18	19	20	23	19	20	23	23	20	19	19	18	21	23	****	14	18
31	14	14	13	13	10	10	9	10	8	8	6	6	5	4	5	5	6	7	9	8	7	6	****	4	8

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
4	6	6	16	19	23	26	0 - 43	0 - 18	4	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 : VICTORIA PEAK
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: MARCH
 YEAR : 2011
 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	10	34	8	7	12	37	60	69	61	52	53	41	46	70	61	68	20	73	111	****	37	40			
2	21	15	12	17	20	25	36	53	53	54	56	80	80	77	71	69	101	73	45	44	33	****	28	49				
3	23	20	15	11	11	15	22	38	70	83	82	88	86	73	83	80	109	122	137	98	51	45	****	33	61			
4	27	23	20	20	16	17	24	36	41	51	50	51	42	31	25	28	33	37	36	23	21	21	****	13	30			
5	14	20	15	13	15	12	14	14	25	42	43	47	43	45	30	23	27	33	32	30	22	21	****	23	26			
6	19	13	12	10	10	9	11	13	14	20	24	24	38	41	39	40	73	88	58	47	24	17	****	24	29			
7	21	18	32	68	81	72	59	51	53	53	51	52	60	59	66	64	74	69	74	44	37	33	****	23	53			
8	28	22	18	16	14	16	22	39	44	44	45	48	42	47	60	68	70	81	83	58	53	44	****	25	43			
9	22	15	13	11	10	11	16	30	44	54	49	44	41	41	73	77	67	66	64	55	60	56	****	33	41			
10	24	17	12	13	11	10	17	28	36	39	41	45	52	49	53	57	68	103	106	87	65	61	****	44	45			
11	41	34	25	21	20	21	25	40	49	50	57	56	50	46	54	68	41	66	82	55	41	50	****	40	45			
12	24	18	16	13	11	14	15	23	36	56	43	39	32	39	51	58	57	82	108	107	87	83	****	34	46			
13	39	37	28	22	14	8	13	28	43	96	109	105	89	69	40	43	48	48	43	32	25	21	****	20	44			
14	17	17	16	14	15	11	16	28	57	78	86	86	38	62	59	60	63	73	84	94	66	60	****	33	49			
15	32	51	49	50	49	42	49	88	113	41	44	36	40	45	68	98	67	71	63	61	44	43	****	48	56			
16	51	47	27	21	15	14	25	48	62	67	59	48	37	34	45	57	56	72	83	82	72	60	****	57	50			
17	67	47	32	29	28	19	28	46	59	51	43	36	31	42	44	55	56	53	53	43	37	29	****	23	41			
18	22	14	13	10	9	11	15	30	43	52	35	32	34	35	38	41	47	48	48	52	54	44	****	30	33			
19	26	24	15	12	9	7	10	19	29	39	42	32	38	31	25	31	36	36	32	27	43	34	****	21	27			
20	21	15	13	10	9	10	15	19	22	28	48	57	56	35	41	39	34	37	46	21	20	32	****	16	28			
21	19	11	6	4	3	3	14	38	23	30	22	24	17	10	11	15	17	23	13	13	3	1	****	8	14			
22	6	1	2	25	26	32	13	20	50	49	67	52	33	43	60	69	75	78	82	82	68	65	****	66	46			
23	63	47	40	32	28	31	34	47	49	47	41	37	39	40	54	59	67	64	65	69	53	47	****	38	48			
24	37	32	18	19	30	27	26	37	41	57	60	62	70	74	83	75	66	75	82	73	69	65	****	60	54			
25	57	46	33	31	26	25	33	49	64	57	47	45	45	32	40	73	63	77	59	38	51	42	****	19	46			
26	17	13	16	14	10	10	13	23	43	66	64	61	60	43	64	62	57	60	49	52	52	43	****	34	40			
27	24	35	27	25	31	38	42	38	55	60	59	72	53	51	59	66	71	70	73	85	73	69	****	41	53			
28	39	26	20	19	14	21	27	60	61	52	49	<----- D ----->					43	42	26	25	26	39	****	12	33			
29	12	6	6	6	6	8	14	29	79	74	<-- M -->					75	69	106	135	155	152	150	72	68	32	****	33	61
30	22	16	14	13	11	11	15	27	40	52	43	40	33	38	40	44	36	50	72	93	45	34	****	49	36			
31	12	14	14	12	9	8	12	32	52	69	57	51	57	53	66	33	40	53	84	69	46	35	****	22	39			

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		
35	40	40	73	83	104	110	0	- 155	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 300 OR 24-HR OBJECTIVE 150

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

STATION : CHUNG HOM KOK ZONE SUBSTATION MONTH: FEBRUARY YEAR : 2011
 POLLUTANT : SULPHUR DIOXIDE 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	8	7	7	10	10	11	11	14	40	51	37	21	17	14	20	30	25	27	24	****	21	19
2	14	10	10	10	9	9	15	15	20	32	45	27	33	22	15	13	12	12	8	10	12	12	****	7	16
3	6	6	6	6	6	8	7	9	6	8	10	11	11	10	10	10	14	9	9	8	9	****	9	9	
4	8	9	11	9	7	6	7	9	8	10	14	16	15	13	12	12	13	16	17	12	12	13	****	14	11
5	15	16	17	15	13	11	10	10	13	12	12	13	14	14	13	14	17	17	12	9	8	8	****	11	13
6	10	10	10	12	13	13	13	15	16	14	15	15	16	15	12	12	12	12	15	15	11	20	****	15	14
7	12	12	13	15	14	13	13	15	15	15	14	14	13	13	13	11	15	19	22	21	18	14	****	17	15
8	16	13	12	10	11	10	9	9	11	12	9	10	9	9	11	11	15	23	27	31	36	27	****	12	15
9	10	9	8	6	7	8	8	7	6	7	6	7	6	10	8	8	9	7	13	17	15	11	****	10	9
10	9	6	7	7	7	9	8	11	9	10	9	8	7	8	8	11	8	9	8	9	11	11	****	20	9
11	14	13	12	11	10	10	8	8	7	9	11	8	7	8	9	10	8	9	9	10	12	10	****	9	10
12	10	11	9	8	8	10	6	7	7	9	9	8	10	11	11	13	12	13	13	14	12	10	****	13	10
13	13	12	12	11	12	12	12	13	11	13	10	8	6	6	9	9	6	7	9	6	5	5	****	7	9
14	5	5	8	8	8	7	5	6	8	5	7	9	9	9	7	6	6	7	6	7	7	7	****	6	7
15	5	6	7	7	7	7	7	9	8	7	7	7	8	7	6	6	7	6	4	4	5	6	****	7	6
16	7	8	8	7	7	8	8	7	6	6	5	5	4	4	5	6	5	3	3	4	5	4	****	3	5
17	3	5	3	4	4	10	7	4	4	45	13	7	27	56	44	57	57	50	39	38	38	42	****	39	26
18	38	39	35	37	34	33	9	5	5	5	5	6	4	3	3	5	4	3	5	4	7	8	****	7	13
19	6	7	5	5	3	6	5	5	4	4	6	5	6	13	7	10	11	7	7	8	8	7	****	21	7
20	58	33	26	11	11	21	18	16	16	9	16	39	40	40	43	40	16	10	11	12	11	10	****	11	23
21	12	9	11	14	13	11	11	12	14	18	17	11	11	11	12	11	9	7	7	13	13	11	****	11	12
22	12	10	11	11	11	10	8	8	8	11	9	11	<----- D ----->	14	14	16	16	16	17	17	17	16	****	16	12
23	17	15	15	15	15	17	17	17	18	19	20	16	16	16	17	17	15	16	16	16	18	23	****	20	17
24	21	22	18	22	20	16	15	15	18	17	20	7	3	3	4	6	8	6	5	2	15	6	****	9	12
25	8	10	5	2	3	2	3	2	1	2	4	6	7	5	5	1	0	0	1	8	1	****	0	3	
26	0	2	0	0	0	0	2	0	0	0	0	2	0	0	0	0	2	0	3	1	1	4	****	0	1
27	0	0	2	0	0	0	0	1	0	0	0	0	1	0	0	1	2	0	0	0	0	1	****	7	1
28	14	8	2	1	1	0	0	38	9	0	10	0	2	22	1	0	0	0	0	0	1	8	****	1	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	
8	9	9	19	31	40	45	0	58	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 : CHUNG HOM KOK ZONE SUBSTATION MONTH: FEBRUARY YEAR : 2011
 POLLUTANT : NITROGEN DIOXIDE 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	6	5	6	5	6	12	16	23	24	30	57	76	57	36	28	24	31	57	43	41	58	****	37	30
2	31	17	11	11	18	27	49	45	56	67	65	54	53	39	21	23	21	18	7	11	13	15	****	10	30
3	9	10	9	8	8	8	6	10	10	11	11	14	16	16	18	20	28	42	22	28	24	12	****	15	15
4	28	21	10	10	7	7	7	11	18	20	21	24	20	19	25	25	24	31	36	32	24	36	****	46	22
5	51	15	20	12	18	10	7	10	15	18	17	14	18	20	18	19	27	31	20	13	9	8	****	9	17
6	10	6	5	5	4	4	5	7	9	13	17	18	19	20	16	21	25	26	28	21	11	28	****	11	14
7	12	13	15	11	8	7	8	12	9	7	9	10	12	9	13	14	22	33	31	31	18	16	****	16	15
8	18	11	9	8	9	9	8	12	16	19	15	16	16	17	14	15	16	29	33	47	39	30	****	12	18
9	15	10	9	9	9	13	18	25	21	25	19	15	12	18	15	19	16	6	15	17	18	13	****	12	15
10	10	9	9	7	8	7	10	14	11	14	14	17	15	17	16	20	20	29	28	26	24	12	****	16	15
11	14	16	17	15	11	8	12	14	17	19	15	17	16	23	28	30	27	27	28	28	29	20	****	18	20
12	16	17	13	11	11	11	13	14	14	15	13	12	13	16	17	17	14	17	20	15	11	8	****	9	14
13	9	6	7	7	8	7	8	9	10	11	16	21	25	53	58	54	51	54	53	34	38	31	****	28	26
14	25	21	29	27	17	9	14	22	39	35	45	51	48	43	39	31	46	41	26	15	14	12	****	4	28
15	4	4	4	5	5	6	10	11	11	10	12	11	12	13	14	14	14	15	13	12	12	10	****	9	10
16	9	8	9	9	9	10	9	10	10	12	12	16	14	17	21	17	18	14	12	13	17	12	****	13	13
17	13	12	10	11	12	29	19	23	21	51	35	28	36	69	74	88	96	99	99	93	86	83	****	71	50
18	64	55	56	49	47	35	19	16	13	18	17	17	14	17	18	23	24	25	24	20	21	24	****	19	28
19	15	14	13	14	13	12	14	18	16	19	18	23	22	39	38	42	44	43	43	43	44	46	****	28	27
20	43	40	39	36	29	26	26	29	32	25	30	42	42	45	52	59	33	32	30	23	19	11	****	11	33
21	11	9	10	13	14	16	17	18	19	19	19	15	21	20	23	24	21	12	13	22	18	11	****	9	16
22	11	9	10	8	8	7	5	8	8	12	10	10	<----- D ----->	2	3	4	5	4	5	3	****	4	7		
23	2	2	4	3	3	4	7	10	14	18	19	16	15	15	16	17	19	23	7	7	7	16	****	16	11
24	15	9	10	11	20	11	16	36	28	26	21	18	21	22	21	21	25	22	24	31	20	14	****	15	20
25	10	12	10	10	10	5	8	18	16	19	15	17	19	22	18	15	18	18	15	16	21	13	****	9	15
26	8	6	7	5	5	6	5	8	9	9	8	8	12	13	14	16	23	27	34	33	29	22	****	8	14
27	5	4	5	4	5	5	5	7	7	13	12	14	14	15	22	27	39	24	21	14	14	15	****	41	14
28	41	38	15	17	22	24	16	41	42	26	34	21	14	32	16	11	M	23	22	17	15	20	****	13	24

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	50	DEVIATION	VALID DATA	1-HR	24-HR			
16	16	16	39	51	65	80	2	-	99	7	-	50	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 300 OR 24-HR OBJECTIVE 150

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

STATION : CHUNG HOM KOK ZONE SUBSTATION MONTH: MARCH YEAR : 2011
 POLLUTANT : SULPHUR DIOXIDE 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	****	2	0	
2	0	0	0	2	0	1	3	4	4	2	2	2	3	19	7	2	4	4	7	4	3	1	****	1	3
3	1	0	0	0	0	0	0	8	8	6	5	6	7	7	6	6	4	5	6	7	5	1	****	2	4
4	0	0	2	2	3	7	4	7	8	7	8	8	6	8	7	8	7	7	8	4	6	4	****	5	5
5	3	5	5	10	11	10	10	11	12	9	9	12	13	12	11	10	12	12	14	10	13	11	****	13	10
6	10	9	8	7	5	2	1	1	5	6	5	6	5	5	1	1	0	0	1	0	0	0	****	3	4
7	7	9	18	28	49	39	13	1	2	5	4	3	13	17	22	9	16	15	4	2	3	1	****	3	12
8	5	6	6	4	7	7	6	6	7	11	11	14	11	11	12	8	8	8	9	10	11	9	****	4	8
9	2	3	5	4	4	4	5	4	4	8	5	7	9	8	6	6	7	6	6	6	3	3	****	4	5
10	2	0	3	4	4	3	4	6	8	10	7	8	7	8	9	8	8	7	7	8	8	8	****	2	6
11	3	1	6	7	7	6	6	8	7	10	12	16	13	20	7	8	11	13	17	15	11	15	****	7	10
12	5	1	0	1	4	4	4	5	7	25	36	22	6	4	3	3	0	0	0	0	2	0	****	3	6
13	5	0	0	0	0	11	7	5	17	27	75	34	23	9	13	12	21	13	3	4	8	6	****	8	13
14	8	2	0	2	0	1	1	0	0	0	1	67	5	4	12	27	36	26	31	28	20	17	****	21	13
15	13	20	18	26	88	45	26	16	10	2	4	4	6	5	6	8	4	2	2	2	4	3	****	4	14
16	4	5	4	4	3	3	4	3	3	5	6	6	4	3	4	6	7	8	10	12	13	11	****	11	6
17	10	12	10	10	10	12	14	13	13	13	13	12	11	15	17	16	17	12	10	9	8	6	****	7	12
18	8	9	9	10	9	9	11	8	7	7	8	9	7	7	6	6	7	8	6	3	4	1	****	2	7
19	1	2	0	0	0	0	2	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	****	0	0
20	0	2	0	0	0	0	2	0	0	0	0	2	0	0	0	2	8	4	2	1	0	1	****	1	1
21	1	2	2	0	0	0	0	2	0	0	4	1	1	0	1	2	2	1	0	0	0	1	****	0	1
22	0	0	2	0	2	1	13	9	34	133	56	3	2	4	6	3	4	4	4	5	5	5	****	2	13
23	1	2	3	5	6	6	7	7	5	4	5	5	7	2	3	4	5	4	3	4	2	2	****	2	4
24	5	5	8	6	6	6	5	9	8	6	14	28	15	7	14	30	28	6	6	3	3	4	****	5	10
25	5	6	7	8	6	7	8	12	11	10	11	14	17	15	13	9	10	13	14	13	12	11	****	9	10
26	8	7	8	10	10	13	13	17	19	19	21	20	22	20	20	19	19	19	19	16	14	10	****	14	15
27	13	15	16	18	20	22	23	24	23	20	18	16	15	14	13	12	9	9	12	13	13	11	****	12	16
28	10	10	11	11	9	10	10	12	13	11	13	13	14	12	11	13	13	15	19	19	17	16	****	13	13
29	11	12	14	15	13	15	16	17	18	20	20	21	20	21	22	20	17	16	20	24	18	16	****	17	18
30	15	15	15	17	19	19	20	20	21	22	22	22	18	20	22	19	18	16	20	30	19	19	****	15	19
31	13	15	14	15	16	12	12	14	14	14	12	10	8	8	9	13	13	13	15	12	10	8	****	8	12

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	ABOVE OBJECTIVE	
6	7	7	19	22	29	38	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 : SULPHUR DIOXIDE
 MONTH: JANUARY
 YEAR : 2011
 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	10	11	11	12	12	12	12	13	13	13	12	11	11	12	12	10	10	9	8	7	6	****	4	11																	
2	4	4	4	4	5	5	7	8	8	8	8	9	8	7	5	5	6	7	9	9	9	****	8	6																		
3	8	7	9	10	10	17	16	13	14	15	12	11	11	11	17	15	19	17	16	20	18	18	****	12	14																	
4	9	7	5	5	3	3	2	3	4	4	3	4	4	8	10	10	10	7	6	7	10	10	****	7	6																	
5	7	7	7	7	6	6	6	7	7	11	7	10	8	16	14	6	17	23	27	30	31	30	****	28	14																	
6	31	22	17	17	16	19	22	13	13	11	11	17	19	22	17	12	10	10	9	9	8	****	9	15																		
7	11	8	7	8	10	22	23	13	17	15	22	24	27	35	27	26	21	20	20	20	27	22	****	26	20																	
8	23	28	23	21	20	17	19	25	17	15	17	18	24	25	30	50	37	35	26	31	44	44	****	20	27																	
9	24	33	<	-----																				>																		
10	Datalogger Fault																				32	37	38	29	32	40	42	41	41	34	34	29	****	46								
11	55	50	52	40	28	26	30	35	34	33	31	30	33	30	19	12	9	8	8	7	6	6	****	5	26																	
12	4	3	2	2	7	8	9	10	9	9	12	8	9	17	21	25	31	21	12	8	8	6	****	5	11																	
13	4	3	4	4	5	11	10	8	8	8	8	8	10	19	14	8	7	6	7	23	52	****	40	12																		
14	19	18	20	22	17	15	15	31	55	45	44	49	73	62	62	60	49	38	53	46	58	****	101	42																		
15	87	75	54	42	35	25	17	15	12	12	14	15	17	13	12	13	13	15	20	21	21	19	****	18	25																	
16	16	15	14	14	14	13	13	14	14	14	12	13	11	11	10	10	9	8	8	9	10	****	8	12																		
17	9	9	9	10	11	12	13	15	20	18	13	12	10	20	33	16	13	12	12	9	8	7	****	7	13																	
18	6	5	6	5	7	8	10	10	10	10	8	7	5	5	3	3	2	2	3	5	6	7	****	7	6																	
19	7	8	15	12	9	9	7	7	9	14	12	12	10	10	12	14	14	10	5	5	5	3	****	3	9																	
20	2	2	3	6	18	14	19	24	31	34	44	50	19	28	23	28	24	30	46	34	32	23	****	19	24																	
21	17	10	9	8	10	18	15	17	9	9	22	25	15	11	24	13	9	11	19	21	14	18	****	9	15																	
22	8	9	13	22	15	31	36	28	30	26	11	8	8	7	7	6	7	13	6	7	8	7	****	7	14																	
23	7	6	7	16	12	18	19	35	41	30	35	27	27	21	41	45	35	65	37	36	32	32	****	22	28																	
24	20	18	10	22	23	27	21	20	36	30	35	27	37	29	33	35	27	32	27	23	22	17	****	10	25																	
25	10	9	10	10	10	10	10	10	10	13	16	16	14	15	22	21	21	32	39	19	11	9	****	8	15																	
26	7	12	9	8	9	8	10	12	18	34	33	42	28	37	20	16	14	29	29	8	6	5	****	6	17																	
27	6	5	4	5	5	5	6	9	10	33	46	24	8	11	9	8	9	8	7	6	3	****	4	10																		
28	3	2	3	3	3	10	14	8	8	8	7	5	13	8	7	5	6	5	5	7	5	****	4	6																		
29	3	6	5	5	5	5	5	6	7	8	9	9	15	16	10	11	20	21	12	11	13	11	****	10	10																	
30	9	8	7	8	7	7	7	8	9	16	23	19	19	17	24	22	18	19	22	10	11	10	****	9	13																	
31	8	8	10	8	9	9	10	11	15	13	12	11	23	33	19	10	8	9	8	8	8	7	****	6	11																	

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		
13	12	12	33	41	52	61	2	- 101	6	- 42	2	92	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 MONTH: FEBRUARY YEAR : 2011
 POLLUTANT : SULPHUR DIOXIDE 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	5	4	4	3	4	4	4	7	7	10	22	23	19	24	22	23	33	26	20	20	21	****	18	14
2	19	8	6	6	8	8	17	15	44	36	24	17	16	26	38	15	7	6	6	5	4	5	****	4	15
3	3	3	2	2	3	3	4	3	4	5	15	18	8	5	5	12	8	10	9	10	9	****	22	7	
4	17	14	17	15	13	15	12	35	94	143	99	23	18	21	17	24	42	34	21	18	17	18	****	16	32
5	20	39	75	96	65	33	37	55	92	121	71	42	39	30	29	16	14	9	7	7	20	25	****	9	41
6	7	5	5	6	8	8	9	21	36	50	32	46	28	32	21	38	14	22	17	22	44	54	****	82	26
7	117	108	89	71	77	70	46	44	19	19	35	40	56	95	16	7	6	6	11	46	49	58	****	55	49
8	41	40	97	67	53	46	40	24	78	69	72	59	47	40	23	12	19	23	18	13	16	14	****	6	40
9	3	3	3	2	2	2	2	2	11	37	20	6	2	2	3	2	2	2	2	3	4	4	****	3	5
10	2	1	1	2	2	2	2	2	9	15	49	56	43	18	6	17	7	9	11	15	15	14	****	51	15
11	56	39	42	92	75	7	5	4	3	3	3	4	3	3	11	25	12	9	9	6	5	****	4	18	
12	4	3	2	3	3	3	3	3	3	3	3	3	3	4	5	5	6	7	6	6	6	5	****	5	4
13	6	7	5	5	5	5	5	5	5	6	5	4	4	3	5	5	19	6	7	7	5	8	****	3	6
14	3	3	4	8	8	7	3	5	10	10	6	7	12	7	6	6	5	6	7	8	6	5	****	2	6
15	2	3	3	3	3	2	3	3	2	2	2	2	2	2	2	2	2	2	2	1	2	1	****	2	2
16	2	2	2	2	2	2	2	3	4	8	10	19	29	22	13	23	24	26	26	18	19	30	****	38	14
17	26	53	37	53	45	39	33	38	56	62	51	73	51	42	58	81	82	63	57	50	46	47	****	34	51
18	38	33	39	33	34	30	56	61	66	12	28	22	33	10	4	10	12	31	24	6	2	8	****	3	26
19	3	2	2	2	2	1	1	2	2	2	2	16	15	22	15	12	7	6	7	10	15	18	****	34	9
20	23	21	18	15	12	10	21	20	16	40	32	50	30	32	34	34	29	48	46	32	30	38	****	5	28
21	5	5	5	7	7	5	6	6	5	7	7	<----- D ----->	5	4	1	0	1	3	5	****	3	5	****	3	5
22	3	3	4	4	4	4	4	5	4	4	4	4	5	5	5	4	3	5	6	16	34	42	****	19	8
23	32	75	51	34	27	8	10	23	41	23	49	62	35	33	32	7	10	11	8	18	20	21	****	23	28
24	10	8	8	14	41	23	28	21	101	147	120	69	67	12	13	10	21	18	24	13	10	9	****	17	35
25	32	41	36	36	34	40	50	68	72	69	50	10	23	38	11	6	5	4	3	5	3	****	3	28	
26	3	3	3	3	3	3	3	3	6	5	6	6	5	5	5	4	5	4	4	4	5	3	****	7	4
27	33	42	43	38	29	35	49	55	43	38	46	57	31	17	31	41	30	15	21	17	8	12	****	8	32
28	26	17	6	10	28	10	5	18	39	82	133	127	105	81	35	15	10	4	2	2	2	4	****	7	33

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		
11	10	10	51	71	96	113	0	- 147	2	- 51	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 : VICTORIA ROAD SUBSTATION MONTH: FEBRUARY YEAR : 2011
 POLLUTANT : NITROGEN DIOXIDE 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	16	12	10	10	11	17	34	48	56	68	70	81	71	62	71	66	55	82	118	118	138	115	****	132	63
2	119	59	30	45	49	38	66	87	94	84	65	61	58	66	74	29	25	45	96	109	96	72	****	29	65
3	17	18	24	18	17	21	25	27	22	23	38	43	21	12	15	16	28	24	62	99	110	101	****	117	39
4	113	107	114	101	86	96	68	99	110	113	91	32	28	32	34	50	78	80	136	139	139	140	****	130	92
5	133	132	136	132	128	117	121	125	126	122	97	64	87	73	59	42	54	42	65	66	101	115	****	61	96
6	41	10	10	12	14	16	30	54	83	93	69	80	78	65	65	57	45	55	99	140	151	145	****	152	68
7	147	141	136	129	125	125	117	118	94	73	94	94	106	113	43	36	38	53	69	138	141	144	****	130	104
8	121	101	121	109	108	99	97	79	96	86	82	77	57	53	42	28	55	99	115	118	120	101	****	31	87
9	26	18	10	5	9	14	21	28	50	81	60	29	18	20	19	16	29	27	26	23	20	20	****	18	26
10	12	10	9	10	11	12	20	40	64	73	103	88	79	47	19	28	39	41	90	106	102	87	****	105	52
11	106	100	91	92	82	9	23	37	70	61	50	52	53	57	59	45	58	68	90	87	63	62	****	49	64
12	59	39	20	20	16	19	25	37	33	31	28	24	24	24	26	23	23	28	23	19	18	15	****	19	26
13	17	13	13	12	13	11	14	25	33	38	41	72	72	59	53	55	68	62	58	66	56	51	****	46	41
14	49	43	34	30	23	18	30	56	68	72	66	64	58	55	63	67	71	77	83	83	64	45	****	26	54
15	26	16	11	10	11	12	17	27	32	35	32	34	27	36	34	36	41	37	29	26	26	22	****	19	26
16	17	13	12	12	12	16	30	42	54	64	65	67	67	69	72	70	76	74	78	81	80	83	****	86	54
17	81	79	73	73	71	68	70	74	73	69	70	73	77	69	84	94	93	90	89	85	79	75	****	59	77
18	53	44	42	41	42	43	45	46	47	42	42	41	52	46	52	71	55	67	64	48	45	49	****	38	48
19	35	25	20	18	19	21	26	30	37	35	38	38	44	42	45	50	55	54	60	60	62	57	****	48	40
20	45	43	40	41	40	41	41	40	43	44	45	51	49	57	62	75	80	88	92	87	89	94	****	26	57
21	22	17	12	13	17	19	34	46	56	54	48	47	<----- D ----->	55	62	57	56	42	71	65	****	32	41	41	
22	25	10	9	8	8	11	21	31	37	30	32	32	30	47	59	60	68	77	87	108	124	129	****	107	50
23	111	118	113	94	73	24	60	86	93	86	83	87	68	65	54	25	33	41	81	138	140	137	****	129	84
24	83	44	38	45	103	82	98	102	115	100	110	93	71	21	23	31	47	78	115	130	136	126	****	109	83
25	114	111	100	95	90	89	91	97	97	92	67	29	53	74	54	35	61	62	49	29	24	16	****	11	67
26	10	8	7	7	7	8	12	13	20	30	30	28	22	21	25	22	43	42	42	41	36	21	****	28	23
27	89	108	97	77	65	79	92	89	87	71	72	76	50	37	77	78	50	65	86	93	100	100	****	92	80
28	83	80	61	60	67	52	70	79	102	100	96	77	82	81	51	38	40	49	34	57	76	64	****	64	68

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	
48	56	56	110	126	138	141	5	- 152	23 - 104	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 300 OR 24-HR OBJECTIVE 150

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

STATION : VICTORIA ROAD SUBSTATION MONTH: MARCH YEAR : 2011
POLLUTANT : SULPHUR DIOXIDE 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	16	60	53	16	22	86	24	0	2	26	2	2	0	0	1	7	19	28	24	45	66	40	****	5	24	
2	3	2	2	3	5	5	6	7	7	7	6	15	29	28	19	15	16	7	5	6	5	4	****	2	9	
3	3	4	4	4	4	4	4	4	7	9	21	32	28	10	13	18	23	14	11	10	12	9	6	****	6	11
4	5	5	7	7	8	9	7	9	9	8	9	9	9	8	8	9	8	8	8	7	6	6	****	6	8	
5	6	6	6	7	6	7	7	6	7	6	8	8	8	8	6	5	6	7	7	6	7	6	****	5	7	
6	5	5	6	7	4	5	13	6	3	5	23	15	34	33	27	53	65	65	65	63	71	49	****	35	28	
7	40	39	31	30	38	37	25	11	10	12	14	16	23	38	23	21	37	37	25	6	5	5	****	5	23	
8	6	8	7	6	7	7	8	8	8	9	11	12	12	11	11	10	9	10	10	10	11	12	****	7	9	
9	7	8	10	9	7	7	6	5	7	8	8	8	8	8	9	9	8	8	7	8	8	8	****	8	8	
10	5	3	5	8	6	7	7	8	8	8	8	8	9	9	8	10	11	11	14	12	9	9	****	6	8	
11	6	5	5	6	7	7	8	8	8	8	11	23	20	20	13	6	8	11	13	12	13	15	****	9	10	
12	5	4	2	3	2	2	3	4	8	36	22	23	6	5	5	4	4	8	11	7	5	22	****	11	9	
13	15	25	31	52	22	17	11	19	54	49	32	55	62	17	18	22	15	14	8	18	4	4	****	3	25	
14	2	6	6	13	24	52	44	65	71	79	55	57	43	34	29	31	22	29	51	33	20	16	****	19	35	
15	22	19	32	39	45	28	28	30	26	7	4	5	7	7	6	28	16	6	6	4	4	4	****	4	16	
16	11	8	7	6	6	6	5	6	7	7	8	7	5	5	7	7	9	11	11	12	11	13	****	11	8	
17	11	11	13	14	12	11	11	11	13	11	11	10	9	9	11	11	10	11	8	7	6	5	****	5	10	
18	5	6	6	6	6	6	5	6	5	4	4	4	4	4	4	4	5	5	5	5	10	8	****	4	5	
19	7	9	5	3	3	3	5	5	12	19	19	25	20	15	27	34	49	64	41	47	36	31	****	26	22	
20	45	46	42	42	29	37	41	33	37	50	70	86	38	69	48	56	59	41	12	5	7	6	****	4	39	
21	5	3	2	2	4	4	3	9	18	14	7	4	9	5	8	11	5	6	6	5	3	9	****	3	6	
22	16	37	55	46	21	55	28	28	44	68	55	41	26	30	17	12	9	16	11	9	12	9	****	7	28	
23	11	12	10	8	6	7	6	6	10	7	5	5	5	5	5	6	6	7	5	5	5	4	****	3	7	
24	5	5	6	6	6	7	6	7	9	17	24	25	21	21	17	22	12	6	7	6	5	5	****	7	11	
25	8	8	8	10	11	12	10	10	14	15	13	12	14	13	12	11	22	21	17	11	10	11	****	9	12	
26	9	7	8	10	11	12	12	13	14	15	17	19	21	18	16	16	16	16	15	14	13	11	****	10	14	
27	10	12	12	12	15	18	22	18	19	15	12	10	10	9	9	8	9	8	10	10	9	8	****	6	12	
28	6	5	5	5	5	6	9	9	10	10	9	9	9	9	8	9	10	10	12	13	13	11	****	10	9	
29	10	10	11	10	9	10	11	14	50	78	32	16	15	14	15	16	17	18	22	18	17	12	****	11	19	
30	11	9	9	10	10	11	11	13	14	16	15	16	12	13	15	15	13	12	11	11	13	13	****	12	12	
31	8	8	7	7	6	5	5	6	6	5	5	3	3	2	19	2	5	3	5	5	4	3	****	3	5	

MONTHLY STATISTICS:

GEOM	ARITH	-----PERCENTILE-----						-----RANGE-----				STD 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			
10	9	14	9	34	49	64	69	0	-	86	5	-	39	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 ROAD SUBSTATION
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: MARCH
 YEAR : 2011
 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	62	77	74	62	66	76	69	41	58	74	62	42	52	53	32	33	52	89	110	106	112	110	****	33	67
2	13	10	13	17	21	28	38	58	62	69	70	64	77	74	60	38	40	51	56	38	32	24	****	19	42
3	17	16	14	12	12	21	47	57	91	61	60	47	22	26	31	43	34	35	89	126	57	37	****	25	42
4	21	19	18	20	19	21	34	42	50	58	53	50	37	32	31	32	37	31	28	22	18	15	****	15	30
5	14	15	12	14	13	15	20	30	42	31	34	33	35	33	30	30	28	31	34	24	23	21	****	22	25
6	15	14	14	14	10	17	29	28	19	25	72	53	77	72	64	87	104	107	117	103	118	105	****	107	60
7	108	97	88	89	86	75	56	51	58	48	50	59	70	107	84	55	75	92	86	29	23	23	****	23	67
8	23	21	18	16	13	17	29	40	47	41	41	45	33	47	70	73	92	93	79	47	46	34	****	18	43
9	17	11	11	10	9	9	19	36	57	65	49	43	47	53	74	76	78	74	73	54	49	64	****	30	44
10	20	16	13	26	12	13	23	31	34	40	41	38	38	44	52	61	70	115	113	98	71	58	****	39	46
11	37	31	22	20	20	20	30	48	63	58	53	65	52	45	49	70	47	78	98	66	70	70	****	42	50
12	23	18	22	19	14	18	37	58	54	77	57	49	15	16	15	16	20	31	72	109	122	115	****	112	47
13	97	103	98	107	87	63	60	72	94	109	89	105	93	31	26	32	23	41	39	93	44	29	****	23	68
14	13	33	33	52	69	90	94	102	97	91	94	78	94	85	65	56	43	58	95	118	107	100	****	98	77
15	111	97	98	99	101	91	96	107	93	43	35	22	29	32	74	89	77	69	66	56	49	42	****	47	71
16	52	38	25	18	17	18	29	45	63	64	63	49	26	38	53	51	72	74	76	72	61	62	****	55	49
17	55	42	33	32	29	19	29	62	70	53	41	36	22	46	60	66	63	46	47	32	27	20	****	21	41
18	16	12	12	11	11	13	24	40	53	57	44	35	33	37	40	49	58	53	51	46	74	69	****	29	38
19	40	52	23	13	9	13	35	48	68	72	79	77	75	80	78	83	93	99	96	98	90	93	****	83	65
20	74	72	69	64	59	60	58	62	62	71	78	69	57	85	82	115	107	101	70	52	67	67	****	30	71
21	26	27	20	16	23	27	40	47	55	35	23	17	20	16	21	22	23	25	55	64	53	50	****	37	32
22	41	49	49	44	37	47	42	48	53	64	75	70	61	69	70	82	80	86	85	80	80	63	****	60	62
23	60	52	41	29	24	28	32	49	56	55	49	44	44	40	21	45	74	77	68	75	45	43	****	34	47
24	29	28	15	20	28	32	36	48	49	58	56	63	60	70	68	63	68	79	80	70	61	57	****	58	52
25	52	41	30	22	24	32	40	56	70	70	54	45	29	27	31	27	50	68	59	33	26	22	****	18	40
26	16	11	13	12	11	14	22	31	49	70	74	60	51	34	37	40	52	48	37	36	32	28	****	28	35
27	25	35	28	26	34	39	48	41	57	56	55	60	51	55	52	65	72	70	67	78	71	67	****	46	52
28	44	33	26	20	22	25	40	71	77	75	64	44	36	31	17	38	48	59	47	48	37	55	****	17	42
29	14	9	10	10	10	16	32	128	124	125	108	74	59	29	78	90	95	112	132	111	39	29	****	35	64
30	21	13	12	12	11	12	21	28	32	35	30	34	25	36	42	51	47	48	95	106	46	30	****	67	37
31	15	15	16	13	11	13	24	38	70	75	52	30	52	46	77	40	45	49	84	124	83	32	****	21	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	
42	47	47	92	105	112	118	9	- 132	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: JANUARY
YEAR : 2011
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	11	11	12	13	13	13	13	15	15	15	13	12	13	14	14	12	13	12	10	8	8	****	5	12
2	5	5	5	6	7	7	9	10	10	11	11	12	10	10	8	7	7	8	9	10	12	****	11	9	
3	10	9	11	11	11	15	13	14	14	14	12	11	9	9	8	7	14	15	16	19	17	19	****	11	13
4	8	6	4	3	3	2	2	2	2	3	3	4	4	10	9	8	7	5	5	6	16	17	****	7	6
5	7	7	7	7	7	6	7	6	7	7	7	7	7	7	7	7	14	21	24	25	25	25	****	25	12
6	31	26	22	20	19	17	23	18	18	9	7	13	16	20	11	9	8	10	10	9	8	7	****	8	15
7	13	8	7	7	8	16	20	11	15	13	16	20	23	30	26	23	17	17	17	19	20	19	****	22	17
8	20	25	21	19	17	15	18	21	16	15	15	18	26	27	28	43	49	32	23	36	53	45	****	19	26
9	19	61	30	32	26	24	20	19	20	22	19	18	25	25	23	29	26	24	28	25	24	21	****	31	26
10	41	27	24	23	24	25	25	29	33	33	30	36	34	29	32	42	39	40	40	36	33	26	****	23	32
11	44	45	42	30	25	25	28	32	31	31	30	27	30	29	19	11	9	8	7	7	6	6	****	5	23
12	4	3	2	2	5	7	7	7	5	4	8	6	7	6	8	16	22	18	12	11	9	8	****	5	8
13	3	3	3	4	4	5	6	7	9	8	9	9	15	22	12	8	6	5	6	27	52	****	36	12	
14	19	19	17	16	16	15	15	15	15	14	16	38	44	51	45	49	55	51	58	75	86	77	****	95	39
15	90	70	52	40	33	25	17	15	13	13	14	16	18	12	11	11	13	15	18	20	20	18	****	17	25
16	15	14	13	13	13	13	13	13	13	12	12	11	11	11	11	9	9	8	9	9	9	9	****	9	12
17	9	9	9	11	12	14	14	15	22	17	15	13	11	15	35	17	19	12	12	9	8	6	****	6	13
18	6	5	6	6	11	9	10	11	11	11	10	8	7	5	4	4	4	4	4	5	7	7	****	7	7
19	9	8	15	14	11	8	7	7	10	12	12	13	11	11	17	23	20	21	9	5	5	3	****	3	11
20	2	2	3	5	14	22	18	13	30	33	38	24	16	27	20	25	24	28	35	29	28	23	****	17	21
21	15	11	7	8	7	14	12	13	7	7	14	24	13	10	21	14	8	9	10	13	10	8	****	8	12
22	5	7	9	17	17	20	15	11	15	18	8	7	6	6	6	5	5	6	6	5	5	8	****	20	10
23	15	17	22	32	18	11	16	25	37	31	33	26	25	20	38	39	33	39	30	33	35	25	****	19	27
24	26	12	8	18	22	24	22	27	34	30	30	22	29	22	27	21	22	28	27	18	14	12	****	9	22
25	8	8	8	8	9	8	9	9	8	13	16	16	15	19	26	25	23	32	28	20	15	9	****	7	15
26	7	7	7	7	7	8	10	12	19	26	31	34	31	32	25	28	17	17	18	7	6	7	****	5	16
27	4	4	4	4	4	4	4	5	8	9	10	26	25	11	16	19	7	7	5	7	6	3	****	3	8
28	2	2	2	3	3	9	13	8	7	8	6	5	5	8	6	6	6	7	6	6	8	6	****	5	6
29	4	6	5	5	6	5	6	6	7	8	9	9	11	10	10	12	11	11	11	11	11	10	****	8	8
30	8	7	7	7	6	6	7	7	8	11	27	19	18	15	23	20	19	11	12	9	10	9	****	8	12
31	7	7	10	8	8	8	8	10	12	13	12	11	16	29	24	23	9	8	7	6	5	6	****	4	11

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	
12	12	12	30	36	49	57	2	- 95	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: JANUARY
YEAR : 2011
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	43	35	28	28	23	19	23	25	29	31	27	20	20	24	24	20	23	29	26	25	21	****	18	26
2	17	12	10	10	11	12	13	14	20	21	21	20	25	26	23	26	32	31	31	35	29	****	21	21	
3	25	33	38	34	34	37	39	50	62	64	61	60	61	64	66	68	68	65	70	67	64	61	****	41	54
4	28	16	12	10	11	13	17	29	38	32	35	36	39	57	56	59	63	63	63	72	77	74	****	44	41
5	36	31	24	19	19	21	22	39	51	55	55	50	46	40	45	64	114	102	89	93	70	****	91	53	
6	82	62	62	44	37	40	45	46	47	44	44	43	51	55	49	49	52	56	66	63	38	****	44	51	
7	56	33	30	26	28	36	41	39	47	47	48	48	52	58	57	61	68	81	91	85	70	72	****	69	54
8	69	67	62	55	48	45	50	61	55	46	39	36	40	43	52	78	87	101	105	141	165	175	****	108	75
9	94	114	76	85	85	58	44	42	51	54	46	33	54	50	56	58	61	66	75	55	62	49	****	76	63
10	76	50	24	22	23	20	37	60	70	68	65	69	65	59	66	94	94	106	113	86	95	104	****	96	68
11	96	88	80	61	40	29	37	48	55	59	53	56	57	67	62	54	66	76	78	71	66	59	****	51	61
12	50	49	42	35	36	36	45	54	58	61	59	61	62	63	64	65	67	69	67	68	65	60	****	42	56
13	32	31	26	33	33	27	29	48	52	44	35	30	31	34	41	39	41	39	65	107	130	129	****	132	52
14	114	106	91	85	62	40	39	55	66	59	57	70	77	90	92	99	125	170	173	186	210	196	****	179	106
15	166	145	125	104	67	43	30	38	33	28	29	33	45	43	41	48	53	46	59	46	43	39	****	45	59
16	42	33	29	29	26	24	29	40	48	45	32	19	20	21	25	30	26	25	25	27	28	24	****	21	29
17	15	13	13	11	10	13	19	38	62	51	61	44	34	50	72	44	59	52	56	51	46	35	****	18	38
18	14	12	15	12	22	18	22	42	59	49	38	25	28	24	26	31	32	30	41	66	44	25	****	93	33
19	69	65	52	33	27	19	24	31	41	40	32	31	27	34	49	78	83	95	65	38	38	31	****	16	44
20	16	20	20	30	51	53	58	61	69	79	95	98	82	96	105	117	128	143	117	104	99	88	****	65	78
21	61	54	47	45	44	48	47	44	47	50	53	59	50	42	58	67	69	92	108	98	73	93	****	84	62
22	44	72	44	74	66	45	53	51	51	51	39	39	35	33	30	40	46	57	78	74	82	89	****	70	55
23	61	55	59	67	46	41	61	63	58	59	62	55	60	64	75	79	74	102	99	105	103	89	****	66	70
24	71	61	50	51	52	55	53	55	60	58	54	46	60	57	67	74	85	98	97	90	77	39	****	35	63
25	33	25	21	18	17	17	21	28	24	27	26	37	32	40	53	53	67	89	136	132	110	31	****	20	46
26	23	24	22	26	24	32	46	52	80	80	75	73	55	51	47	53	51	55	105	75	33	51	****	27	50
27	18	16	13	13	14	25	37	57	70	71	73	64	51	33	62	52	42	62	93	93	66	32	****	25	47
28	22	15	13	13	12	29	58	52	63	59	57	44	43	54	56	63	69	77	67	54	47	30	****	26	45
29	24	29	16	11	13	14	20	36	43	51	51	47	54	48	50	57	64	82	66	55	45	47	****	57	43
30	58	42	32	24	23	24	30	37	44	45	55	47	52	47	51	54	53	50	63	52	73	49	****	37	45
31	37	48	40	24	22	13	16	51	66	59	56	45	53	55	50	51	33	53	45	25	33	31	****	22	40

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	
45	50	50	89	105	131	166	10	- 210	21 - 106	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: FEBRUARY
 YEAR : 2011
 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	3	3	3	3	5	4	4	7	7	9	15	23	15	20	19	20	26	23	23	22	24	****	29	13
2	15	8	7	7	10	11	21	14	31	29	22	20	13	11	23	17	8	6	5	7	8	10	****	5	13
3	3	3	2	4	6	7	5	11	10	21	20	10	13	6	5	5	8	7	7	15	12	11	****	11	9
4	12	12	17	16	12	10	21	31	57	124	93	36	27	25	19	16	29	27	21	19	21	20	****	23	30
5	28	32	31	28	23	22	31	48	84	87	59	38	28	26	35	23	13	10	11	22	19	7	****	16	31
6	8	7	6	7	6	7	23	39	28	34	36	38	30	39	26	27	27	23	24	5	18	54	****	38	24
7	65	62	40	47	44	57	92	65	52	43	40	50	54	59	38	16	40	17	8	19	23	32	****	38	44
8	51	35	45	23	23	15	12	18	29	48	41	78	39	26	14	5	6	9	10	9	4	5	****	7	24
9	2	1	1	1	1	1	1	1	3	26	20	8	2	1	M	1	5	1	1	3	3	4	****	3	4
10	2	1	1	1	1	1	1	1	3	13	37	46	40	22	8	6	16	2	7	8	9	10	****	22	11
11	30	22	5	5	3	2	2	2	2	3	1	2	2	2	2	18	27	20	9	5	4	4	****	2	8
12	2	2	1	1	2	2	2	2	1	2	2	2	2	2	2	3	4	4	5	6	5	4	****	5	3
13	5	5	5	5	4	4	4	3	4	4	3	2	2	2	3	0	3	5	4	3	2	****	2	3	
14	2	2	3	4	4	4	3	3	7	8	5	5	9	5	4	3	4	3	7	11	7	4	****	2	5
15	2	2	3	2	2	3	3	3	2	2	2	1	2	2	2	1	1	1	1	0	0	0	****	1	2
16	1	1	1	1	1	1	2	1	1	1	4	2	7	10	5	9	9	22	18	19	13	15	****	9	7
17	9	17	38	33	32	20	17	14	42	48	32	40	42	28	44	68	70	52	44	28	29	29	****	22	35
18	22	34	31	24	19	18	24	27	28	12	13	27	17	3	2	2	3	6	2	2	1	1	****	2	14
19	2	2	1	1	1	0	1	1	0	0	3	7	5	12	12	7	3	2	3	3	8	13	****	18	4
20	19	17	9	10	7	5	15	13	11	18	23	39	23	24	21	26	26	28	35	24	31	29	****	14	20
21	6	5	5	6	6	5	5	7	6	7	9	13	6	5	18	13	15	7	7	6	8	12	****	5	8
22	5	4	4	5	5	5	5	5	4	4	4	4	4	5	6	12	15	17	22	33	28	39	****	19	11
23	39	49	23	12	4	4	4	7	6	8	27	54	26	27	23	10	16	13	10	11	13	50	****	21	20
24	13	22	20	17	11	12	8	8	11	46	73	55	50	19	10	9	14	14	14	15	14	21	****	19	22
25	36	11	18	10	23	40	30	26	45	58	38	32	33	48	21	6	3	3	2	4	6	3	****	3	22
26	4	2	2	2	2	3	4	5	4	4	3	5	5	4	3	3	3	2	2	2	2	1	****	0	3
27	8	18	25	19	17	13	69	47	28	28	45	58	36	15	24	38	31	19	12	15	19	20	****	6	26
28	8	5	10	6	4	2	1	2	2	11	35	96	72	41	29	6	3	1	0	0	0	0	****	0	15

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	
8	9	9	38	48	65	76	0	- 124	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 : QUEEN MARY HOSPITAL
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: FEBRUARY
 YEAR : 2011
 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	19	14	10	10	8	13	18	27	49	60	67	66	71	41	49	55	47	71	97	89	104	57	****	121	51
2	82	36	35	52	39	37	55	53	71	79	60	62	50	42	54	44	34	36	59	73	59	40	****	40	52
3	20	20	18	18	27	22	13	29	24	37	37	24	25	18	17	21	24	51	76	70	67	81	****	103	37
4	111	94	101	97	73	57	73	61	85	106	90	52	42	41	41	43	68	81	125	133	147	90	****	118	84
5	144	145	140	110	91	93	123	85	106	97	84	60	53	53	63	47	42	44	58	88	87	42	****	59	83
6	22	15	10	10	7	10	27	57	49	66	69	68	67	62	51	50	49	63	110	54	87	121	****	73	52
7	99	125	94	94	76	105	110	105	99	95	93	90	88	87	73	49	82	72	57	84	93	123	****	105	91
8	113	89	87	64	61	36	37	40	62	81	74	85	65	42	34	21	19	54	105	101	48	42	****	70	62
9	2	2	2	1	1	1	2	10	18	52	41	21	9	5	M	14	30	22	13	16	17	16	****	13	14
10	11	10	9	6	4	5	6	11	50	68	84	79	75	61	34	33	50	67	101	113	100	100	****	104	51
11	104	87	26	46	18	9	9	21	58	55	22	22	30	51	59	56	64	70	83	80	64	53	****	57	50
12	51	37	20	16	16	14	15	22	25	25	26	25	27	16	20	23	24	31	29	25	22	16	****	19	24
13	18	14	10	13	13	13	15	19	24	18	34	63	59	51	45	45	39	56	55	57	47	46	****	40	34
14	20	26	28	24	16	13	21	35	50	58	57	55	50	47	55	62	64	70	72	75	48	27	****	21	43
15	20	13	8	7	9	10	15	24	31	31	26	26	26	27	31	37	30	40	35	37	33	27	****	21	25
16	18	14	12	11	11	12	22	30	35	38	60	45	61	65	68	72	73	78	79	76	76	77	****	70	48
17	67	64	67	57	58	46	52	54	66	67	56	60	69	63	73	86	87	83	83	77	70	73	****	58	67
18	54	43	41	43	42	43	40	38	38	38	32	38	38	31	33	43	41	51	52	47	47	41	****	41	41
19	27	26	25	23	23	20	24	26	29	30	37	40	44	43	48	44	47	39	54	36	52	55	****	47	36
20	42	41	37	37	37	35	36	35	39	42	40	45	42	52	52	66	73	81	84	79	82	74	****	61	53
21	30	21	14	13	15	11	17	28	29	39	43	41	31	34	50	50	59	39	49	60	64	74	****	34	37
22	27	17	15	12	11	10	15	26	34	34	39	36	36	44	51	49	67	80	84	104	99	113	****	88	47
23	105	103	69	35	16	14	26	57	86	76	64	72	55	52	47	41	40	50	70	87	121	133	****	100	66
24	52	73	38	49	18	18	13	28	77	94	94	89	74	48	35	38	56	103	127	132	133	133	****	119	71
25	112	43	94	33	62	66	62	65	74	76	62	64	59	71	48	31	18	23	41	42	30	18	****	14	53
26	15	12	9	11	10	12	13	13	22	23	17	25	24	20	29	30	47	54	51	43	35	8	****	7	23
27	51	75	73	60	47	47	87	76	67	72	67	71	51	33	58	70	63	77	93	101	98	96	****	65	69
28	74	43	61	47	37	25	7	21	26	69	82	80	66	49	48	25	26	18	9	5	4	4	****	2	36

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	
39	47	47	93	105	123	133	1	- 147	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: MARCH
 YEAR : 2011
 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	21	11	6	11	16	11	27	37	36	25	11	6	5	9	12	18	26	14	15	55	35	****	4	18
2	2	2	4	6	5	6	6	7	7	6	6	10	22	23	19	19	24	11	6	5	5	5	****	3	9
3	3	5	5	5	4	5	8	13	12	26	50	35	10	20	19	39	30	15	11	16	12	6	****	6	15
4	5	5	7	7	6	7	7	17	9	8	8	7	8	7	7	7	8	8	7	5	5	5	****	4	7
5	5	5	5	6	7	10	7	5	12	8	8	8	8	8	6	5	6	7	6	7	7	8	****	7	7
6	6	5	5	5	3	5	14	16	8	11	27	27	31	34	26	39	56	50	30	38	24	18	****	6	21
7	10	7	19	24	36	34	23	9	7	18	14	18	16	16	9	9	28	33	22	6	3	4	****	3	16
8	4	9	7	5	5	6	6	6	7	7	9	11	11	10	9	8	8	8	8	8	9	11	****	6	8
9	6	6	9	8	6	6	5	4	6	7	7	<-----D----->				11	11	9	9	8	9	****	9	8	
10	5	5	6	7	6	7	8	7	8	8	8	8	9	8	8	9	9	11	12	14	8	9	****	4	8
11	3	3	3	5	5	7	6	7	8	7	9	16	14	18	13	5	8	12	34	12	17	14	****	10	10
12	6	5	3	3	4	4	5	5	13	41	25	38	6	6	4	4	5	8	20	17	13	8	****	19	11
13	37	27	18	23	14	12	12	27	40	35	27	39	42	24	18	19	18	13	7	4	4	4	****	4	20
14	2	2	1	3	3	15	16	14	33	72	44	40	27	43	24	26	20	22	30	22	20	11	****	28	23
15	23	17	28	36	35	64	38	62	33	6	4	5	6	6	6	20	7	5	5	3	3	4	****	4	18
16	6	5	5	5	5	5	4	5	5	5	6	7	4	5	5	6	7	9	9	10	10	11	****	10	6
17	10	11	11	12	11	11	11	11	13	11	11	11	10	10	11	11	11	12	10	9	8	7	****	6	10
18	7	8	9	8	7	7	7	7	6	5	5	5	5	4	4	4	4	5	5	4	5	4	****	2	6
19	2	3	1	1	1	0	0	1	2	2	2	16	14	15	20	35	29	46	19	33	24	22	****	27	14
20	38	15	13	7	4	5	18	9	6	9	24	50	31	14	13	9	9	2	5	18	3	2	****	1	13
21	2	1	0	1	0	0	0	2	2	6	7	5	3	4	2	5	5	3	1	1	6	17	****	2	3
22	0	6	3	4	7	44	6	13	16	53	41	48	33	18	8	8	7	10	8	8	9	7	****	6	16
23	8	8	8	6	6	6	5	6	7	8	4	4	4	5	7	7	6	6	5	5	4	3	****	2	6
24	4	5	6	6	6	7	6	8	9	12	33	20	21	20	19	15	8	5	6	5	5	6	****	7	10
25	7	7	8	9	9	11	9	10	11	12	12	12	14	13	12	12	24	21	26	12	12	12	****	10	12
26	9	8	9	11	11	12	12	12	14	14	17	19	20	19	16	15	16	15	14	13	12	10	****	8	13
27	9	12	12	13	14	19	22	18	18	15	12	11	12	10	10	9	10	10	10	14	12	11	****	9	13
28	9	8	8	7	8	8	9	10	11	12	11	9	11	13	9	9	17	17	12	13	13	11	****	8	10
29	10	10	11	11	10	10	11	14	24	57	40	28	23	16	14	18	27	30	27	17	20	13	****	12	20
30	14	10	11	12	12	13	13	14	15	17	17	20	16	16	17	19	16	16	15	14	18	20	****	15	15
31	11	12	11	11	10	9	9	10	9	9	7	7	10	15	18	12	5	6	10	38	19	16	****	8	12

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	
9	9	9	26	35	43	50	0	- 72	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 : QUEEN MARY HOSPITAL
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: MARCH
 YEAR : 2011
 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	34	28	23	46	47	27	60	64	63	59	53	43	42	52	49	59	91	89	79	100	94	****	19	53
2	22	14	16	21	17	20	31	53	49	39	42	58	63	64	69	53	57	47	57	30	37	36	****	29	40
3	24	19	12	11	11	16	29	55	71	73	72	65	39	45	40	69	68	59	85	88	53	31	****	19	46
4	17	21	15	14	12	14	25	42	35	28	31	33	32	27	13	16	23	27	36	28	18	13	****	12	23
5	15	19	27	14	16	18	18	18	54	49	47	43	36	36	38	27	33	44	32	28	23	23	****	22	30
6	20	13	12	12	10	13	39	41	34	44	60	56	64	59	55	68	98	113	117	111	104	95	****	45	56
7	78	65	68	83	79	68	48	43	45	46	43	55	55	63	55	52	69	75	74	29	26	23	****	20	55
8	23	22	16	15	15	16	19	31	39	39	32	27	25	26	40	47	52	62	53	58	47	30	****	19	33
9	15	14	12	10	8	8	13	26	36	43	38	<-----D----->				65	76	60	39	31	66	****	21	32	
10	15	17	11	17	9	8	11	15	20	21	32	19	16	22	28	44	52	99	101	99	43	42	****	34	34
11	25	21	17	17	15	16	23	36	55	45	47	48	37	33	33	31	56	86	93	33	72	60	****	32	40
12	25	17	18	14	11	12	15	24	45	64	54	58	21	19	18	19	22	47	61	104	104	109	****	108	43
13	112	108	100	92	55	36	43	60	77	86	81	84	78	43	27	31	40	40	25	8	7	7	****	6	54
14	3	6	2	6	11	37	51	68	77	81	72	71	53	71	52	56	51	62	101	102	73	31	****	126	55
15	98	92	112	109	106	103	95	101	94	29	39	28	29	37	57	69	57	56	60	37	41	39	****	44	66
16	52	36	24	15	19	19	26	50	56	53	47	44	21	36	38	36	50	67	75	77	74	69	****	50	45
17	48	41	32	34	29	22	37	55	72	37	22	22	25	23	29	32	40	40	29	37	35	25	****	25	34
18	18	12	11	8	8	10	15	31	35	37	36	32	28	28	35	31	27	25	24	27	54	42	****	18	26
19	24	37	11	14	9	8	11	20	27	43	61	64	63	70	65	77	78	87	73	81	75	75	****	70	50
20	61	35	35	14	8	16	35	21	28	38	51	64	53	36	42	38	33	14	17	35	6	4	****	2	30
21	4	2	0	6	0	0	4	21	34	31	28	21	16	19	18	23	21	25	25	25	48	52	****	6	19
22	0	15	21	24	23	38	18	23	41	55	61	67	63	56	48	64	70	78	79	76	65	53	****	59	48
23	54	47	40	29	28	32	35	47	53	52	29	23	23	36	34	42	41	35	43	57	40	40	****	38	39
24	32	22	17	26	28	29	29	42	40	49	52	52	55	62	65	66	58	64	75	72	60	49	****	56	48
25	53	42	31	22	24	31	34	44	61	61	25	20	19	20	26	38	56	68	78	24	30	26	****	20	37
26	18	16	15	13	12	10	13	16	31	62	59	62	45	41	38	43	44	50	39	29	28	25	****	22	32
27	24	24	24	24	33	37	41	33	52	45	49	53	37	52	50	61	53	58	58	73	69	62	****	53	46
28	50	36	28	20	24	25	38	54	45	68	45	27	27	35	23	37	60	63	28	21	26	41	****	24	37
29	20	10	12	12	9	11	19	57	117	113	107	77	79	51	78	103	118	140	100	73	54	19	****	30	61
30	23	22	15	9	8	9	14	24	29	34	33	27	22	27	29	41	36	44	48	40	44	32	****	46	28
31	14	12	10	12	9	10	18	29	39	51	37	42	41	48	53	42	40	49	77	121	87	76	****	24	41

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
34	37	37	76	94	108	113	0	- 140	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 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: JANUARY
 YEAR : 2011
 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	10	11	11	12	11	12	11	13	12	13	12	11	12	13	13	12	12	10	8	7	5	****	3	10
2	4	4	5	4	4	6	8	9	9	10	10	11	11	9	8	8	9	8	10	12	14	15	****	12	9
3	12	12	10	11	11	16	16	15	21	22	18	15	15	15	21	18	21	19	17	22	13	13	****	10	16
4	9	7	5	4	4	4	3	5	6	4	3	3	3	1	3	3	3	3	3	4	5	5	****	3	4
5	5	4	5	5	5	5	6	6	6	8	7	7	7	9	8	9	26	26	23	28	31	30	****	47	14
6	38	26	19	22	17	18	18	11	T	12	12	17	18	24	19	15	13	13	13	15	11	9	****	8	17
7	9	8	8	9	10	17	18	12	15	17	27	24	25	30	27	25	24	19	16	22	26	27	****	24	19
8	24	19	24	25	22	21	18	17	17	16	14	13	13	10	21	20	10	11	22	33	43	45	****	20	21
9	16	36	36	28	26	24	23	22	22	23	21	17	26	23	23	29	26	22	24	23	22	20	****	20	24
10	28	25	23	23	23	24	24	25	33	33	28	37	36	33	35	38	43	45	42	36	31	26	****	25	31
11	38	40	40	36	24	22	25	32	36	34	31	29	28	25	16	10	9	10	14	14	8	6	****	5	23
12	5	3	2	2	4	5	8	7	8	9	10	7	5	4	12	22	13	5	5	7	6	5	****	5	7
13	3	3	4	5	5	7	8	8	8	9	8	8	8	9	8	10	7	7	6	7	16	44	****	25	10
14	16	14	12	16	16	16	16	14	23	29	17	38	61	46	64	77	87	56	44	49	54	71	****	105	41
15	80	82	60	47	36	29	22	18	15	13	16	17	14	10	12	13	14	16	19	21	21	22	****	20	27
16	19	17	15	15	15	14	15	15	15	14	14	11	11	11	11	11	10	8	9	11	12	****	11	13	
17	11	11	11	13	15	15	17	18	20	19	15	13	9	10	12	12	10	10	9	9	8	5	****	6	12
18	6	5	6	6	7	8	9	10	11	10	8	7	6	6	4	3	3	4	6	6	6	8	****	8	7
19	9	9	12	13	8	8	7	8	10	14	13	13	13	15	16	15	11	8	7	7	5	5	****	4	10
20	5	5	5	8	14	8	17	10	15	39	46	77	42	21	28	30	30	32	42	35	36	25	****	18	26
21	22	19	13	11	11	18	17	20	15	13	21	24	23	13	20	18	14	10	10	12	11	9	****	6	15
22	8	7	10	14	9	13	21	10	16	8	9	7	7	8	8	7	8	7	7	8	7	6	****	6	9
23	6	6	6	7	7	17	16	22	33	28	39	38	50	39	52	47	51	50	36	41	34	37	****	67	32
24	37	11	9	14	19	11	15	11	19	21	16	15	25	33	39	50	29	31	24	21	15	12	****	8	21
25	11	10	10	10	12	11	12	12	13	14	17	16	16	15	16	14	13	15	35	21	12	9	****	8	14
26	8	8	10	11	17	13	12	22	24	35	43	43	20	24	9	8	8	21	25	7	7	5	****	5	17
27	5	5	3	5	6	6	7	11	11	44	57	25	8	9	8	9	12	9	9	8	6	****	5	12	
28	4	4	5	5	5	6	22	13	20	11	9	11	11	14	29	19	25	28	13	11	9	14	****	12	13
29	14	10	8	9	11	11	11	10	14	19	13	16	23	15	15	13	12	19	14	13	12	14	****	8	13
30	8	6	11	13	13	13	13	15	15	17	25	21	17	23	21	26	27	38	38	21	13	11	****	9	18
31	9	10	9	10	11	10	11	11	13	13	13	13	12	12	10	10	9	10	10	10	10	10	****	8	11

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	ABOVE OBJECTIVE	1-HR	24-HR
13	13	13	33	42	52	66	1	- 105	2	96	0	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: JANUARY
 YEAR : 2011
 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	85	74	48	35	34	27	23	23	23	16	18	14	12	13	13	15	18	17	17	15	12	14	****	9	25
2	11	11	11	10	10	13	15	15	16	19	19	26	23	19	18	20	21	16	17	21	18	21	****	30	17
3	29	22	20	15	20	31	44	57	67	69	67	66	66	67	69	65	71	78	72	70	56	64	****	33	53
4	35	24	18	16	13	13	20	27	35	32	34	35	34	36	38	44	51	47	49	56	54	52	****	31	34
5	34	28	25	19	20	21	29	39	45	41	31	30	29	30	34	39	68	111	122	123	109	105	****	77	53
6	77	68	62	55	50	45	47	47	T	46	49	44	49	56	61	62	62	63	74	74	57	50	****	45	57
7	59	51	38	28	25	32	43	47	49	52	56	53	53	59	60	64	88	90	96	93	82	82	****	75	60
8	71	62	68	62	52	49	39	36	38	36	28	25	22	18	39	43	23	35	67	124	163	170	****	94	59
9	106	124	117	104	93	53	41	41	44	51	49	40	49	53	50	62	55	48	52	48	58	69	****	82	65
10	77	56	28	25	26	26	35	64	73	70	69	67	64	61	66	75	88	109	114	109	83	118	****	94	70
11	103	94	87	75	50	43	47	61	69	68	70	69	62	61	59	69	80	87	86	78	73	72	****	55	70
12	63	55	44	31	36	37	46	55	58	61	61	58	49	39	51	64	58	43	46	55	50	37	****	36	49
13	38	31	27	23	24	22	30	47	48	38	39	32	27	20	27	36	32	20	31	111	127	138	****	123	47
14	109	100	64	35	36	28	36	59	65	65	52	67	94	83	96	104	116	150	133	143	122	164	****	186	92
15	189	172	138	119	85	62	43	40	40	36	41	44	39	34	35	36	39	47	50	47	50	51	****	49	65
16	46	37	32	28	27	26	28	36	36	34	30	28	22	18	20	18	16	14	16	25	23	14	****	11	25
17	14	13	10	10	13	15	24	39	54	43	38	39	22	26	29	25	23	26	28	25	22	17	****	20	25
18	20	16	15	14	14	16	28	38	40	31	18	24	24	21	17	24	31	44	41	56	55	47	****	56	30
19	45	35	30	30	21	24	35	37	43	40	22	24	20	16	17	21	22	22	22	21	15	17	****	20	26
20	20	21	23	32	37	18	42	57	55	70	91	98	109	76	107	117	126	141	127	115	107	97	****	72	77
21	70	62	51	47	44	50	51	52	51	59	56	59	58	49	64	65	74	98	97	102	98	89	****	87	67
22	75	53	41	37	22	44	56	38	52	50	48	36	31	26	28	32	34	59	72	69	83	74	****	39	48
23	49	40	28	26	31	52	48	64	60	57	64	61	70	62	61	57	67	80	71	108	118	110	****	101	65
24	81	50	30	47	52	49	61	63	54	58	58	43	43	67	69	80	69	90	97	89	62	33	****	28	60
25	26	23	21	19	19	20	25	39	47	36	28	28	19	18	15	14	17	35	81	67	37	28	****	22	30
26	27	23	22	26	36	40	50	58	69	81	75	68	30	38	11	12	14	57	71	28	26	37	****	14	40
27	13	11	11	14	15	22	35	58	66	64	70	77	40	13	13	18	15	24	43	42	40	19	****	16	32
28	17	10	11	13	12	19	54	57	63	61	59	58	62	58	67	68	75	87	97	90	59	76	****	59	54
29	61	46	35	28	20	20	25	33	48	55	52	53	50	46	51	53	53	63	62	48	54	47	****	44	46
30	49	32	34	28	23	24	32	42	43	50	48	44	40	49	49	54	56	71	81	93	65	44	****	26	47
31	43	35	41	17	14	16	24	40	46	34	30	23	28	18	8	9	9	12	14	13	19	16	****	19	23

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
40	44	44	88	109	125	142	8	-	189	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 : AP LEI CHAU
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: FEBRUARY
 YEAR : 2011
 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	6	5	5	5	5	5	6	8	9	13	22	31	20	24	38	20	29	24	25	39	34	****	26	18	
2	17	10	9	8	10	13	14	17	31	37	28	17	17	29	33	12	9	7	9	9	9	11	****	7	16	
3	7	6	5	6	5	5	6	5	4	6	6	6	5	6	5	5	6	8	10	12	6	6	****	34	7	
4	33	41	51	21	17	9	12	60	89	165	50	14	16	24	12	11	13	15	19	19	32	20	****	10	33	
5	13	119	175	71	75	44	16	7	11	99	93	47	25	8	8	8	9	8	7	6	5	5	****	5	37	
6	5	4	5	5	8	5	5	6	18	22	28	54	42	25	11	39	16	11	22	16	18	19	****	13	17	
7	15	34	20	14	6	6	5	7	8	8	8	8	7	7	6	5	6	8	11	10	9	8	****	10	10	
8	9	10	7	9	7	6	5	6	12	68	41	8	5	21	39	21	15	16	11	14	21	20	****	8	16	
9	6	4	3	2	2	2	2	2	1	1	2	2	2	2	2	2	3	2	4	5	6	4	****	3	3	
10	2	1	1	1	1	1	2	2	1	1	8	64	16	1	3	2	2	3	6	4	7	5	****	14	6	
11	66	38	31	98	47	5	4	2	3	3	5	5	4	4	4	6	6	6	7	8	8	6	****	4	16	
12	4	4	4	5	4	3	2	3	4	2	3	2	3	6	6	5	5	6	8	8	7	5	****	3	4	
13	5	7	5	5	5	6	5	6	6	7	5	4	5	4	5	5	21	13	6	7	6	4	****	2	6	
14	3	3	10	5	5	5	7	6	8	11	12	11	8	11	14	16	12	11	10	5	5	5	****	3	8	
15	3	3	3	3	3	3	4	3	3	3	4	3	3	3	3	3	3	3	2	0	1	0	****	3	3	
16	3	3	4	3	3	3	4	3	4	4	4	4	6	33	21	17	12	10	28	24	17	26	****	51	13	
17	43	83	32	65	32	27	14	37	38	60	43	<----- D ----->					63	71	45	31	35	36	38	****	29	43
18	30	29	27	29	31	37	32	27	67	7	5	5	4	3	3	3	3	3	5	3	2	3	****	4	16	
19	5	4	2	1	0	1	0	1	1	2	3	3	15	25	16	13	13	14	14	14	9	27	****	43	10	
20	34	26	19	17	31	20	25	18	16	30	34	41	34	32	32	29	31	54	58	14	9	9	****	7	27	
21	8	8	9	12	9	8	9	9	8	8	9	8	6	5	5	5	4	4	5	7	8	8	****	6	7	
22	7	6	8	8	7	5	6	5	4	6	5	4	5	6	5	5	3	4	4	5	5	9	****	9	6	
23	6	23	5	4	6	4	6	15	24	22	31	16	43	34	11	8	8	9	9	9	8	9	****	12	14	
24	11	12	13	12	12	16	18	96	109	87	183	113	19	9	10	11	23	14	12	10	12	12	****	12	36	
25	10	9	9	7	7	6	6	6	6	7	9	7	11	10	10	7	8	5	4	5	8	4	****	3	7	
26	3	3	3	3	3	4	4	4	5	4	4	6	5	5	5	5	5	6	5	8	7	7	****	4	5	
27	3	10	19	24	12	3	3	8	4	4	5	5	16	4	4	5	11	7	9	14	5	4	****	19	9	
28	52	42	17	23	14	7	6	20	12	34	68	27	45	56	20	8	8	4	4	4	4	5	****	4	21	

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		
8	7	7	34	50	79	99	0	- 183	3	- 43	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 : SULPHUR DIOXIDE
MONTH: MARCH
YEAR : 2011
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	1	5	7	17	49	62	39	****	6	8
2	3	2	3	3	6	7	7	7	7	6	6	7	35	27	17	9	8	7	7	8	8	7	****	4	9
3	5	7	6	6	5	6	5	5	10	11	9	10	11	11	11	13	14	11	11	12	10	8	****	8	9
4	6	7	8	8	7	8	6	7	8	8	9	9	10	10	10	11	9	9	10	7	7	7	****	7	8
5	6	6	7	6	8	6	7	9	7	7	9	9	11	9	8	9	9	10	10	10	12	11	****	8	8
6	7	7	7	6	5	4	4	5	5	8	8	7	8	7	7	6	6	7	24	38	65	58	****	59	16
7	37	73	36	33	47	42	25	15	15	13	16	16	26	50	24	26	36	37	21	6	6	6	****	6	27
8	6	8	7	7	7	6	6	6	7	9	10	11	11	11	9	9	8	8	8	8	11	9	****	4	8
9	5	5	6	6	4	5	5	4	6	6	6	6	8	6	5	6	7	7	7	6	5	4	****	6	6
10	4	2	4	4	3	5	4	5	6	6	5	6	7	6	7	8	6	6	6	6	6	6	****	3	5
11	3	3	3	5	6	6	7	6	9	9	11	14	15	17	11	12	13	12	18	16	13	17	****	12	10
12	8	7	5	4	6	6	7	6	5	9	22	11	5	5	4	5	3	2	1	3	1	3	****	14	6
13	14	17	70	63	18	37	49	28	27	46	42	74	75	12	16	36	18	14	11	7	7	7	****	8	30
14	7	5	4	4	5	5	5	13	42	136	105	33	45	63	70	51	46	27	52	35	26	25	****	24	36
15	47	44	54	49	45	67	44	41	17	6	4	5	8	10	8	25	17	8	7	6	6	6	****	6	23
16	6	7	6	7	5	5	5	5	8	6	9	6	6	7	8	8	9	11	11	12	12	12	****	10	8
17	10	10	9	9	10	9	10	10	10	10	10	10	11	11	13	13	13	13	10	10	9	7	****	8	10
18	7	8	7	8	7	6	7	6	6	5	5	6	5	5	5	5	7	7	5	4	3	3	****	3	6
19	1	2	2	4	1	2	2	2	2	3	2	2	5	2	4	16	11	6	2	1	0	1	****	7	3
20	29	24	3	1	1	31	78	37	63	54	45	50	11	12	15	10	23	15	4	3	4	3	****	5	23
21	4	4	3	2	2	3	4	6	6	4	5	4	4	4	6	5	5	7	6	3	3	3	****	2	4
22	2	2	6	11	8	11	13	17	54	66	58	51	6	40	33	11	10	7	10	14	10	6	****	4	20
23	4	4	4	6	6	6	5	7	8	4	5	5	6	6	5	7	8	7	7	7	7	3	****	4	6
24	6	8	8	8	9	7	7	8	10	17	23	28	28	27	26	18	12	9	9	9	9	9	****	9	13
25	9	9	8	9	10	9	10	10	12	9	11	9	12	12	10	9	15	14	10	10	8	7	****	5	10
26	6	4	5	6	6	6	7	8	9	9	12	13	15	13	13	13	13	12	13	11	10	8	****	6	10
27	7	9	10	11	11	13	18	14	14	13	13	10	9	6	7	11	8	6	13	12	10	8	****	6	10
28	6	5	5	4	5	6	5	9	7	7	7	8	9	8	8	10	11	11	13	14	15	13	****	9	8
29	11	11	11	11	10	8	10	11	11	15	16	15	16	16	17	17	15	15	15	19	18	16	****	12	14
30	13	13	14	16	15	16	16	17	18	18	18	19	15	17	20	18	17	16	17	15	17	18	****	13	16
31	11	10	11	11	10	10	9	9	8	5	5	4	5	4	3	5	6	7	8	6	6	6	****	5	7

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	ABOVE OBJECTIVE	
											1-HR	24-HR
9	8	8	25	45	61	69	0 -	136	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 : AP LEI CHAU
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: MARCH
 YEAR : 2011
 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	8	1	24	15	2	20	19	9	3	14	14	6	2	9	16	47	117	100	100	84	****	14	27
2	15	12	9	12	16	21	33	55	40	38	44	32	62	60	38	18	16	16	16	20	17	16	****	11	27
3	14	13	11	11	10	12	20	46	32	45	42	18	12	14	14	17	21	23	44	47	33	18	****	14	23
4	18	15	14	14	15	18	18	33	41	41	32	21	18	8	8	10	16	15	13	12	10	10	****	8	18
5	11	14	11	9	11	13	12	20	20	20	22	20	24	24	15	15	17	19	20	15	15	14	****	18	17
6	16	16	14	13	12	10	13	20	25	23	23	21	19	12	12	9	12	27	108	112	113	115	****	104	37
7	111	109	90	86	84	78	60	52	49	48	48	53	66	84	60	47	74	70	57	17	12	18	****	14	60
8	24	27	20	18	15	20	29	35	30	25	21	21	23	23	24	44	48	49	40	29	38	24	****	15	28
9	15	10	10	10	8	9	16	26	30	35	24	20	25	32	49	62	52	56	58	56	48	44	****	32	32
10	27	21	18	16	13	15	22	31	28	24	18	24	23	25	25	44	29	79	76	61	41	52	****	34	32
11	37	33	26	26	22	21	31	37	34	44	26	23	22	13	16	37	23	31	64	35	21	27	****	20	29
12	16	11	7	9	8	11	15	24	30	23	17	11	7	9	8	9	9	16	23	103	82	120	****	113	30
13	100	107	112	109	99	96	91	88	92	94	68	85	74	12	7	35	10	6	9	11	9	14	****	10	58
14	7	6	15	14	13	21	41	74	87	87	70	33	64	78	69	62	64	22	54	36	22	44	****	94	47
15	100	83	101	96	97	91	95	95	55	20	21	19	19	13	17	48	62	62	59	49	45	36	****	43	58
16	34	31	25	20	15	16	29	46	59	56	55	32	20	17	23	43	48	61	67	61	66	57	****	44	40
17	45	37	31	23	19	18	30	46	51	38	28	18	17	20	24	31	28	32	28	19	12	10	****	12	27
18	16	12	11	12	11	14	21	34	30	25	24	29	29	28	26	38	41	35	37	43	50	44	****	33	28
19	32	26	19	18	10	12	20	21	23	45	47	53	59	51	61	79	64	56	37	36	43	41	****	64	40
20	68	58	33	17	14	30	50	44	51	62	55	45	21	22	23	16	57	31	8	41	7	5	****	10	33
21	6	3	1	3	4	9	34	32	31	9	5	3	1	0	1	1	1	0	9	13	13	18	****	13	9
22	12	11	25	36	31	32	34	37	42	54	66	57	20	63	63	60	67	72	79	78	64	47	****	46	48
23	52	40	37	34	30	32	37	49	50	36	25	22	21	17	15	21	32	34	42	35	23	27	****	24	32
24	25	19	15	18	24	26	29	39	36	50	53	57	58	65	65	62	67	74	67	58	61	64	****	53	47
25	55	40	31	27	24	24	36	53	57	47	25	16	12	15	8	10	28	33	17	36	34	26	****	11	29
26	10	9	11	11	9	12	16	26	30	44	34	38	47	21	17	17	18	16	21	33	30	27	****	23	23
27	24	24	24	23	24	34	40	37	43	45	57	40	33	42	36	60	59	56	75	72	62	52	****	32	43
28	32	24	17	18	16	20	41	66	44	42	34	21	16	14	12	13	15	13	14	32	31	37	****	23	26
29	16	10	11	10	10	16	32	39	57	60	32	23	15	19	21	27	30	44	109	44	43	44	****	27	32
30	14	12	12	12	13	15	17	27	32	33	32	21	15	16	21	19	17	20	54	52	24	17	****	48	24
31	12	16	15	12	11	13	15	38	47	31	23	12	19	15	15	10	9	17	16	19	16	21	****	15	18

MONTHLY STATISTICS:

GEOM	ARITH	-----PERCENTILE-----					-----RANGE-----				STD GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
25	25	33	25	64	86	102	110	0	- 120	9	- 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

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 : January – March 2011

Week Ending	No. of Samples	Suspended Solids, mg/L			pH		
		Maximum	Minimum	Average	Maximum	Minimum	Average
01/01/11	5*	20	14	17	8.3	8.2	8.2
08/01/11	2*	16	13	15	8.2	8.2	8.2
15/01/11	1*	14	14	14	8.2	8.2	8.2
22/01/11	5*	18	12	15	8.3	8.2	8.3
29/01/11	2*	17	14	16	8.2	8.1	8.2
05/02/11	3*	15	12	13	8.3	8.2	8.2
12/02/11	2*	18	16	17	8.2	8.2	8.2
19/02/11	5*	19	12	15	8.3	8.0	8.1
26/02/11	2*	14	13	14	8.1	8.0	8.1
05/03/11	3*	16	15	15	8.0	8.0	8.0
12/03/11	4*	14	12	13	8.2	7.9	8.1
19/03/11	5*	16	11	13	8.0	7.8	7.9
26/03/11	5*	19	12	14	7.9	7.8	7.8

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 : January – March 2011

Sampling date		7/1/2011	8/2/2011	3/3/2011
Barium,	ug/L	<150	<150	<150
Mercury,	ug/L	<0.5	<0.5	<0.5
Cadmium,	ug/L	<1	2	1
Iron,	ug/L	<400	<400	<400
Total Phosphorous,	mg/L	<0.8	<0.8	<0.8
Total Nitrogen,	mg/L	54	55	24
Cyanide,	mg/L	<0.01	<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

EM&A Log Ref.	Mitigation Measures	Implementation Status
	GENERAL	
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
	WATER QUALITY	
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
	WASTE	
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
	NOISE	
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