

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

April – June 2012

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



ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499

ENVIRONMENTAL PERMITS NO. EP-248/2006 & EP-287/2007

**LAMMA POWER STATION
UNITS L2, L4 & L5 FLUE GAS DESULPHURIZATION PLANTS RETROFIT**

**ENVIRONMENTAL MONITORING & AUDIT PROGRAMME
AT OPERATIONAL PHASE**


Report Title	Quarterly EM&A Report (April to June 2012)
Date	28 September 2012
Certified by	 (Mr. IP Tat-Yan, Environmental Team Leader)

TABLE OF CONTENT

EXECUTIVE SUMMARY

1.	INTRODUCTION.....	1
1.1	Background	1
1.2	Project Organisation	2
1.3	Plant Availability during the Reporting Period	2
1.4	Malfunction/Outage Records of Pollution Control Equipment	2
1.5	Summary of EM&A Requirements	4
2.	AIR QUALITY.....	12
2.1	Monitoring Requirements	12
2.2	Summary of Results and Observations	12
3.	WATER QUALITY.....	13
3.1	Monitoring Requirements	13
3.2	Summary of Results and Observations	13
4.	ENVIRONMENTAL AUDIT.....	15
4.1	Review of Environmental Monitoring Procedures	15
4.2	Assessment of Environmental Monitoring Results	15
4.3	Status of Environmental Licensing and Permitting	17
4.4	Implementation Status of Environmental Mitigation Measures	17
4.5	Implementation Status of Event/Action Plan	18
4.6	Implementation Status of Environmental Complaint Handling Procedures	18
5.	FUTURE KEY ISSUES.....	20
5.1	Outage Plan for the coming 3 months	20
5.2	Key issues for the coming 3 months	20
6.	CONCLUSION.....	21

LIST OF TABLES

Table 2.1	Air Quality Monitoring Parameters and Frequency
Table 3.1	Water Quality Monitoring Parameters and Frequencies
Table 4.1	Summary of Action/Limit Level Exceedances on Monitoring Parameters
Table 4.2	Amount of Gypsum and Sludge Collected for Reuse by Contractor
Table 4.3	Summary of Environmental Licensing and Permit Status
Table 4.4	Environmental Complaints / Enquiries Received
Table 4.5	Outstanding Environmental Complaints / Enquiries Carried Over

LIST OF FIGURES

- Figure 1.1a Location of New Facilities for L4 & L5 FGD Plant
- Figure 1.1b Location of New Facilities for L2 FGD Plant
- Figure 1.2a General Arrangement of L4 & L5 FGD Plant
- Figure 1.2b General Arrangement of L2 FGD Plant
- Figure 1.3 Schematic Diagram of L4 & L5 FGD Plant
- Figure 1.4 Simplified Schematic Diagram of FGD Wastewater Treatment Plant
- Figure 1.5 Organization Chart at Operational Phase

APPENDIX

- Appendix A Event/Action Plans in Response to Exceedance of AL Levels
- Appendix B Air Quality Monitoring Results
- Appendix C Summary Results on Water Quality Monitoring
- Appendix D Summary of EMIS

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 April to June 2012.

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

Plant Availability

Unit L2 was fully available in the reporting period. Units L4 and L5 were out of service during the following period:

Unit	Period	Remark
L4	01/04/2012 00:00 to 21/06/2012 20:11	Unit overhaul and turbine upgrading
L4	22/06/2012 18:53 to 25/06/2012 03:55	Overspeed Test
L4	29/06/2012 14:17 to 30/06/2012	Defect rectification
L5	27/04/2012 20:08 to 30/04/2012 05:10	Defect rectification
L5	09/06/2012 14:12 to 11/06/2012 06:25	CWP 5 re-commissioning

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	14/04/2012 14:01 to 18/04/2012 19:51	Defect rectification	EPD was informed by letter dated 20/04/2012
L2 FGD	04/06/2012 10:04 to 18:50	Defect rectification	EPD was informed by letter dated 06/06/2012
L5 FGD	14/05/2012 06:01 to 17:45	Defect rectification	EPD was informed by letter dated 15/05/2012

Equipment	Period	Cause	Actions Taken
L5 FGD	07/06/2012 05:02 to 19:35	Defect rectification	EPD was informed by letter dated 08/06/2012

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

Environmental Monitoring Works

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

Air Quality

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

Water Quality

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

Environmental Licensing and Permitting

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

Implementation Status of Environmental Mitigation Measures

Environmental mitigation measures were implemented in the reporting period.

Environmental Complaints

Two concerns on environmental issues related to the operation of Lamma Power Station were received during the reporting period, for which nothing abnormal was identified at the Power Station.

Future key issues

Key issues to be considered in the coming months include:

Air Impact

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

Water Impact

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

Concluding Remarks

The environmental performance of the projects was generally satisfactory.

1. INTRODUCTION

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

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

1.1 Background

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

The Projects include the installation and operation of FGD plants with flue gas desulphurization efficiency of 90% for the three coal-fired Units L2, L4 & L5 to reduce the overall 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

Unit L2 was fully available in the reporting period. Units L4 and L5 were out of service during the following period:

Unit	Period	Remark
L4	01/04/2012 00:00 to 21/06/2012 20:11	Unit overhaul and turbine upgrading
L4	22/06/2012 18:53 to 25/06/2012 03:55	Overspeed Test
L4	29/06/2012 14:17 to 30/06/2012	Defect rectification
L5	27/04/2012 20:08 to 30/04/2012 05:10	Defect rectification
L5	09/06/2012 14:12 to 11/06/2012 06:25	CWP 5 re-commissioning

1.4 Malfunction/Outage Records of Pollution Control Equipment

Equipment	Period	Cause	Actions Taken
L2 FGD	02/04/2012 15:47 to 16:02	Defect rectification	EPD was informed by letter dated 03/04/2012
L2 FGD	11/04/2012 10:31 to 10:36	Furnace draft fluctuation	EPD was informed by letter dated 12/04/2012
L2 FGD	13/04/2012 01:59 to 02:03	Booster fan control sluggish	EPD was informed by letter dated 17/04/2012
L2 FGD	14/04/2012 14:01 to 18/04/2012 19:51	Defect rectification	EPD was informed by letter dated 20/04/2012

Equipment	Period	Cause	Actions Taken
L2 FGD	19/04/2012 12:57 to 13:05	Booster fan control sluggish	EPD was informed by letter dated 23/04/2012
L2 FGD	23/04/2012 11:00 to 14:07	Defect rectification	EPD was informed by letter dated 24/04/2012
L2 FGD	03/05/2012 20:12 to 20:25	Routine damper exercise	EPD was informed on 08/05/2012
L2 FGD	12/05/2012 02:34 to 02:36	Routine damper exercise	EPD was informed on 16/05/2012
L2 FGD	18/05/2012 00:15 to 00:22	Routine damper exercise	EPD was informed on 21/05/2012
L2 FGD	25/05/2012 02:35 to 02:37	Routine damper exercise	EPD was informed on 30/05/2012
L2 FGD	01/06/2012 01:08 to 01:33	Routine damper exercise	EPD was informed on 02/06/2012
L2 FGD	04/06/2012 10:04 to 18:50	Defect rectification	EPD was informed by letter dated 06/06/2012
L2 FGD	08/06/2012 03:21 to 03:27	Routine damper exercise	EPD was informed on 08/06/2012
L2 FGD	15/06/2012 01:30 to 01:32	Routine damper exercise	EPD was informed on 19/06/2012
L2 FGD	22/06/2012 01:47 to 02:02	Routine damper exercise	EPD was informed on 26/06/2012
L2 FGD	29/06/2012 02:52 to 02:59	Routine damper exercise	EPD was informed on 04/07/2012
L4 FGD	26/06/2012 17:37 to 17:51	Single fan group operation	EPD was informed on 28/06/2012
L5 FGD	07/04/2012 01:22 to 01:25	Routine damper exercise	EPD was informed on 12/04/2012
L5 FGD	14/04/2012 02:25 to 02:27	Routine damper exercise	EPD was informed on 17/04/2012
L5 FGD	21/04/2012 02:04 to 02:07	Routine damper exercise	EPD was informed on 24/04/2012
L5 FGD	14/05/2012 06:01 to 17:45	Defect rectification	EPD was informed by letter dated 15/05/2012
L5 FGD	26/05/2012 01:43 to 01:50	Routine damper exercise	EPD was informed on 30/05/2012
L5 FGD	02/06/2012 01:49 to 01:58	Routine damper exercise	EPD was informed on 02/06/2012
L5 FGD	07/06/2012 05:02 to 19:35	Defect rectification	EPD was informed by letter dated 08/06/2012
L5 FGD	23/06/2012 03:11 to 03:16	Routine damper exercise	EPD was informed on 26/06/2012

1.5 Summary of EM&A Requirements

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

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

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

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

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

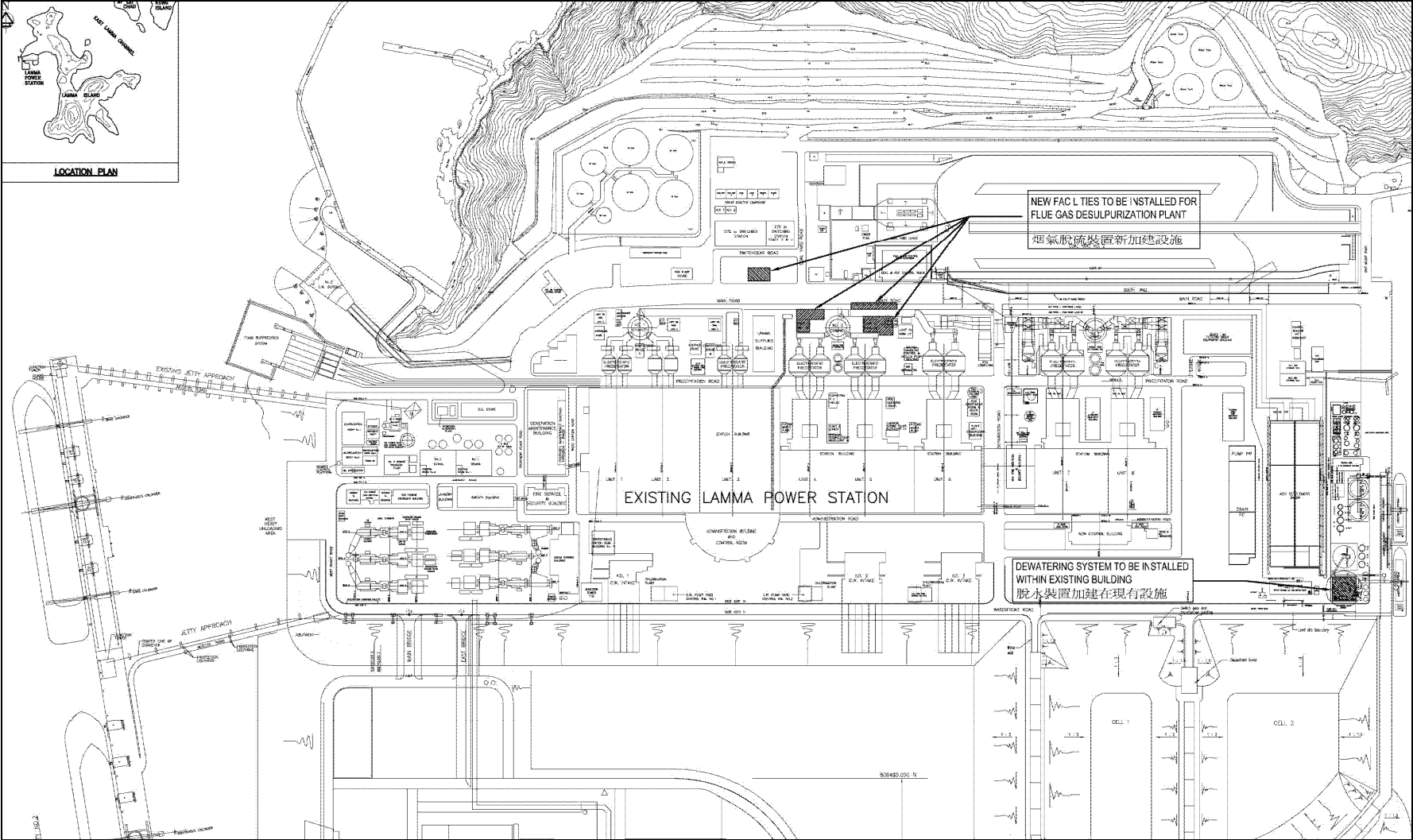


Figure 1.1a Location of New Facilities for L4 & L5 FGD Plants

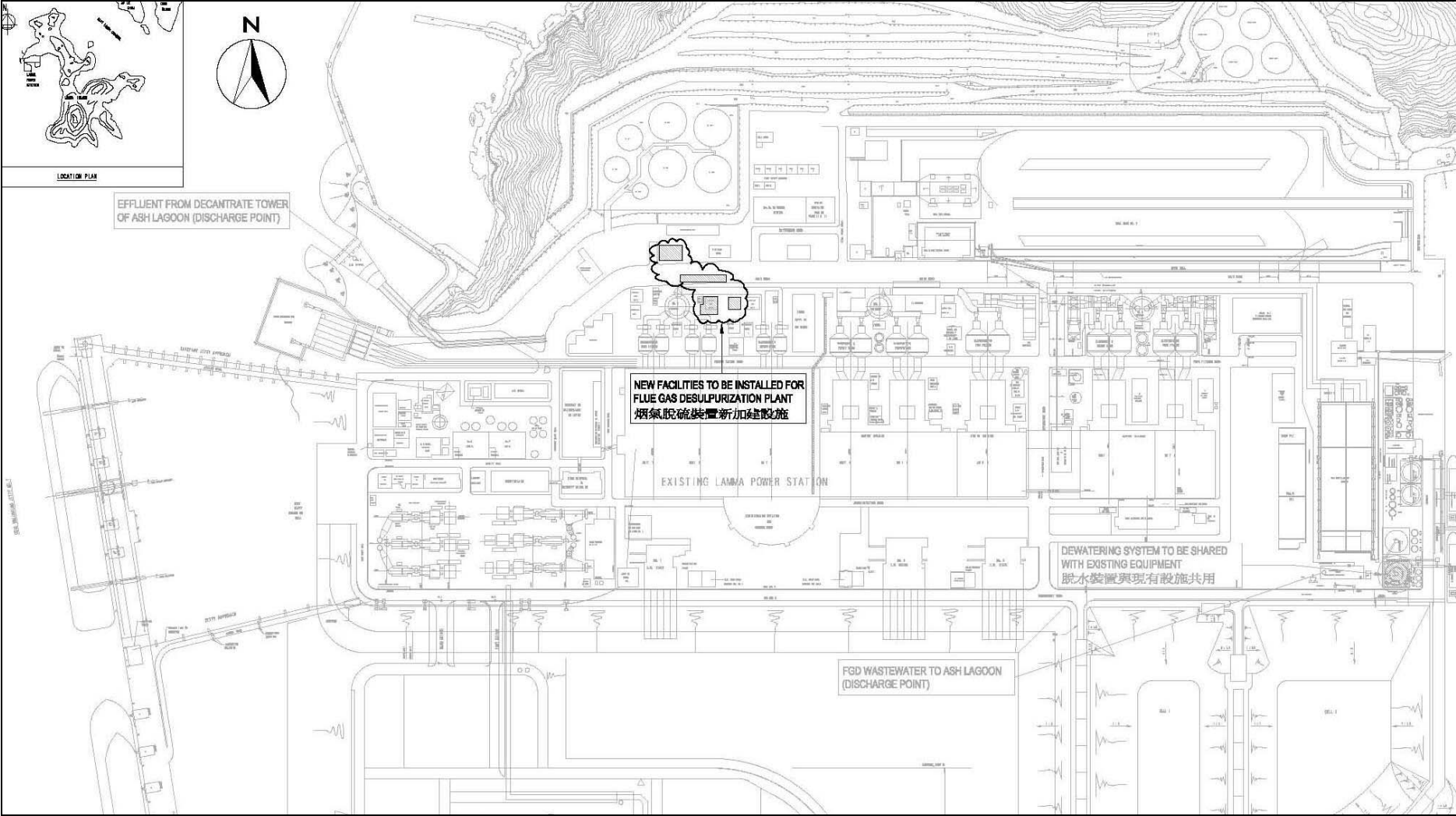


Figure 1.1b Location of New Facilities for L2 FGD Plant

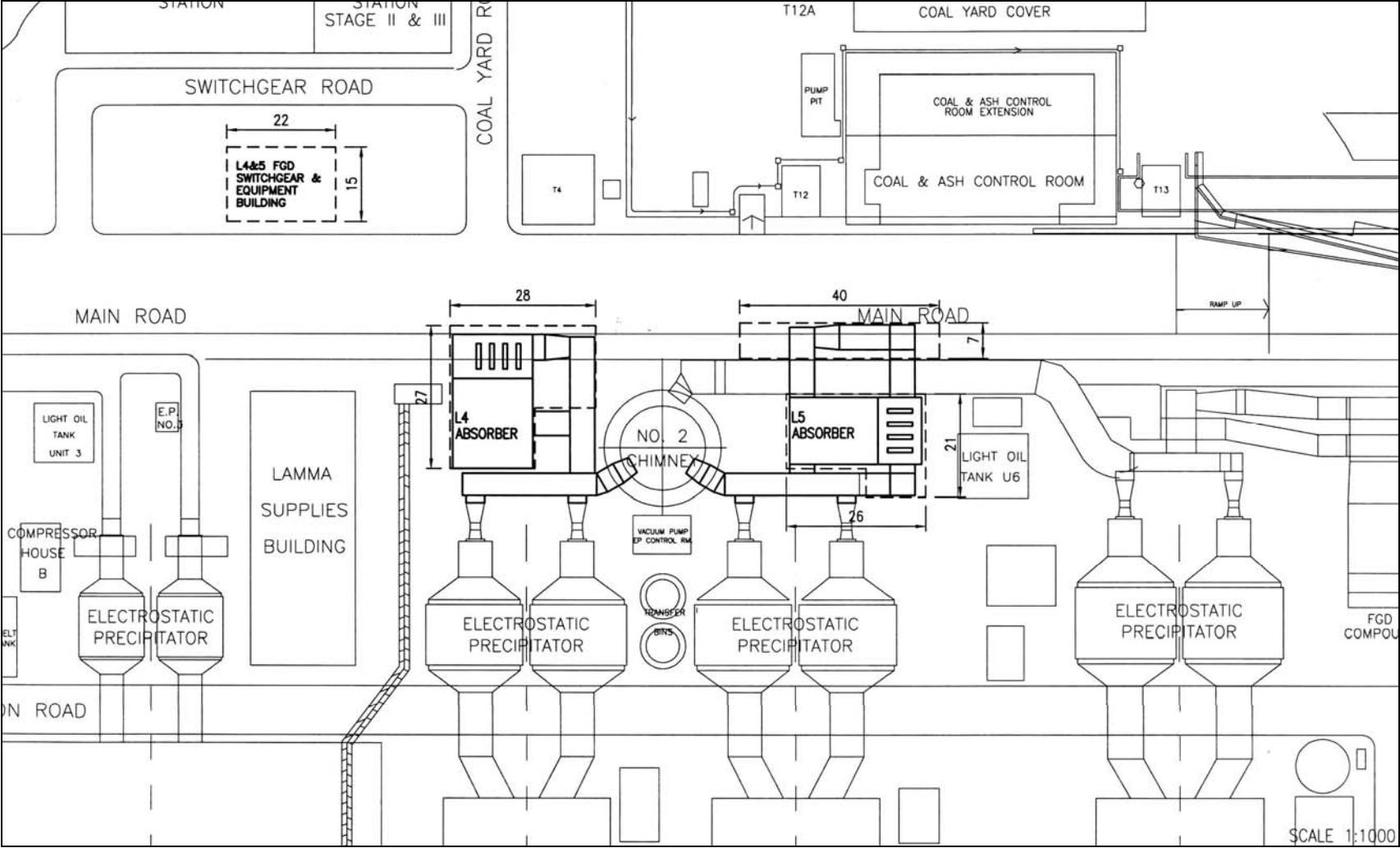


Figure 1.2a General Arrangement of L4 & L5 FGD Plants

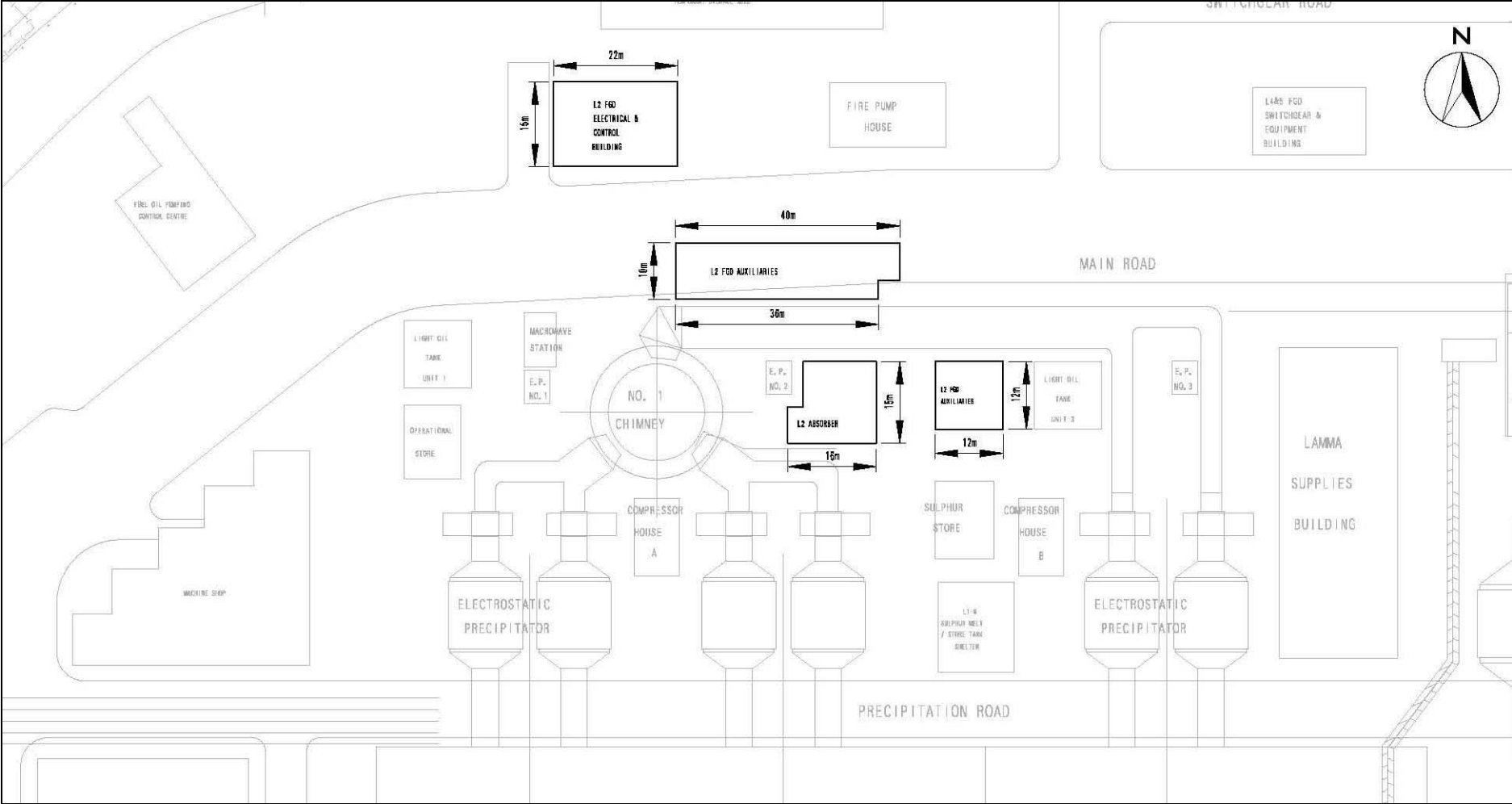


Figure 1.2b General Arrangement of L2 FGD Plant

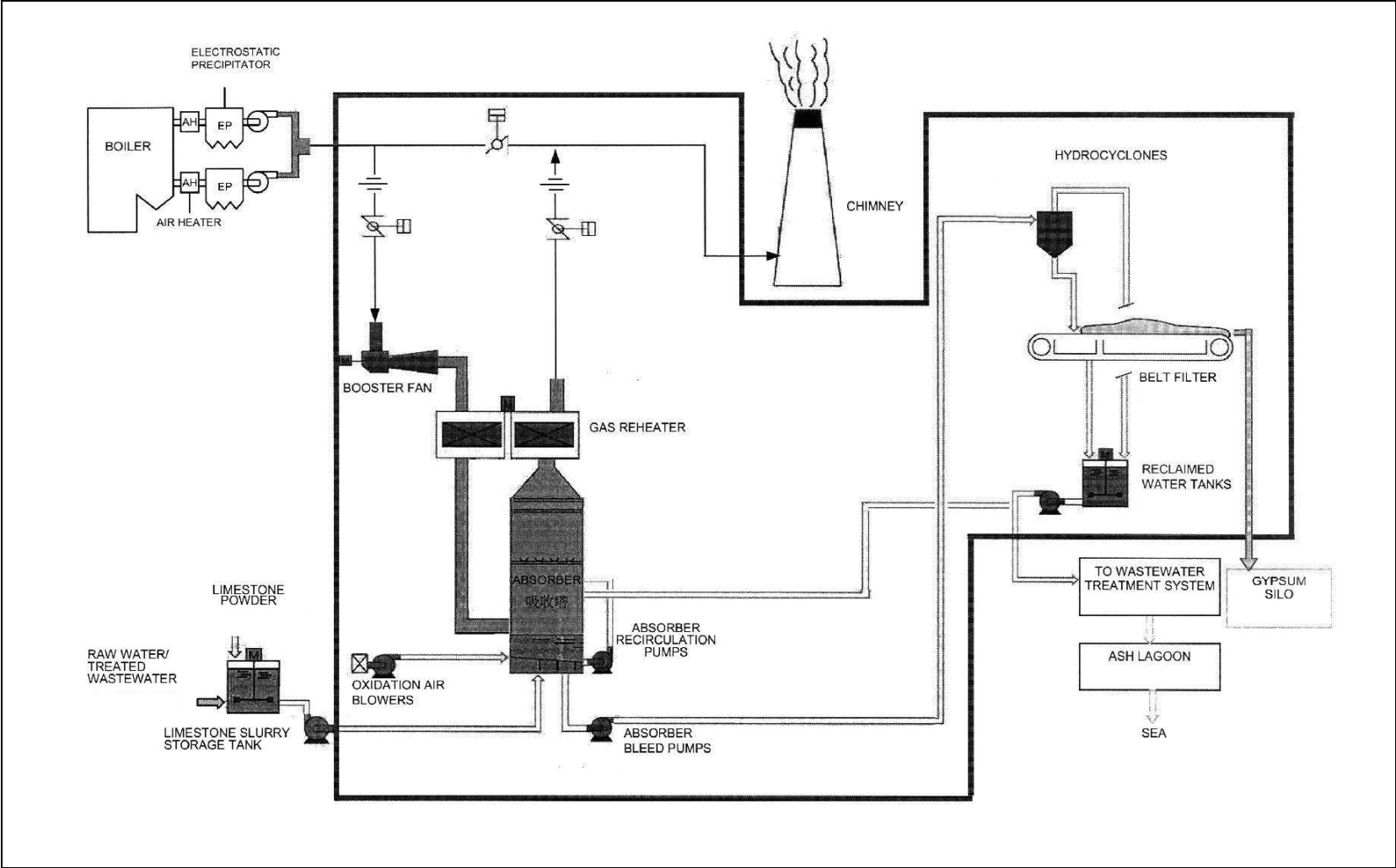


Figure 1.3 Schematic Diagram of the L4 & L5 FGD Plant

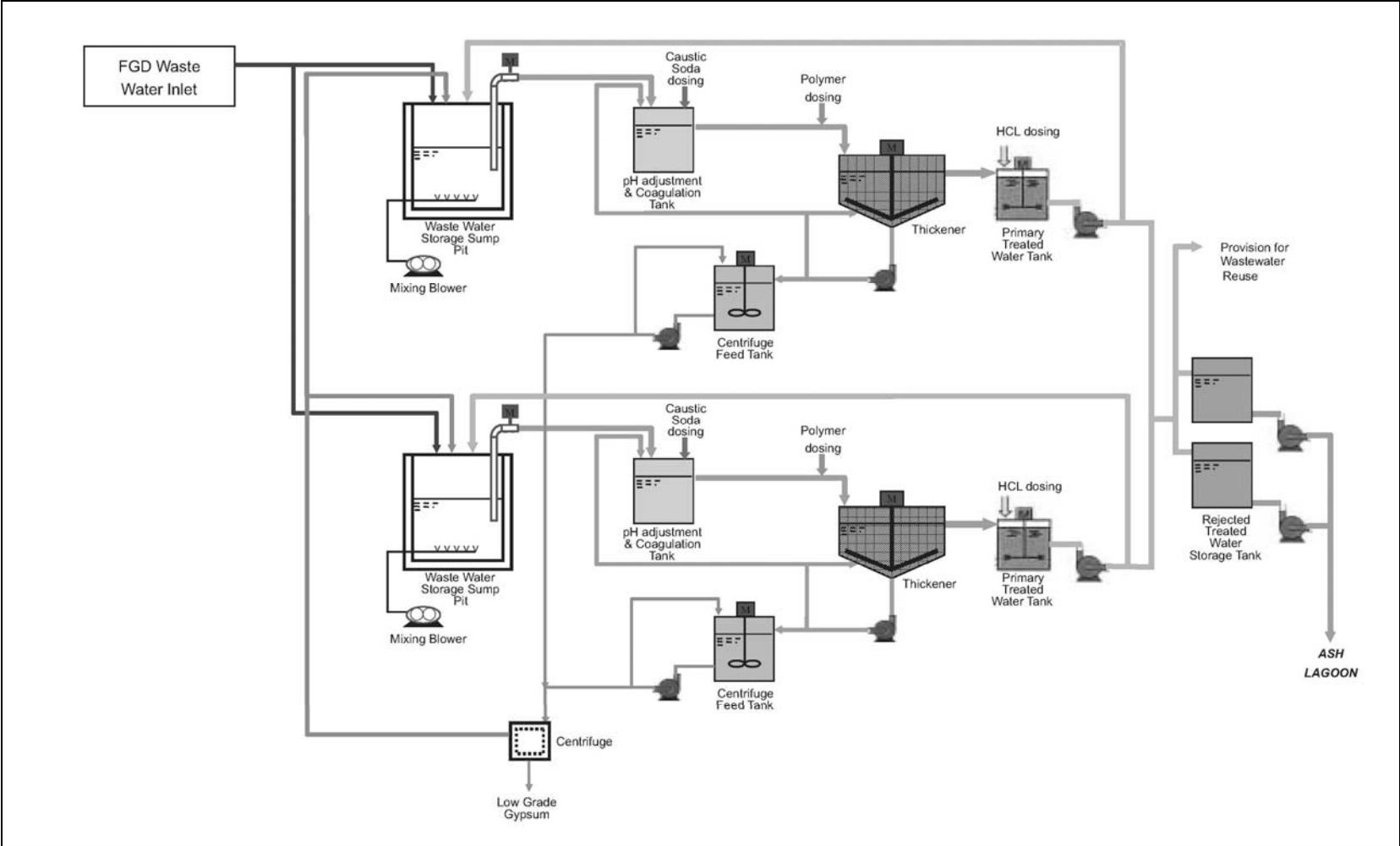


Figure 1.4 Simplified Schematic Diagram of FGD Wastewater Treatment Plant

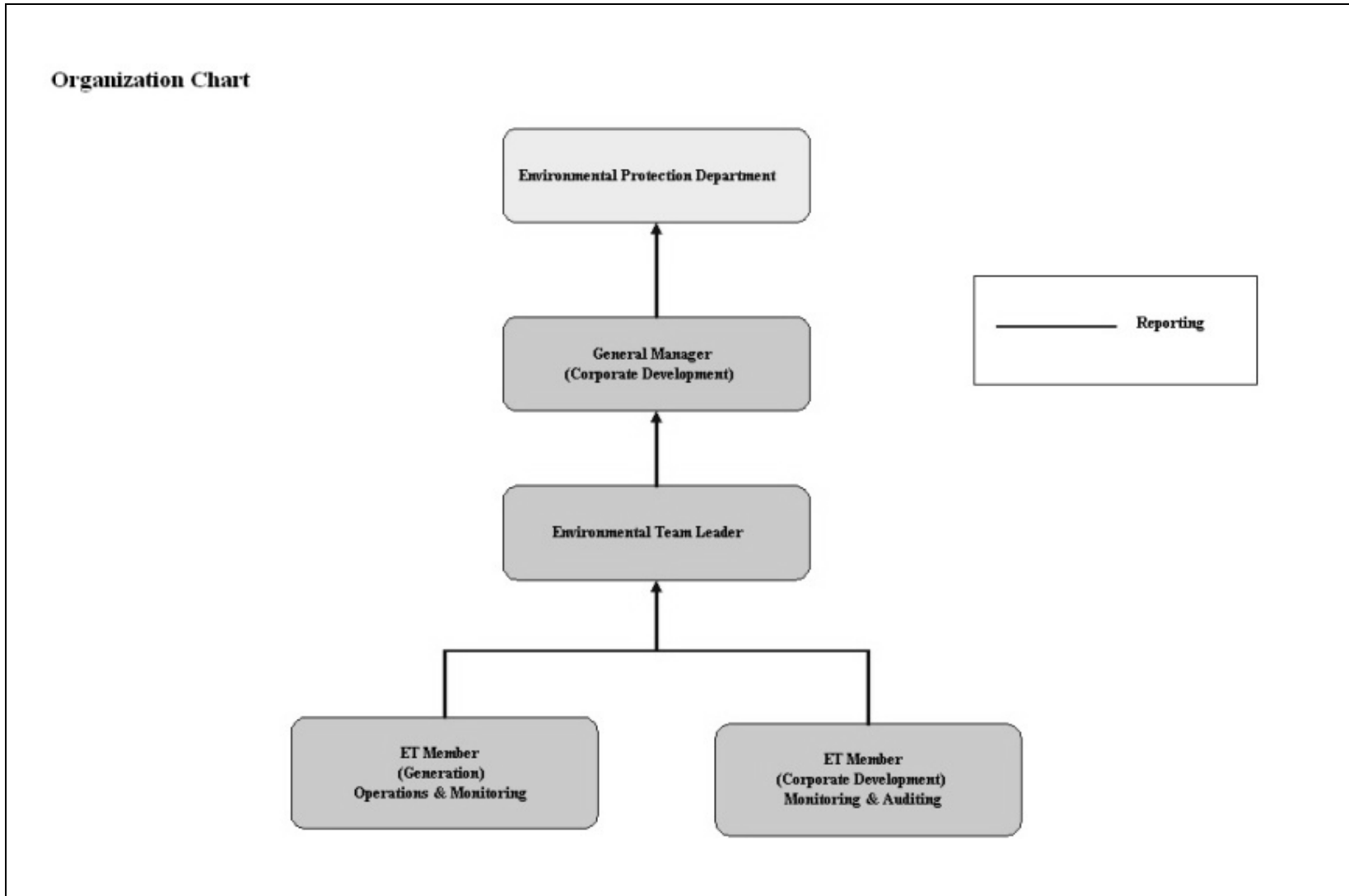


Figure 1.5 Organization Structure at Operational Phase of the Projects

2. AIR QUALITY

2.1 Monitoring Requirements

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

Table 2.1 Air Quality Monitoring Parameters and Frequency

Sources of Emission	Parameter	Frequency
Steam boilers L2, L4 & L5	Particulate	Once / year
	Particulate (Opacity)	Continuous
	SO 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.

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.	01/04/12-30/06/12	N.A.	0	
2	Continuous monitoring of opacity, NO _x , SO ₂ and CO ₂ in the flue gas at the chimney stacks	01/04/12-30/06/12	0	0	
3	TSP monitoring at Lamma Power Station Boundary (ie East Gate and Reservoir).	01/04/12-30/06/12	0	0	
4	Ambient SO ₂ & NO _x monitoring at the Peak, Queen Mary Hospital, Victoria Road, Chung Hom Kok, Ap Lei Chau and	01/04/12-30/06/12	0	0	

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
	Cheung Chau.				
Water					
1	pH in WWTP Effluent	01/04/12-30/06/12	0	0	
2	Suspended Solids in WWTP Effluent	01/04/12-30/06/12	0	0	
3	Iron in WWTP Effluent	01/04/12-30/06/12	0	0	
4	Barium in WWTP Effluent	01/04/12-30/06/12	0	0	
5	Mercury in WWTP Effluent	01/04/12-30/06/12	0	0	
6	Cadmium in WWTP Effluent	01/04/12-30/06/12	0	0	
7	Cyanide in WWTP Effluent	01/04/12-30/06/12	0	0	
8	Total Phosphorus in WWTP Effluent	01/04/12-30/06/12	0	0	
9	Total Nitrogen in WWTP Effluent	01/04/12-30/06/12	0	0	

Waste Management Records

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

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

Period	Amount of Gypsum Collected	Amount of Sludge Collected
April 2012	2,835.3 MT	152.7 MT
May 2012	8,336.9 MT	0 MT
June 2012	7,100.8 MT	0 MT

4.3 Status of Environmental Licensing and Permitting

All permits/licenses obtained as of June 2012 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	Superseded
Specified Processes Licence issued under APCO	Varied L-7-002(8)	20/04/2012	31/12/2012	Valid
WPCO discharge licence for Ash Lagoon	WT00011131-2011	15/12/2011	31/12/2016	Valid

4.4 Implementation Status of Environmental Mitigation Measures

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

4.5 Implementation Status of Event/Action Plan

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

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

4.6 Implementation Status of Environmental Complaint Handling Procedures

During the reporting period, there were two (2) concerns on “air emission” and “black dust” respectively 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> EC120500172</p> <p><i>Received:</i> 12/04/2012 a.m.</p> <p><i>Concerned:</i> As received</p>	<p>A gentleman called HK Electric and stated that one chimney at Lamma Power station was emitting brown smoke. The chimney emissions were checked normal though Unit L1 was being started up during that time. It was noted that the atmospheric condition was hazy, which might affect the visual perception about the chimney emissions. The caller was explained of the findings accordingly.</p>	<p>Nothing abnormal was identified. Case closed.</p>
<p><i>Reference:</i> EC120600174</p> <p><i>Received:</i> 22/05/2012 a.m.</p> <p><i>Concerned:</i> “Since the day before”</p>	<p>It was a verbal enquiry received via a District Councilor who advised that the Tai Shan Village residents claimed to be affected by “black dust” since the day before and wanted to know if it had anything to do with Lamma Power Station. Dust samples were collected at the Village and no coal particle was found after analysis. There was also nothing abnormal with the relevant dust monitoring data. The Councilor was subsequently explained of the</p>	<p>Nothing abnormal was identified. Case closed.</p>

	findings and also the dust prevention / monitoring measures at the Power Station. A visit to the Power Station was also offered to the Councilor and the residents so as to let them know more about these measures.	
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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

No major outage plan for the coming three months.

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 April to June 2012. All monitoring results were checked and reviewed.

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

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

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

The environmental performance of the Projects was generally satisfactory.

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

A.1 Air

Source of Emissions	Parameters to be Monitored	Frequency	Concentration Not to Be Exceeded	Action	Limit	Proposed Action
Steam boilers L2, L4 and L5	Particulate	once/year	85 mg/Nm 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. For all other parameters except pH, Generation Division to be informed, frequency of monitoring to be increased, and investigations to be initiated to identify cause and remedy if concentration exceeds action level. If problem persists to exceed the limit level, ET Leader verbally informs EPD and ensures remedial actions implemented.
	Suspended Solids	Daily	30 mg/L	25	30	
	Iron	Monthly	4 mg/L	3.6	4	
	Barium	Monthly	1.5 mg/L	1.3	1.5	
	Mercury	Monthly	0.005 mg/L	0.0045	0.005	
	Cadmium	Monthly	0.005 mg/L	0.0045	0.005	
	Cyanide	Monthly	0.1 mg/L	0.09	0.1	
	Total Phosphorus	Monthly	8 mg/L	7.2	8	
	Total Nitrogen	Monthly	400 mg/L	360	400	

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

B.2.1 Monthly Summary of Stack NO_x and SO₂ for Unit L5

Date	Daily Maximum		
	SO ₂ concentration (mg/Nm ³) [#]	NO _x concentration (mg/Nm ³) [#]	Opacity (%)
1/4/2012	50	406	20
2/4/2012	69	379	22
3/4/2012	57	336	22
4/4/2012	98	423	21
5/4/2012	144	446	21
6/4/2012	89	417	22
7/4/2012	45	442	22
8/4/2012	79	393	22
9/4/2012	41	357	21
10/4/2012	85	330	23
11/4/2012	72	306	23
12/4/2012	89	290	23
13/4/2012	109	300	26
14/4/2012	79	292	22
15/4/2012	95	186	23
16/4/2012	158	251	23
17/4/2012	109	319	23
18/4/2012	102	314	23
19/4/2012	63	301	23
20/4/2012	55	340	27
21/4/2012	65	285	24
22/4/2012	63	331	23
23/4/2012	74	291	23
24/4/2012	58	298	21
25/4/2012	63	279	22
26/4/2012	72	293	21
27/4/2012	115	386	21
28/4/2012	*	*	*
29/4/2012	*	*	*
30/4/2012	61	274	23

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/5/2012	85	355	23
2/5/2012	39	271	23
3/5/2012	81	234	23
4/5/2012	31	203	23
5/5/2012	48	293	22
6/5/2012	47	282	23
7/5/2012	81	319	22
8/5/2012	56	306	23
9/5/2012	69	260	23
10/5/2012	95	352	23
11/5/2012	95	278	22
12/5/2012	71	290	22
13/5/2012	80	229	22
14/5/2012	50	238	25
15/5/2012	74	248	22
16/5/2012	57	272	22
17/5/2012	67	260	23
18/5/2012	58	365	23
19/5/2012	85	308	23
20/5/2012	61	364	23
21/5/2012	80	342	23
22/5/2012	21	332	22
23/5/2012	15	357	24
24/5/2012	19	399	24
25/5/2012	34	404	27
26/5/2012	111	350	27
27/5/2012	70	357	23
28/5/2012	49	360	28
29/5/2012	29	337	21
30/5/2012	49	342	26
31/5/2012	53	365	23

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/6/2012	50	334	16
2/6/2012	22	353	16
3/6/2012	54	388	16
4/6/2012	89	447	19
5/6/2012	89	354	17
6/6/2012	66	288	17
7/6/2012	65	317	21
8/6/2012	83	343	18
9/6/2012	65	309	18
10/6/2012	*	*	*
11/6/2012	85	249	18
12/6/2012	89	254	18
13/6/2012	43	306	17
14/6/2012	51	340	18
15/6/2012	41	373	18
16/6/2012	75	391	18
17/6/2012	38	408	20
18/6/2012	56	340	20
19/6/2012	29	385	20
20/6/2012	37	420	20
21/6/2012	23	324	19
22/6/2012	16	375	20
23/6/2012	30	375	19
24/6/2012	21	408	18
25/6/2012	18	386	20
26/6/2012	19	350	19
27/6/2012	43	449	18
28/6/2012	40	392	19
29/6/2012	89	382	18
30/6/2012	63	352	18

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 (%)
1/4/2012	*	*	*
2/4/2012	*	*	*
3/4/2012	*	*	*
4/4/2012	*	*	*
5/4/2012	*	*	*
6/4/2012	*	*	*
7/4/2012	*	*	*
8/4/2012	*	*	*
9/4/2012	*	*	*
10/4/2012	*	*	*
11/4/2012	*	*	*
12/4/2012	*	*	*
13/4/2012	*	*	*
14/4/2012	*	*	*
15/4/2012	*	*	*
16/4/2012	*	*	*
17/4/2012	*	*	*
18/4/2012	*	*	*
19/4/2012	*	*	*
20/4/2012	*	*	*
21/4/2012	*	*	*
22/4/2012	*	*	*
23/4/2012	*	*	*
24/4/2012	*	*	*
25/4/2012	*	*	*
26/4/2012	*	*	*
27/4/2012	*	*	*
28/4/2012	*	*	*
29/4/2012	*	*	*
30/4/2012	*	*	*

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

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/6/2012	*	*	*
2/6/2012	*	*	*
3/6/2012	*	*	*
4/6/2012	*	*	*
5/6/2012	*	*	*
6/6/2012	*	*	*
7/6/2012	*	*	*
8/6/2012	*	*	*
9/6/2012	*	*	*
10/6/2012	*	*	*
11/6/2012	*	*	*
12/6/2012	*	*	*
13/6/2012	*	*	*
14/6/2012	*	*	*
15/6/2012	*	*	*
16/6/2012	*	*	*
17/6/2012	*	*	*
18/6/2012	*	*	*
19/6/2012	*	*	*
20/6/2012	*	*	*
21/6/2012	*	*	*
22/6/2012	*	*	*
23/6/2012	*	*	*
24/6/2012	*	*	*
25/6/2012	15	380	15
26/6/2012	49	339	11
27/6/2012	41	239	12
28/6/2012	31	249	11
29/6/2012	29	245	11
30/6/2012	*	*	*

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 (%)
1/4/2012	114	19
2/4/2012	110	16
3/4/2012	101	15
4/4/2012	*	*
5/4/2012	35	16
6/4/2012	53	17
7/4/2012	55	16
8/4/2012	107	16
9/4/2012	64	15
10/4/2012	86	16
11/4/2012	90	14
12/4/2012	103	14
13/4/2012	113	14
14/4/2012	115	16
15/4/2012	FGD Plant Outage	16
16/4/2012	FGD Plant Outage	18
17/4/2012	FGD Plant Outage	15
18/4/2012	82	17
19/4/2012	124	15
20/4/2012	78	16
21/4/2012	55	15
22/4/2012	67	14
23/4/2012	68	15
24/4/2012	81	14
25/4/2012	121	15
26/4/2012	73	17
27/4/2012	128	18
28/4/2012	104	16
29/4/2012	105	16
30/4/2012	65	15

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) [#]	Opacity (%)
1/5/2012	129	13
2/5/2012	67	15
3/5/2012	48	15
4/5/2012	16	16
5/5/2012	35	15
6/5/2012	38	14
7/5/2012	47	14
8/5/2012	62	14
9/5/2012	89	15
10/5/2012	106	14
11/5/2012	91	11
12/5/2012	67	10
13/5/2012	58	11
14/5/2012	80	12
15/5/2012	46	11
16/5/2012	22	11
17/5/2012	77	11
18/5/2012	64	14
19/5/2012	56	15
20/5/2012	39	13
21/5/2012	36	13
22/5/2012	44	11
23/5/2012	23	13
24/5/2012	30	17
25/5/2012	38	13
26/5/2012	27	16
27/5/2012	64	15
28/5/2012	25	15
29/5/2012	20	16
30/5/2012	42	13
31/5/2012	54	13

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) [#]	Opacity (%)
1/6/2012	11	13
2/6/2012	73	12
3/6/2012	72	12
4/6/2012	124	14
5/6/2012	125	13
6/6/2012	55	11
7/6/2012	74	12
8/6/2012	85	11
9/6/2012	59	11
10/6/2012	116	11
11/6/2012	89	12
12/6/2012	83	13
13/6/2012	46	13
14/6/2012	52	16
15/6/2012	54	12
16/6/2012	58	12
17/6/2012	52	13
18/6/2012	44	14
19/6/2012	35	16
20/6/2012	40	15
21/6/2012	19	13
22/6/2012	22	12
23/6/2012	20	13
24/6/2012	25	13
25/6/2012	14	15
26/6/2012	17	13
27/6/2012	16	12
28/6/2012	15	13
29/6/2012	78	13
30/6/2012	76	12

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: APRIL
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	2	4	5	7	7	7	7	7	7	9	10	11	11	10	9	8	9	6	7	7	5	5	****	5	7
2	4	3	3	2	2	2	2	2	2	3	2	1	1	1	0	1	1	1	2	1	2	1	****	2	2
3	2	4	3	1	5	3	6	8	14	12	18	22	28	44	27	24	19	21	14	13	13	7	****	5	14
4	5	8	11	7	8	7	8	9	8	8	7	9	8	7	7	6	7	6	7	6	6	4	****	2	7
5	3	5	5	3	2	2	2	2	1	1	3	0	1	24	14	2	2	4	5	7	6	4	****	1	4
6	0	0	1	1	1	2	1	1	3	3	2	4	5	5	4	4	4	5	5	2	2	****	2	3	
7	3	5	9	10	9	11	10	11	10	11	10	11	12	15	14	14	15	12	12	9	9	12	****	9	11
8	7	6	4	5	5	4	4	4	4	5	5	4	5	6	5	5	5	4	3	4	4	3	****	3	4
9	3	4	4	4	3	3	3	3	4	4	3	4	5	4	3	1	1	2	1	1	1	2	****	2	3
10	2	2	1	1	1	1	0	0	1	2	1	3	4	4	2	4	5	11	6	10	2	2	****	0	3
11	1	1	1	4	17	12	7	4	7	9	M	15	29	7	13	18	83	80	24	18	5	4	****	59	19
12	6	4	4	5	4	5	7	9	22	33	38	46	11	17	14	11	8	8	6	4	4	7	****	4	12
13	7	3	1	2	7	10	5	4	2	3	4	4	5	6	8	7	7	7	8	14	4	5	****	4	5
14	3	4	15	6	4	3	5	4	2	6	8	7	6	4	4	3	2	1	1	2	3	2	****	1	4
15	2	2	3	3	2	3	3	1	1	3	3	2	3	2	2	2	2	2	2	2	2	3	****	3	2
16	5	5	5	11	5	8	3	2	2	9	10	16	6	3	4	4	2	3	11	36	6	22	****	18	9
17	16	10	6	4	4	4	3	3	3	3	2	3	3	3	3	4	4	4	5	4	5	4	****	5	5
18	4	4	4	5	5	4	5	5	5	8	6	7	7	7	6	5	5	6	6	6	7	7	****	7	6
19	7	6	6	5	5	5	5	2	1	4	2	2	2	4	4	3	2	3	3	2	3	6	****	4	4
20	6	9	6	5	7	5	3	4	4	4	5	5	4	3	4	6	6	7	6	9	5	****	14	6	
21	11	10	8	7	9	9	15	17	45	37	36	31	35	34	23	24	17	26	32	26	25	30	****	29	23
22	27	17	14	24	26	26	19	21	15	11	9	6	5	5	5	6	7	7	9	9	8	8	****	9	13
23	6	5	4	4	4	5	5	2	2	2	5	4	6	7	6	7	6	6	6	5	8	****	8	5	
24	7	5	6	3	3	4	4	4	3	3	4	4	3	2	4	3	3	3	2	2	3	3	****	3	3
25	4	15	18	8	18	7	3	3	3	2	2	2	2	2	3	3	12	9	16	13	18	16	****	5	8
26	5	11	9	15	10	6	5	10	12	16	17	17	10	11	7	4	4	5	4	5	3	2	****	5	8
27	5	5	5	5	5	5	5	6	6	6	5	4	4	4	4	3	2	2	3	2	2	2	****	3	4
28	2	3	3	1	1	0	1	1	1	1	1	2	3	2	2	1	1	2	2	2	3	3	****	3	2
29	6	7	4	3	4	2	3	4	4	6	6	6	4	4	4	3	3	4	5	4	3	3	****	3	4
30	4	4	4	2	2	3	3	3	3	4	4	3	2	2	2	3	3	3	3	3	4	4	****	3	3

MONTHLY STATISTICS:										NO. OF TIMES					
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
5	4	7	4	14	22	32	38	0	- 83	2	- 23	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: APRIL
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	24	24	14	13	19	22	26	37	39	48	37	30	24	23	22	26	21	20	23	23	24	16	****	10	24
2	6	6	7	5	5	5	7	14	17	70	55	35	18	21	23	34	49	50	61	43	36	18	****	8	26
3	8	24	22	4	14	11	23	20	52	71	68	77	80	70	66	67	80	94	74	119	116	58	****	25	54
4	15	18	11	10	6	7	9	12	15	17	17	22	21	23	25	21	25	20	24	37	25	18	****	19	18
5	10	7	4	3	3	3	10	15	23	25	27	21	21	61	93	59	48	25	59	32	21	47	****	15	27
6	8	7	7	14	5	13	12	16	12	19	29	23	25	25	28	27	27	25	23	24	21	15	****	13	18
7	12	10	12	10	9	12	14	20	25	34	36	40	39	37	43	41	37	31	26	23	20	20	****	17	25
8	13	9	7	6	7	7	11	15	14	16	17	15	21	18	14	16	18	15	12	16	12	10	****	10	13
9	23	17	11	15	10	9	6	9	13	33	29	51	56	52	58	59	34	41	27	25	31	24	****	21	28
10	22	17	13	8	11	10	6	6	30	49	59	49	44	22	26	28	33	48	38	46	26	32	****	18	28
11	14	8	5	7	29	23	12	18	16	23	M	22	25	9	15	17	38	43	35	31	18	13	****	31	21
12	8	2	4	5	5	10	8	10	29	27	27	30	26	29	28	26	23	24	22	19	20	22	****	15	18
13	25	9	7	7	15	23	17	21	17	19	22	26	21	16	18	17	20	24	18	25	27	26	****	17	19
14	10	9	17	12	3	5	18	13	14	20	21	23	20	17	20	19	18	23	25	25	23	28	****	18	17
15	16	11	8	6	6	8	10	12	12	17	13	11	15	13	17	17	20	18	19	15	14	16	****	11	13
16	9	10	14	15	6	11	8	9	14	19	19	19	18	17	16	22	14	22	24	59	27	21	****	37	19
17	39	31	21	9	8	6	8	10	11	17	15	11	14	20	21	16	19	20	18	16	12	12	****	11	16
18	8	8	4	5	4	4	6	15	19	24	26	29	29	25	20	18	42	33	29	20	19	18	****	18	18
19	13	10	6	6	9	4	7	13	23	19	<-- M -->	20	39	50	37	12	11	11	8	20	24	****	11	17	
20	14	8	8	8	7	11	5	14	15	16	24	60	68	55	55	59	86	101	101	90	60	29	****	62	42
21	41	64	24	20	45	57	39	41	69	82	81	77	88	90	71	75	68	89	86	72	72	60	****	50	64
22	74	34	26	74	115	58	27	33	29	21	38	25	12	10	10	9	10	10	14	14	15	11	****	10	30
23	13	6	4	3	2	2	5	10	22	23	21	18	14	15	26	21	19	17	18	19	12	13	****	13	14
24	15	8	6	1	2	4	6	7	7	9	15	12	14	8	11	13	11	11	9	12	6	9	****	6	9
25	5	18	29	28	32	5	4	9	12	10	9	12	12	10	13	10	17	14	22	23	22	18	****	11	15
26	10	39	41	61	44	29	26	48	69	72	64	63	71	92	51	19	19	17	20	18	18	16	****	18	40
27	13	8	6	6	6	6	9	18	26	33	29	24	21	19	28	55	53	62	42	23	20	18	****	19	24
28	21	15	5	0	3	3	7	3	2	7	8	12	10	9	19	22	27	24	18	29	19	12	****	10	12
29	12	12	7	3	4	2	2	10	15	26	21	18	15	14	17	13	15	21	22	22	14	18	****	11	14
30	8	7	7	5	4	7	8	11	11	15	15	14	11	11	10	13	16	15	17	16	19	13	****	9	11

MONTHLY STATISTICS:										NO. OF TIMES			
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR
17	18	23	18	51	68	84	93	0	- 119	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 PEAK
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: MAY
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

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

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			
1	1	1	3	4	6	9	0	-	15	0	-	4	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 PEAK
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: MAY
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	4	3	3	3	7	5	6	8	10	9	10	10	10	13	13	16	18	21	18	15	14	****	8	10
2	6	5	3	3	5	5	10	20	24	15	12	11	9	7	5	13	21	14	19	16	13	17	****	11	11
3	8	5	6	3	4	8	8	10	12	14	17	18	12	11	13	12	12	13	16	15	17	13	****	11	11
4	8	7	6	10	7	6	18	18	18	19	24	25	26	21	20	22	21	16	15	19	15	23	****	25	17
5	21	19	15	7	4	4	6	11	27	42	59	67	39	32	45	33	32	29	28	19	17	19	****	12	26
6	15	9	11	9	10	9	13	19	19	33	50	47	33	37	17	24	15	16	12	16	31	10	****	10	20
7	5	7	6	1	0	0	2	28	57	50	38	23	26	21	21	28	20	18	22	34	25	24	****	19	21
8	11	5	4	2	1	6	14	20	19	25	35	25	20	11	8	9	17	29	23	25	17	30	****	11	16
9	7	4	3	5	4	4	6	8	9	10	8	7	6	7	5	9	15	12	11	17	26	19	****	22	10
10	39	11	2	3	3	5	5	7	11	14	9	11	11	9	9	22	15	20	16	19	22	21	****	16	13
11	12	4	11	5	4	4	7	15	13	17	18	17	17	14	15	16	17	20	16	15	10	9	****	13	13
12	8	6	5	4	4	4	7	4	8	16	15	14	13	6	8	9	12	16	24	30	28	31	****	24	13
13	27	13	10	8	8	11	11	15	14	22	19	15	22	15	12	15	29	34	47	45	21	24	****	19	20
14	11	7	4	4	5	7	10	13	13	18	15	15	13	14	15	17	13	17	20	30	24	14	****	16	14
15	23	15	18	9	7	4	7	15	23	28	23	25	30	22	10	11	13	8	12	13	15	17	****	10	16
16	15	9	8	3	4	8	11	26	27	28	38	48	30	26	14	34	19	11	28	28	13	8	****	18	20
17	9	2	14	6	5	8	10	17	19	30	27	16	21	16	25	27	20	27	11	18	39	16	****	9	17
18	11	9	2	2	6	2	7	22	18	22	18	29	26	22	21	12	8	10	11	9	7	5	****	6	12
19	7	4	3	5	3	2	25	58	40	35	34	30	17	18	28	25	33	14	31	21	30	52	****	61	25
20	40	24	27	47	41	47	23	27	32	42	41	44	65	63	59	34	22	55	80	29	12	15	****	7	38
21	5	4	2	3	2	2	5	12	16	21	17	11	10	9	13	17	20	18	14	15	15	10	****	5	11
22	3	3	3	4	3	3	7	7	10	13	15	10	11	9	14	16	16	18	16	19	19	12	****	9	10
23	7	6	5	5	3	4	6	12	15	17	19	12	15	10	14	17	16	16	17	20	17	13	****	10	12
24	5	6	5	6	5	5	8	15	22	27	24	18	16	16	18	23	22	26	22	24	15	10	****	8	15
25	5	4	3	4	4	6	12	17	17	18	19	14	12	16	19	19	17	19	20	21	17	18	****	18	14
26	11	6	9	7	7	7	9	12	16	24	32	40	31	36	38	20	14	22	30	20	18	18	****	12	19
27	10	7	9	8	4	4	6	11	12	17	21	16	10	10	11	12	17	15	21	18	15	9	****	13	12
28	9	3	1	1	3	2	3	12	31	21	20	17	18	16	21	22	21	18	14	15	14	11	****	10	13
29	10	5	5	4	5	4	6	9	12	15	15	13	15	12	18	20	14	18	15	14	12	11	****	11	11
30	9	6	7	4	5	5	8	20	25	26	20	19	23	12	19	14	22	18	21	17	12	34	****	61	18
31	51	61	57	54	49	37	32	33	52	57	25	24	16	11	14	15	13	13	11	11	9	6	****	6	29

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				
13	14	14	30	40	53	59	0	-	80	10	-	38	2	96	0	24-HR	
																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: JUNE
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN		
1	2	2	2	2	2	3	3	3	3	2	2	2	2	1	1	1	2	2	3	2	2	4	****	4	2		
2	3	4	5	4	5	5	5	6	6	6	7	5	4	5	4	3	3	3	3	5	4	4	****	4	4		
3	5	4	4	5	5	5	3	4	5	3	4	4	4	3	2	3	3	3	4	3	4	5	****	3	4		
4	4	3	3	4	3	4	4	7	5	7	5	4	4	3	2	1	1	1	2	5	5	2	****	3	4		
5	3	3	7	9	5	3	3	2	2	3	5	3	2	2	2	3	3	5	4	2	2	2	****	4	3		
6	4	2	3	2	3	4	3	4	4	3	2	1	0	0	0	0	0	0	1	2	1	2	****	1	2		
7	1	2	3	2	3	1	3	2	2	2	2	2	1	1	0	1	1	1	2	3	3	3	****	3	2		
8	3	2	3	3	2	4	3	3	2	2	2	3	6	2	1	3	3	3	3	2	3	2	****	3	3		
9	4	3	2	2	3	3	2	1	2	3	1	2	1	8	11	8	2	2	2	9	7	1	****	2	4		
10	2	2	3	2	2	2	3	3	4	3	1	1	1	0	1	1	1	1	2	2	3	1	****	2	2		
11	1	2	2	1	2	1	1	1	1	1	1	0	1	0	0	1	3	3	3	4	2	3	****	2	2		
12	3	2	3	1	0	2	3	3	2	3	6	14	7	6	2	11	6	2	2	1	2	2	****	6	4		
13	14	16	25	14	7	7	4	3	6	10	10	6	10	3	1	2	2	2	2	2	2	1	****	2	7		
14	3	4	3	5	5	7	9	9	8	8	7	13	5	5	4	3	4	3	2	3	3	****	2	5			
15	4	2	2	2	1	1	1	2	1	1	1	2	4	2	1	1	0	1	2	3	3	3	****	3	2		
16	2	1	1	1	1	1	1	2	3	4	4	3	3	2	2	3	3	4	4	3	0	1	****	1	2		
17	0	1	0	1	2	1	1	1	0	1	1	1	1	0	0	1	1	0	1	2	2	2	****	2	1		
18	2	2	3	3	3	4	4	5	4	3	4	5	4	4	4	4	4	3	4	5	4	3	****	5	4		
19	4	4	5	7	4	2	2	3	2	2	2	2	2	1	1	1	1	1	2	1	1	1	****	7	3		
20	4	9	11	5	8	12	13	11	10	9	42	33	11	35	7	6	4	2	1	1	1	1	****	1	10		
21	1	1	2	1	1	0	1	1	3	4	<-----D----->						0	0	0	0	0	0	0	1	****	1	
22	1	1	1	1	1	1	1	1	1	1	M	10	5	1	3	3	2	2	2	2	1	0	****	2	2		
23	0	1	1	0	0	1	0	0	1	0	0	0	0	2	3	1	0	0	0	0	0	0	****	1	0		
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0		
25	0	0	0	0	0	0	0	0	0	0	0	9	11	0	0	0	0	0	0	0	0	0	****	0	1		
26	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	1	0	0	****	0	0		
27	0	0	0	0	0	0	1	1	0	1	3	2	5	2	0	0	0	0	0	0	2	1	****	0	1		
28	0	0	0	0	0	0	0	4	3	0	0	1	0	0	0	0	0	2	5	1	1	0	****	10	1		
29	4	5	8	7	3	8	6	7	17	28	29	29	15	12	0	0	0	0	0	0	0	0	****	0	8		
30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	****	0	0		

MONTHLY STATISTICS:										NO. OF TIMES				
GEOM	ARITH			PERCENTILE					RANGE		STD GEOM	PERCENT	ABOVE OBJECTIVE	
MEAN	MEDIAN	MEAN	3	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR
2	2	3	3	2	6	9	13	21	0	- 42	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: JUNE
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	6	6	4	3	4	7	15	26	22	28	27	13	13	19	30	33	33	40	34	27	20	****	19	19
2	12	15	13	12	11	7	12	24	32	41	37	28	28	37	41	52	56	74	70	34	57	43	****	9	32
3	16	13	12	8	5	4	4	9	14	14	10	13	13	11	16	16	13	17	22	17	7	7	****	6	12
4	3	3	2	3	1	2	6	17	18	22	15	9	28	23	15	28	15	14	20	17	22	3	****	6	13
5	6	2	10	16	9	2	4	8	11	29	33	24	23	24	25	29	27	36	35	31	26	25	****	24	20
6	16	10	7	8	6	5	7	12	13	12	11	11	7	9	14	10	11	8	12	14	13	13	****	6	10
7	5	2	1	2	2	3	8	13	16	17	26	20	9	12	16	10	11	10	10	10	5	5	****	6	10
8	2	0	0	1	1	2	7	12	17	21	15	19	22	17	21	24	18	14	19	26	24	24	****	15	14
9	12	11	6	5	10	4	12	16	26	24	11	9	12	23	35	31	19	23	28	34	26	15	****	12	18
10	4	4	7	3	3	5	8	11	13	9	13	13	10	9	10	11	9	9	8	13	13	12	****	6	9
11	8	25	33	21	30	5	6	8	12	14	8	9	9	10	10	8	16	19	23	27	19	13	****	9	15
12	13	9	7	11	13	27	31	27	30	33	32	34	38	37	43	63	39	33	26	24	27	24	****	45	29
13	51	29	62	49	27	37	20	17	29	23	49	45	62	37	25	39	36	31	27	10	23	21	****	26	34
14	25	12	11	8	11	12	13	22	24	42	37	42	28	24	15	17	25	24	33	22	30	23	****	16	22
15	14	3	4	6	3	3	9	22	19	21	20	17	20	16	13	19	17	25	21	32	29	26	****	18	16
16	17	13	12	10	9	7	11	18	30	45	34	21	8	9	5	9	11	21	13	10	13	17	****	9	15
17	2	2	1	1	2	0	2	2	2	2	4	3	2	1	2	3	1	1	3	4	5	2	****	1	2
18	1	0	0	0	0	1	1	5	4	5	3	3	5	6	10	8	6	7	9	14	10	4	****	7	5
19	2	1	1	4	5	4	11	21	32	40	35	32	20	31	41	34	41	49	57	49	30	43	****	43	27
20	53	68	57	23	31	32	27	26	26	33	61	59	40	82	33	39	31	35	17	16	16	16	****	22	37
21	18	8	7	2	6	5	9	18	26	32	<-----D----->				21	18	20	24	18	****	14				
22	6	4	1	5	3	6	11	15	15	11	M	26	15	7	18	14	12	15	20	16	22	13	****	9	12
23	3	7	3	2	2	3	4	6	8	10	11	10	12	13	13	15	10	17	14	15	13	12	****	10	9
24	5	2	2	2	2	3	3	5	5	7	11	8	12	16	16	14	14	13	14	15	15	12	****	9	9
25	6	2	1	1	1	1	5	11	9	10	11	9	24	21	12	11	11	13	13	12	13	18	****	8	10
26	4	6	2	1	3	1	8	14	16	15	16	10	12	11	13	14	16	16	20	18	14	13	****	7	11
27	8	5	4	3	4	5	12	17	13	16	21	17	27	14	15	21	17	17	15	14	20	26	****	18	14
28	13	9	5	3	5	2	11	20	20	24	24	22	18	18	23	30	20	25	24	29	23	29	****	24	18
29	23	50	31	32	26	41	32	31	41	56	75	88	61	63	55	46	37	22	24	20	20	12	****	3	39
30	0	1	4	2	1	1	3	5	10	15	17	17	16	17	15	14	12	16	21	17	14	7	****	4	10

MONTHLY STATISTICS:										NO. OF TIMES				
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
11	13	17	13	34	43	57	63	0	- 88	3	95	0	0	

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

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	1	1	1	2	2	2	4	4	5	4	2	2	2	0	0	1	0	0	****	0	1
2	0	0	0	0	0	0	0	0	0	9	19	21	4	0	1	0	0	0	0	1	2	****	39	4	
3	17	15	19	18	8	26	37	58	60	51	56	51	61	37	44	25	32	47	27	21	16	23	****	17	33
4	16	38	17	7	4	2	2	2	2	1	2	1	0	0	1	0	2	0	9	3	4	11	****	3	6
5	10	15	13	30	27	22	42	35	17	7	7	5	11	25	17	5	4	4	7	5	8	15	****	7	15
6	4	5	8	3	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	1
7	0	0	1	1	1	2	3	4	4	5	4	5	6	6	6	6	6	4	4	3	3	3	****	2	3
8	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	****	0	1
9	0	0	5	4	1	3	4	5	35	63	73	64	61	51	41	43	19	10	3	1	1	0	****	1	21
10	0	0	10	3	2	6	5	27	36	19	9	18	8	10	2	3	17	10	39	29	15	7	****	3	12
11	1	3	4	4	8	6	14	41	35	12	5	38	36	33	36	33	7	7	4	8	2	4	****	4	15
12	2	3	2	3	5	6	3	4	20	18	26	14	14	23	21	9	12	14	5	5	4	10	****	8	10
13	11	9	5	5	13	14	9	8	6	10	8	7	7	8	10	9	12	9	5	5	5	7	****	7	8
14	5	5	5	4	4	4	4	5	9	7	12	21	23	12	9	7	5	3	3	7	6	5	****	4	7
15	5	4	6	4	4	5	6	5	6	10	11	5	8	5	6	3	6	9	5	4	4	6	****	6	6
16	4	3	5	3	4	5	4	3	7	11	14	8	5	4	5	6	3	0	0	2	5	7	****	9	5
17	9	11	7	5	3	2	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	****	2	3
18	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	****	11	1
19	15	20	29	31	27	27	29	16	9	3	2	1	0	1	0	6	0	0	0	0	0	2	****	2	10
20	1	1	3	2	2	2	4	16	2	2	2	2	1	2	4	6	4	7	7	7	10	5	****	8	4
21	5	8	5	5	6	7	12	29	49	39	42	47	47	47	47	43	39	36	30	20	19	20	****	20	27
22	16	34	31	37	31	27	20	23	51	60	31	12	7	5	5	4	5	5	5	3	3	2	****	2	18
23	1	0	0	0	0	0	0	0	0	0	0	2	2	4	6	5	7	5	5	5	4	6	****	6	3
24	7	5	4	1	2	2	4	4	4	4	4	6	3	3	4	3	3	4	2	2	3	2	****	4	3
25	3	14	14	7	5	3	3	5	6	4	6	5	5	3	5	4	4	3	5	10	6	6	****	4	6
26	4	5	14	9	10	5	7	14	24	17	21	19	18	11	23	3	1	0	0	0	0	0	****	0	9
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0
28	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	****	1	0
29	4	4	3	2	2	2	1	2	4	3	12	16	5	6	10	3	2	6	4	4	2	2	****	2	4
30	2	5	4	2	1	3	3	4	3	6	3	3	2	4	1	2	3	3	4	2	2	3	****	4	3

MONTHLY STATISTICS:											NO. OF TIMES			
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
3	4	8	4	23	37	48	59	0	- 73	5	96	0	0	

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

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	17	18	13	14	16	20	27	42	36	47	37	35	34	28	19	19	22	24	31	35	25	18	****	15	26
2	11	7	7	7	7	9	30	43	38	104	97	75	37	26	21	19	26	33	47	96	80	91	****	109	44
3	101	102	93	90	63	77	94	96	85	82	87	77	77	67	72	59	71	90	73	60	89	97	****	110	83
4	106	94	39	8	7	8	11	14	17	18	19	19	20	20	22	28	44	31	92	63	60	106	****	47	39
5	66	76	63	91	79	72	94	97	86	73	71	62	61	98	104	79	101	102	77	70	98	93	****	73	82
6	57	49	66	24	11	14	15	14	17	17	18	16	15	17	17	16	17	16	15	17	15	13	****	12	21
7	8	7	9	10	9	12	17	21	25	30	31	30	29	33	31	31	28	25	21	18	15	15	****	14	20
8	9	6	6	7	6	7	14	14	14	14	14	16	15	17	16	16	14	13	12	12	10	12	****	13	12
9	35	42	69	46	22	53	76	88	96	98	98	91	88	94	88	91	91	84	61	41	35	20	****	23	66
10	19	13	39	16	19	43	49	61	54	43	23	27	12	23	9	16	43	32	66	75	65	59	****	31	36
11	13	28	37	24	19	24	45	56	47	29	16	43	37	34	29	26	12	19	22	36	33	35	****	43	31
12	28	21	18	15	15	26	37	29	33	20	27	21	27	33	31	19	24	34	31	31	37	38	****	35	27
13	37	27	20	16	27	29	33	34	38	37	29	22	16	16	23	19	22	31	31	20	36	41	****	30	28
14	24	23	12	10	15	16	24	21	28	25	20	26	28	19	21	22	16	15	21	38	38	33	****	29	23
15	28	21	21	16	18	25	29	21	22	21	18	12	14	11	14	13	16	22	24	29	18	23	****	22	20
16	13	15	20	13	17	15	22	19	28	20	20	18	18	15	20	19	18	16	45	57	53	59	****	54	26
17	83	75	33	17	0	0	0	2	5	8	6	5	7	14	11	12	12	11	8	5	2	0	****	3	14
18	0	0	0	0	0	0	1	7	8	8	12	13	14	17	11	10	19	24	14	8	3	3	****	76	11
19	77	75	70	67	64	60	61	50	38	9	7	11	24	53	58	78	28	35	11	9	17	40	****	37	43
20	22	2	21	25	22	14	31	49	27	24	39	59	48	57	78	74	96	91	83	82	69	26	****	71	48
21	42	74	54	36	35	56	52	67	81	85	88	95	111	130	126	122	111	111	150	175	81	133	****	202	96
22	187	159	70	79	115	134	139	136	118	123	71	18	3	6	11	8	10	11	10	11	10	6	****	7	63
23	0	0	0	0	0	0	1	12	25	29	34	31	29	33	42	39	39	38	37	33	29	27	****	34	22
24	29	7	3	0	0	1	12	22	11	11	8	15	6	6	8	9	11	15	11	16	8	6	****	16	10
25	7	18	24	26	7	3	21	29	23	10	11	11	9	2	13	9	10	12	17	24	28	22	****	19	15
26	13	29	60	38	50	30	40	56	58	53	55	60	81	64	60	16	9	11	9	4	2	0	****	11	35
27	1	0	0	0	0	0	7	13	14	16	13	13	12	7	10	18	47	70	65	39	20	23	****	35	18
28	32	19	1	0	0	0	4	4	1	2	5	28	16	12	17	11	16	19	18	10	10	3	****	23	11
29	27	22	13	4	2	0	3	16	32	32	33	28	12	15	19	4	4	14	25	25	19	19	****	17	17
30	5	9	9	6	2	15	21	22	21	13	6	3	1	5	1	4	10	9	11	11	9	7	****	9	9

MONTHLY STATISTICS:											NO. OF TIMES						
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE				
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR			
22	22	33	22	81	97	117	135	0	-	202	9	-	96	3	96	0	0

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

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	4	1	1	2	4	3	4	5	4	4	4	2	2	4	2	6	4	5	6	5	5	****	3	4
2	3	4	4	3	4	4	5	4	6	5	3	3	4	2	2	9	9	4	4	4	2	4	****	5	4
3	4	4	6	6	4	6	4	4	4	6	7	5	3	4	3	3	3	3	2	3	5	3	****	3	4
4	4	5	4	4	5	3	5	6	6	9	9	11	8	10	11	9	9	5	6	5	4	2	****	2	6
5	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	****	1	1
6	0	0	0	0	0	1	3	8	16	31	22	3	1	1	2	2	1	1	1	1	1	1	****	1	4
7	0	0	0	0	0	0	2	13	28	17	2	1	1	0	0	1	0	1	0	0	0	0	****	1	3
8	2	2	3	2	2	1	3	4	4	12	10	3	6	3	5	4	3	8	8	2	2	5	****	5	4
9	3	3	4	3	2	2	2	2	4	5	6	3	5	3	4	4	5	9	5	4	7	****	7	4	
10	5	3	3	3	4	4	3	3	3	4	10	12	8	6	5	6	3	9	2	5	4	5	****	8	5
11	7	2	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	1
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	7	0
13	10	11	9	7	10	7	10	9	8	7	5	7	11	6	4	6	11	6	5	3	6	10	****	4	7
14	3	2	3	5	3	4	4	5	10	7	7	13	11	7	6	14	13	6	7	9	7	6	****	8	7
15	6	4	5	5	8	4	2	14	43	15	4	3	4	3	2	2	2	1	2	2	2	2	****	2	6
16	1	1	1	1	1	0	4	15	10	3	3	8	3	5	2	2	2	1	1	1	2	1	****	2	3
17	0	0	1	1	2	5	4	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	****	3	2
18	2	3	1	2	2	2	7	8	4	3	2	2	2	2	2	2	1	1	0	0	1	0	****	1	2
19	0	0	0	0	5	10	3	4	8	45	26	17	13	4	10	5	2	2	2	5	2	1	****	4	7
20	5	14	6	10	8	22	33	46	48	38	48	32	17	30	18	5	3	3	3	3	2	2	****	2	17
21	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	2	2	1	1	1	0	1	****	1	1
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	****	2	1
28	2	2	2	2	2	2	2	5	15	4	2	2	2	2	2	2	2	1	1	1	1	0	****	1	2
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
30	0	0	0	0	0	0	0	0	0	0	<-- D -->	1	0	0	0	0	1	1	2	1	2	2	****	5	1
31	8	10	9	7	26	37	27	44	35	45	45	13	7	6	6	5	3	3	2	2	1	1	****	2	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	
1	2	2	8	13	29	41	0 -	48	6	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: MAY
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	3	0	1	0	5	5	11	10	6	3	6	2	4	6	3	11	8	13	22	13	11	****	8	7
2	5	4	1	0	5	5	9	20	22	16	9	2	4	0	4	9	9	5	9	5	3	5	****	15	7
3	11	2	5	1	2	7	11	14	11	9	9	5	3	6	5	4	4	6	8	12	15	9	****	11	7
4	11	7	8	16	9	11	27	28	19	17	15	15	13	14	18	18	19	15	23	12	14	16	****	20	16
5	20	20	16	2	0	3	8	38	37	47	57	53	38	34	35	26	21	27	26	26	25	12	****	15	26
6	13	3	4	0	5	9	29	46	55	67	44	5	4	1	7	5	23	25	23	42	48	24	****	8	21
7	3	2	0	1	2	2	32	67	84	35	5	0	1	0	2	22	25	27	22	30	15	11	****	16	18
8	16	8	7	3	0	4	36	47	40	33	19	4	7	2	9	6	4	15	18	7	4	17	****	15	14
9	9	1	2	2	1	3	7	12	11	15	15	9	9	14	7	10	11	6	15	7	13	16	****	21	9
10	19	7	1	1	2	3	8	15	21	18	20	23	16	7	5	11	6	18	10	10	20	10	****	24	12
11	16	1	0	0	0	1	11	15	14	12	11	11	8	11	7	8	10	14	11	4	1	0	****	10	8
12	0	0	0	0	0	0	3	2	7	10	7	7	9	9	8	16	15	20	14	11	15	11	****	36	9
13	33	26	17	12	8	13	20	21	16	17	24	3	9	1	1	16	38	26	23	22	29	34	****	29	19
14	21	2	0	2	2	10	23	25	24	17	10	12	9	6	4	11	11	14	24	29	30	20	****	26	14
15	19	17	15	11	12	6	16	26	29	17	13	6	7	4	14	11	14	16	17	16	12	12	****	19	14
16	14	1	5	0	0	4	26	28	30	33	34	30	25	21	15	3	28	21	23	22	16	7	****	22	18
17	2	6	10	8	13	23	25	21	25	19	15	13	16	16	3	17	31	34	28	17	45	28	****	16	19
18	2	0	0	3	13	4	28	46	25	41	43	50	48	37	21	9	9	4	10	8	3	0	****	3	18
19	0	0	3	8	41	59	47	54	51	54	34	25	22	6	29	17	17	15	39	42	12	33	****	51	29
20	43	39	33	37	30	36	42	44	46	43	35	41	50	51	47	36	39	47	93	34	24	4	****	5	39
21	0	0	0	0	0	0	0	3	7	6	5	1	1	1	3	5	8	10	8	6	5	3	****	3	3
22	0	0	0	0	0	0	0	3	7	7	1	1	2	3	8	9	14	12	13	5	6	2	****	3	4
23	0	0	0	0	0	0	1	7	9	7	7	3	1	3	5	8	9	8	5	4	6	1	****	4	4
24	0	0	0	0	0	0	2	9	15	17	10	4	5	3	7	7	10	13	14	11	3	0	****	2	6
25	0	0	0	0	0	0	4	15	14	9	8	7	5	5	7	4	8	6	8	7	0	0	****	5	5
26	0	0	0	0	0	0	0	2	8	5	6	30	49	66	62	34	23	17	26	17	7	3	****	7	16
27	1	0	0	0	0	0	1	0	2	6	7	2	2	2	6	6	18	14	14	11	5	4	****	9	5
28	2	0	3	0	0	1	21	42	46	21	6	7	7	4	3	5	11	10	8	3	3	1	****	2	9
29	0	0	0	0	0	0	0	5	4	7	8	5	2	2	6	8	8	9	9	5	3	2	****	7	4
30	0	0	0	0	0	0	4	16	19	22	<-- D -->	36	33	24	30	37	39	42	31	31	37	****	53	22	
31	57	54	51	47	52	55	56	55	52	55	63	36	20	17	19	18	16	16	16	12	7	5	****	8	34

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
9	9	9	36	47	55	58	0	-	93	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 300 OR 24-HR OBJECTIVE 150

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	****	1	0
2	0	0	0	0	0	0	0	0	1	1	2	2	2	2	1	1	1	1	2	2	1	1	****	1	1
3	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	****	0	0
4	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	1	2	1	****	2	1
5	2	2	2	3	2	1	1	1	2	7	18	19	4	5	2	3	2	3	2	1	1	1	****	2	4
6	1	1	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	****	0	1
7	0	0	0	0	0	0	0	0	0	0	1	1	1	2	1	2	2	2	2	2	2	2	****	2	1
8	1	1	1	0	0	0	1	1	2	1	4	10	7	4	7	6	3	4	2	3	3	2	****	6	3
9	5	4	3	3	3	2	3	3	4	4	1	2	3	4	7	3	5	4	2	3	2	2	****	3	3
10	1	1	2	1	0	1	0	0	1	1	0	1	0	0	1	1	0	0	0	0	0	0	****	1	1
11	0	0	1	0	0	0	0	0	0	0	M	M	0	0	0	0	0	0	0	0	0	****	1	0	
12	0	0	0	0	0	3	5	4	3	4	5	7	10	7	5	9	5	3	2	1	1	0	****	2	3
13	1	1	2	3	3	4	3	2	3	3	4	3	11	9	2	2	1	1	1	1	1	1	****	2	3
14	2	3	2	2	3	3	3	3	3	3	8	9	3	2	3	2	2	3	3	1	0	1	****	1	3
15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	****	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	1	1	1	****	11	1
20	7	7	8	6	9	12	13	14	17	14	36	32	21	17	10	8	5	3	1	1	1	0	****	1	11
21	0	1	1	0	1	0	0	0	2	4	2	1	2	1	1	1	1	3	1	1	1	0	****	1	1
22	0	0	0	0	0	1	1	1	1	2	1	5	5	2	4	5	5	3	3	3	2	1	****	3	2
23	2	3	2	2	2	3	2	2	2	1	2	3	3	3	4	3	2	4	3	2	1	1	****	2	2
24	1	1	1	1	1	1	1	2	2	1	1	1	2	3	3	3	4	2	3	3	4	3	****	3	2
25	3	2	2	2	1	1	2	2	2	2	3	2	11	11	4	4	3	1	2	1	2	3	****	3	3
26	2	4	3	2	3	2	2	4	3	3	2	2	2	2	3	2	2	2	4	2	3	3	****	3	2
27	2	3	3	3	3	3	3	3	3	4	5	3	5	6	6	4	4	3	3	3	6	4	****	3	4
28	2	2	2	2	3	2	3	4	5	5	19	18	17	10	11	10	8	6	7	3	6	3	****	6	7
29	5	7	5	4	5	7	8	10	19	27	31	32	39	22	6	M	4	2	2	1	1	0	****	0	11
30	0	0	0	0	0	0	0	0	0	0	0	1	1	3	4	3	3	3	2	2	1	1	****	2	1

MONTHLY STATISTICS:											STD GEOM		PERCENT		NO. OF TIMES ABOVE OBJECTIVE		
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			DEVIATION	VALID DATA	1-HR	24-HR			
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR								
1	1	2	1	5	9	17	22	0	-	39	0	-	11	5	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
POLLUTANT : NITROGEN DIOXIDE
MONTH: JUNE
YEAR : 2012
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	1	2	2	1	3	7	17	24	19	17	16	14	11	18	19	28	29	42	26	17	11	****	14	15
2	10	7	10	7	6	8	16	19	29	34	45	38	27	13	16	15	24	31	57	38	47	76	****	19	26
3	21	15	10	5	3	7	7	10	14	13	17	11	15	19	15	18	10	15	13	11	13	12	****	13	13
4	7	2	0	1	0	1	11	28	28	25	32	19	5	3	12	7	16	30	42	30	25	23	****	32	16
5	23	19	24	21	8	8	50	33	30	22	56	43	9	17	9	12	16	26	27	32	22	17	****	27	24
6	13	6	2	1	0	3	10	26	36	28	29	15	17	10	10	18	23	30	19	21	23	14	****	15	16
7	6	0	0	0	0	1	12	19	24	28	32	25	20	17	18	22	25	46	32	24	17	13	****	17	17
8	7	3	1	1	1	2	15	27	30	14	17	21	16	7	14	11	8	12	12	13	13	8	****	30	12
9	23	14	7	7	7	5	17	18	27	24	17	24	10	14	22	15	22	19	15	19	12	15	****	19	16
10	6	5	13	2	4	7	12	19	23	14	17	22	15	14	13	12	9	10	9	12	10	11	****	10	12
11	10	9	14	7	9	7	13	15	20	18	M	M	8	12	17	18	27	32	33	33	29	23	****	30	18
12	31	29	23	19	25	31	35	37	37	39	40	45	54	56	50	48	36	45	44	38	31	35	****	49	38
13	44	30	36	42	34	35	29	30	30	31	33	34	38	46	27	26	23	24	26	28	31	40	****	47	33
14	34	31	19	10	11	10	20	37	34	30	M	M	6	23	32	10	1	9	17	6	3	5	****	4	17
15	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	1	1	1	0	1	0	****	2	0
16	0	0	0	0	0	0	0	0	4	9	0	6	2	1	0	0	0	0	0	0	0	0	****	3	1
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
19	0	0	0	0	0	0	0	2	16	14	10	10	11	19	36	28	25	47	53	31	19	14	****	55	17
20	56	57	51	16	30	31	33	38	44	38	54	63	51	19	3	6	3	0	1	17	8	1	****	4	27
21	0	0	0	0	0	0	14	19	20	27	3	0	3	2	0	3	7	14	1	5	8	1	****	9	6
22	0	0	0	0	0	1	1	9	0	3	0	20	12	0	2	2	5	1	0	1	1	0	****	4	3
23	3	3	0	0	1	5	5	0	0	1	0	2	1	2	2	0	5	4	2	1	0	****	1	2	
24	0	0	0	0	0	2	3	0	0	0	0	5	4	0	3	1	0	1	1	5	0	****	2	1	
25	1	1	0	0	0	2	0	0	0	0	1	33	26	2	4	3	0	1	0	2	3	****	3	3	
26	0	3	0	0	0	0	0	9	0	1	3	0	0	0	0	2	0	4	1	1	0	****	1	1	
27	0	3	0	0	1	0	17	23	6	5	6	2	8	11	13	11	6	13	8	4	12	10	****	9	7
28	0	0	0	0	0	0	15	29	9	1	21	23	19	6	9	7	1	1	7	0	16	4	****	20	8
29	12	34	33	14	15	28	34	35	42	51	68	86	100	67	33	M	M	17	18	12	7	2	****	0	34
30	0	0	1	0	0	0	1	12	23	22	19	19	27	31	22	19	23	20	17	13	11	6	****	7	13

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	33	42	54	57	0	-	100	5	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 : QUEEN MARY HOSPITAL
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: APRIL
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	5	5	6	7	6	7	8	8	8	9	9	10	10	8	9	8	6	6	8	6	4	****	6	7
2	4	3	2	2	2	2	2	2	3	17	21	41	37	7	3	3	3	9	6	2	1	2	****	7	8
3	3	3	7	5	5	3	6	21	32	42	44	51	66	46	53	26	33	48	39	23	15	19	****	19	27
4	17	14	8	6	5	4	5	6	5	5	5	4	4	5	3	3	3	12	9	3	5	****	5	6	
5	17	14	6	24	27	18	33	11	5	3	3	3	9	15	10	3	3	3	9	9	8	8	****	5	11
6	2	2	5	2	4	8	2	2	2	2	2	3	2	2	2	2	1	1	0	1	1	****	2	2	
7	4	6	10	8	8	10	11	12	13	12	11	13	13	16	14	15	16	11	10	9	8	10	****	7	11
8	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2	2	3	****	2	3
9	2	3	8	3	1	3	3	3	10	55	62	68	74	62	33	35	16	11	7	1	1	1	****	3	20
10	4	1	1	1	1	1	1	8	39	45	25	20	17	11	3	17	18	8	22	18	7	8	****	3	12
11	2	2	2	15	39	6	7	25	12	11	5	30	29	13	30	34	39	57	12	10	9	19	****	61	20
12	105	63	14	18	20	10	3	5	21	29	33	18	11	21	18	10	9	10	5	4	4	8	****	7	19
13	11	7	5	4	8	10	6	6	5	6	8	8	6	6	8	14	17	25	17	16	4	7	****	6	9
14	5	13	20	3	3	3	4	5	7	11	7	11	17	9	8	6	4	2	3	4	5	4	****	3	7
15	3	4	4	2	2	2	3	4	5	7	28	4	7	39	6	3	7	19	3	3	3	5	****	7	7
16	8	5	3	15	18	18	4	3	6	11	15	17	10	9	9	7	4	6	23	61	27	10	****	19	13
17	15	9	8	3	3	3	2	2	2	2	2	2	3	2	3	3	3	3	4	3	4	3	****	2	4
18	3	3	3	3	3	3	3	4	4	4	3	3	3	3	3	2	3	3	3	3	3	3	****	15	3
19	14	16	21	20	13	20	24	19	12	3	2	2	2	2	1	11	1	1	1	1	2	7	****	3	9
20	4	8	11	5	6	4	2	13	2	2	3	7	3	2	5	11	14	17	21	10	17	8	****	18	8
21	11	19	11	13	9	18	24	53	77	51	58	50	58	52	62	51	38	47	37	32	34	27	****	21	37
22	26	41	43	44	24	28	14	14	18	58	59	26	7	3	2	3	4	4	5	3	3	5	****	4	19
23	2	0	0	0	0	1	1	1	1	1	2	2	3	4	4	6	5	5	5	4	6	****	6	3	
24	7	6	4	2	2	2	3	3	3	3	3	5	3	3	4	4	3	4	2	2	3	2	****	24	4
25	18	11	8	3	5	9	10	6	9	8	4	4	5	6	7	8	12	10	11	4	22	11	****	3	8
26	5	8	18	21	11	3	6	17	30	18	22	22	16	17	23	5	0	0	0	0	0	0	****	1	11
27	1	1	1	1	1	1	1	1	2	3	1	1	1	1	1	0	0	0	0	0	0	0	****	1	1
28	0	2	1	1	3	1	2	1	1	1	1	2	1	1	1	1	2	1	1	1	2	1	****	3	1
29	7	6	6	4	3	3	2	6	11	7	17	12	6	8	9	4	4	7	6	6	5	3	****	4	6
30	5	5	4	3	3	4	4	11	5	10	4	5	4	7	3	3	4	4	4	3	3	3	****	4	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		
5	5	5	24	39	58	62	0	-	105		1	-	37	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 : QUEEN MARY HOSPITAL
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: APRIL
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	18	15	11	10	14	17	15	18	29	30	33	26	14	12	13	15	19	17	23	25	24	23	****	8	19
2	4	5	5	3	3	2	4	12	15	82	69	62	64	23	15	19	37	73	71	17	7	30	****	60	30
3	41	35	58	37	25	33	46	68	61	68	71	70	68	59	62	52	62	80	82	78	79	78	****	80	61
4	81	58	11	9	6	6	9	14	13	10	15	18	25	35	29	14	20	15	69	55	20	30	****	36	26
5	60	56	33	61	62	44	74	24	20	9	7	15	31	32	42	37	61	70	93	83	88	68	****	50	49
6	17	26	29	17	15	24	15	14	10	12	21	19	20	22	24	22	20	19	19	20	23	15	****	15	19
7	14	9	9	9	8	10	12	19	22	23	17	28	28	24	19	22	18	20	19	16	14	11	****	12	17
8	9	5	4	4	4	4	9	11	10	11	9	7	12	12	5	7	7	7	5	7	3	5	****	7	7
9	12	10	23	8	7	15	19	43	57	77	80	81	82	79	53	64	48	69	38	19	17	16	****	24	41
10	41	15	11	9	8	8	20	44	49	46	31	26	22	16	11	16	22	20	42	48	19	30	****	23	25
11	2	2	4	10	26	5	17	34	23	20	14	21	18	10	17	19	22	29	27	24	13	22	****	39	18
12	46	28	12	17	19	16	15	19	24	16	23	18	16	22	17	15	16	19	20	17	8	13	****	13	19
13	23	14	8	5	11	12	10	15	11	14	16	14	8	5	10	6	9	16	22	21	8	13	****	13	12
14	10	11	18	2	3	4	15	17	17	20	13	13	19	15	11	15	12	14	16	19	15	13	****	14	13
15	13	11	9	5	4	6	10	11	11	7	12	4	5	7	4	6	8	12	11	10	8	8	****	9	8
16	10	9	6	12	10	14	6	8	17	13	15	12	11	10	12	13	16	9	17	41	35	31	****	32	16
17	25	23	23	9	7	8	11	11	10	15	13	12	14	20	21	14	21	22	19	18	14	13	****	11	15
18	10	10	6	5	4	4	7	11	14	15	15	15	11	18	12	7	37	30	54	26	25	14	****	47	17
19	39	34	30	40	36	38	48	41	40	14	11	12	12	25	11	44	11	8	4	3	4	13	****	8	23
20	7	10	10	12	6	7	4	17	10	9	19	57	41	17	47	64	87	78	84	85	46	33	****	56	35
21	37	77	48	44	41	61	55	68	81	87	87	84	94	100	119	108	105	100	88	59	58	44	****	41	73
22	57	72	102	138	97	87	20	34	52	81	87	52	26	13	9	6	7	6	8	9	18	25	****	11	44
23	20	4	1	0	0	0	0	1	3	5	5	2	2	7	10	9	9	10	8	7	5	5	****	10	5
24	15	7	4	0	0	2	5	6	4	5	6	7	4	3	3	5	6	8	5	7	4	4	****	21	6
25	22	21	19	7	17	14	9	9	13	8	6	5	5	4	8	9	13	14	18	10	20	15	****	12	12
26	13	36	55	47	44	26	32	48	61	56	50	55	63	64	64	20	14	16	17	17	16	15	****	25	37
27	17	12	8	9	8	7	14	24	31	45	25	11	9	8	11	19	23	35	37	29	14	17	****	16	19
28	18	21	4	7	17	9	10	6	6	6	6	12	6	3	4	3	3	1	2	1	2	0	****	5	7
29	10	9	9	4	3	3	3	12	21	21	17	11	6	10	8	3	5	10	13	13	11	9	****	10	10
30	7	7	6	6	4	6	9	14	11	13	7	6	6	8	3	5	8	9	10	10	10	9	****	10	8

MONTHLY STATISTICS:

GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
15	15	23	15	60	78	87	99	0	- 138	3	96	0	0	

NOTES:

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

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	3	3	3	3	6	5	4	6	5	5	7	7	10	9	7	8	5	6	7	7	6	****	4	6
2	4	6	4	5	5	6	4	5	6	7	4	4	7	4	6	4	29	9	17	23	8	7	****	8	8
3	6	5	12	9	5	6	5	5	4	9	9	8	5	5	5	4	6	3	3	4	5	6	****	5	6
4	5	7	5	7	8	5	5	5	4	8	10	10	10	14	16	13	8	4	4	3	4	1	****	1	7
5	1	2	1	1	6	1	1	1	1	3	5	2	2	4	2	2	2	2	2	2	3	5	****	3	2
6	6	5	6	4	3	7	15	25	28	54	42	23	7	4	5	5	4	3	3	4	5	5	****	5	12
7	4	5	5	3	1	2	5	26	51	63	6	4	3	<-- D -->	1	1	1	1	1	1	1	1	****	1	9
8	2	2	4	1	0	0	1	2	1	8	17	1	1	1	1	2	1	4	4	3	2	1	****	1	3
9	3	3	2	2	0	1	0	0	2	4	8	6	3	7	4	4	4	5	8	6	3	5	****	3	4
10	0	0	2	1	2	2	0	2	3	4	11	17	8	6	3	2	1	4	1	1	0	1	****	5	3
11	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	****	1	0
12	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	9	1
13	14	9	6	2	6	3	15	6	3	2	12	17	22	3	1	4	3	3	5	4	1	4	****	0	6
14	0	0	0	3	2	2	2	2	8	3	2	7	7	3	4	7	11	3	4	10	6	4	****	6	4
15	3	3	3	4	11	3	0	0	24	33	2	0	1	0	0	0	0	0	0	0	0	0	****	0	4
16	0	0	0	0	0	1	4	11	5	1	6	3	5	0	0	0	0	0	0	0	0	0	****	0	2
17	0	0	0	7	13	6	9	9	6	3	0	0	1	0	0	0	0	0	1	1	0	1	****	1	3
18	1	1	1	1	1	0	2	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	1
19	0	0	0	0	0	1	2	1	7	75	48	23	7	2	10	3	1	1	0	1	0	0	****	5	8
20	9	5	0	0	2	9	0	11	36	13	24	13	20	26	17	1	0	0	2	1	0	0	****	0	8
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
23	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
24	0	0	0	0	0	0	0	0	0	0	<-- M -->	0	0	0	0	0	0	0	0	0	0	0	****	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	****	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
28	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
30	0	0	0	0	0	0	0	0	0	0	19	9	0	0	0	0	0	0	0	0	0	0	****	22	2
31	32	28	5	28	82	43	35	50	70	48	63	29	5	4	5	2	0	0	0	0	0	0	****	0	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	
1	1	1	9	17	33	49	0	- 82	7	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: MAY
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	6	3	2	3	7	11	17	8	13	7	7	15	13	14	10	10	7	10	14	10	9	****	5	9	
2	4	5	3	2	5	11	11	16	16	13	7	6	8	5	8	7	14	15	19	20	11	14	****	11	10
3	12	4	7	3	3	8	10	12	8	10	9	8	7	5	7	4	6	6	12	10	11	10	****	9	8
4	7	6	5	12	10	6	9	14	15	18	15	10	13	14	21	20	19	23	27	14	12	5	****	13	13
5	19	22	10	4	15	3	8	20	27	31	37	45	46	41	33	29	29	30	27	10	17	16	****	14	23
6	16	8	6	7	8	14	34	42	44	54	51	26	17	15	12	15	15	10	22	39	33	12	****	18	23
7	5	5	3	2	0	0	17	54	72	64	20	9	7	<-- D -->	12	11	15	5	6	2	1	****	3	15	
8	7	2	4	1	0	1	4	14	16	16	19	5	3	4	5	8	6	13	12	13	12	7	****	4	8
9	6	4	3	4	2	5	3	5	7	11	10	7	5	8	4	5	6	6	12	7	11	10	****	8	7
10	4	5	4	4	5	4	3	7	12	11	12	14	9	6	5	4	5	10	9	10	5	8	****	12	7
11	7	0	5	1	0	2	2	7	13	11	7	9	6	5	5	5	5	13	9	7	2	1	****	7	6
12	4	1	1	1	0	0	2	0	3	5	7	3	2	1	1	2	1	1	2	2	1	0	****	21	3
13	23	15	12	5	3	6	7	5	5	7	19	13	14	3	4	10	18	12	16	15	9	9	****	6	10
14	2	1	1	2	3	5	7	7	14	12	7	6	6	5	7	9	11	11	18	24	12	14	****	15	9
15	10	10	10	7	8	2	1	7	33	25	10	12	11	12	9	5	8	1	3	3	2	1	****	5	9
16	12	5	4	0	0	2	11	14	28	19	28	33	28	22	17	23	14	4	19	19	11	4	****	7	14
17	1	0	12	19	27	17	20	22	24	25	22	15	20	13	16	13	10	18	8	10	33	18	****	2	16
18	0	0	1	1	1	0	8	38	16	8	3	27	7	4	10	4	3	6	3	1	1	0	****	3	6
19	5	1	1	0	0	4	34	32	39	57	45	26	15	9	19	14	13	6	19	13	0	22	****	52	18
20	49	43	18	24	35	37	17	23	44	39	34	37	59	38	29	8	8	38	42	8	3	5	****	7	28
21	4	1	0	0	0	0	4	12	19	14	8	1	2	2	2	8	12	15	12	13	11	6	****	8	7
22	5	4	2	3	2	3	7	12	13	10	8	6	6	7	11	11	14	14	13	20	14	7	****	7	9
23	5	4	3	2	0	0	5	10	12	12	12	8	13	4	9	8	10	13	18	15	13	6	****	2	8
24	0	0	0	0	0	0	2	5	21	19	<---- M ---->	8	8	15	13	17	16	13	12	11	****	6	8		
25	3	1	1	2	3	3	8	16	13	13	10	5	1	9	14	14	11	17	18	23	9	11	****	21	10
26	9	5	5	3	5	4	4	8	10	13	15	11	41	45	49	9	17	19	29	7	7	6	****	7	14
27	8	6	7	7	3	3	2	6	6	10	16	10	3	15	10	9	18	14	26	19	22	19	****	20	11
28	16	2	0	0	2	1	1	7	13	16	8	7	8	9	7	11	13	11	6	6	5	5	****	10	7
29	6	2	1	1	1	1	4	10	13	13	11	9	12	10	14	14	13	15	16	20	18	11	****	12	10
30	9	4	6	4	5	5	10	19	30	33	31	41	35	17	22	23	18	16	10	4	7	39	****	59	19
31	59	55	55	53	56	46	45	49	57	54	55	50	16	6	9	8	9	14	13	10	11	6	****	14	32

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	27	39	53	56	0	- 72	3	95	0	0	

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

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
2	0	0	0	0	0	0	0	0	0	1	3	2	3	7	3	6	5	2	3	2	2	0	****	0	2
3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	****	0	0
4	0	0	0	0	0	0	0	4	1	2	1	0	1	1	0	0	1	2	2	1	2	0	****	2	1
5	0	3	5	6	4	0	0	0	0	6	15	14	2	4	1	7	0	3	3	0	0	0	****	1	3
6	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
8	0	0	0	0	0	0	0	0	0	1	4	5	2	5	11	2	1	2	3	1	0	****	5	2	
9	4	3	1	1	4	0	5	4	4	3	0	1	2	2	2	2	2	12	7	1	3	7	****	5	3
10	3	1	5	2	1	4	1	3	5	4	4	2	7	3	2	3	1	1	0	1	1	1	****	1	2
11	0	0	1	0	0	0	0	2	2	2	0	1	0	0	1	1	1	0	1	4	4	3	****	2	1
12	1	2	1	1	3	16	20	13	10	13	16	36	32	18	19	31	10	14	4	4	6	0	****	16	12
13	14	10	9	12	10	11	5	5	13	12	14	10	29	12	0	0	0	0	0	0	0	0	****	0	7
14	1	0	1	6	4	2	2	3	3	21	8	22	6	1	1	2	2	5	5	1	0	3	****	0	4
15	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	2	2	2	1	2	****	0	1	
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
17	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
19	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2	1	1	1	1	****	20	1
20	21	19	22	15	17	23	30	24	33	22	68	55	27	33	28	23	12	6	1	2	1	1	****	2	21
21	1	3	5	2	9	1	1	1	4	4	4	0	2	2	1	2	1	5	2	3	1	4	****	3	3
22	1	0	0	6	1	4	4	3	1	2	1	0	8	6	14	9	10	8	8	5	1	1	****	3	4
23	1	3	1	2	0	4	1	1	1	0	1	1	8	4	1	3	1	3	0	1	1	0	****	1	2
24	0	0	0	1	1	1	1	1	1	0	2	2	3	2	1	1	4	1	2	1	4	2	****	2	1
25	2	1	1	0	1	0	0	2	0	1	5	4	4	5	13	3	1	0	0	0	2	3	****	1	2
26	1	4	1	1	1	1	1	3	2	1	1	1	1	1	1	1	2	2	4	1	2	3	****	2	2
27	2	5	6	5	4	3	4	4	2	1	4	4	3	3	2	3	3	4	2	9	9	****	2	4	
28	0	2	1	0	4	0	2	8	6	2	15	14	15	9	18	9	5	8	7	2	5	2	****	12	6
29	5	15	9	11	11	15	16	19	39	50	52	62	67	36	7	6	4	1	0	0	0	0	****	0	19
30	0	0	0	0	0	0	0	0	1	0	1	1	2	7	6	3	1	1	0	0	0	0	****	0	1

MONTHLY STATISTICS:										NO. OF TIMES			
GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR
1	1	4	1	9	16	30	38	0	- 68	6	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: JUNE
YEAR : 2012
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	11	12	11	9	8	10	13	18	26	18	21	18	12	12	15	20	31	29	33	30	36	24	****	27	19	
2	21	14	9	8	13	11	16	19	29	33	37	36	32	27	25	28	31	35	64	60	39	55	****	25	29	
3	22	12	15	9	5	6	13	15	19	10	7	11	13	10	15	12	9	12	24	26	13	9	****	7	13	
4	5	4	4	6	3	4	7	15	21	16	13	14	25	23	16	27	29	23	15	16	17	23	****	20	15	
5	7	13	19	16	7	1	1	3	39	36	35	21	13	12	14	18	11	19	18	9	6	4	****	8	14	
6	8	3	5	1	0	1	2	17	13	11	9	6	4	10	19	15	12	7	4	6	7	3	****	5	7	
7	2	2	0	0	1	2	10	19	16	12	21	14	15	11	21	19	24	8	11	23	13	15	****	14	12	
8	2	0	0	0	0	0	0	3	8	10	10	12	9	6	8	14	8	11	11	20	13	9	****	16	7	
9	12	7	7	6	10	3	11	13	15	17	5	11	8	7	12	13	11	20	21	12	17	19	****	18	12	
10	9	7	19	11	11	15	12	19	18	14	17	15	17	11	13	17	10	12	12	15	14	15	****	13	14	
11	11	9	11	8	6	8	13	18	22	21	17	20	13	12	17	16	26	22	23	30	23	20	****	15	17	
12	16	15	13	16	22	46	46	42	35	41	36	49	54	48	61	51	34	43	31	23	38	32	****	53	37	
13	50	37	37	49	30	33	16	20	36	31	52	49	51	36	16	18	19	30	40	25	35	14	****	20	32	
14	16	5	4	14	11	4	13	32	34	54	41	51	28	8	5	15	17	9	9	6	4	8	****	5	17	
15	3	1	3	7	2	2	4	14	14	14	15	11	13	10	3	7	9	25	19	24	25	20	****	14	11	
16	12	10	2	1	1	2	4	6	12	12	17	14	5	6	0	10	7	13	8	2	0	1	****	1	6	
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	6	4	****	2	1
18	1	0	0	0	0	0	0	3	1	0	0	0	1	1	3	3	1	5	7	13	9	3	****	8	3	
19	1	0	0	1	1	1	3	9	9	9	11	16	36	21	33	35	35	40	57	44	29	17	****	61	20	
20	63	66	59	43	40	35	37	34	44	44	59	61	46	43	21	26	18	19	17	16	12	15	****	20	36	
21	10	13	14	7	18	6	7	10	28	17	19	6	11	12	8	13	18	24	17	17	13	20	****	15	14	
22	5	3	1	7	5	10	11	14	11	7	5	4	20	15	29	28	31	22	27	20	9	5	****	10	13	
23	3	7	3	6	3	11	5	6	5	3	4	3	11	11	8	3	11	8	8	8	6	5	****	7	6	
24	2	3	4	5	4	3	6	5	2	3	15	16	15	8	4	5	9	6	9	9	15	9	****	9	7	
25	7	4	3	3	2	1	4	10	5	6	12	13	11	19	22	9	4	6	8	8	11	11	****	9	8	
26	5	9	3	5	3	3	7	11	10	8	8	5	4	4	5	5	9	9	12	11	11	10	****	12	7	
27	8	10	8	7	7	8	10	15	15	12	12	9	10	9	2	3	11	11	12	19	14	14	****	9	10	
28	3	8	3	5	9	2	8	15	12	11	21	19	19	15	19	17	11	14	21	20	23	14	****	32	14	
29	23	47	42	36	34	38	36	36	43	56	75	85	84	77	40	37	34	7	10	9	8	6	****	5	38	
30	2	0	4	2	0	0	0	2	2	4	2	2	7	8	9	6	3	0	0	2	2	1	****	4	3	

MONTHLY STATISTICS:										NO. OF TIMES			
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR
9	11	15	11	35	44	57	62	0	-	85	1	-	38
										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 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: APRIL
YEAR : 2012
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	5	5	6	8	7	6	6	6	7	9	8	9	8	9	8	7	5	5	6	4	4	****	6	6
2	4	4	3	2	2	2	2	2	2	6	36	16	0	3	0	2	2	2	1	2	2	2	****	33	6
3	25	30	14	16	15	52	118	108	93	75	M	64	58	30	28	22	32	53	72	60	36	61	****	44	50
4	27	22	9	6	5	3	4	5	5	6	4	5	3	3	4	3	3	3	3	3	2	2	****	2	6
5	1	1	8	23	22	21	32	11	4	3	7	3	11	10	11	6	7	3	15	8	3	15	****	1	10
6	0	1	1	1	1	3	2	1	0	0	1	1	2	1	2	1	2	1	1	1	1	1	****	3	1
7	4	5	8	7	7	9	10	12	12	12	11	12	13	16	13	14	15	9	9	10	9	11	****	5	10
8	3	3	4	4	4	2	2	2	2	3	3	3	3	4	3	4	4	4	4	3	3	3	****	2	3
9	2	2	3	3	2	1	6	25	56	104	95	104	49	74	35	21	4	3	2	2	2	2	****	2	26
10	2	1	1	1	1	1	2	16	28	4	0	1	<----- D ----->	2	11	31	51	40	17	8	****	1	11		
11	0	1	8	10	7	8	26	52	36	23	20	50	43	26	29	15	22	8	11	10	8	13	****	18	19
12	21	9	14	19	14	2	9	30	30	14	26	4	26	34	29	24	25	23	11	14	13	18	****	25	19
13	29	18	16	15	47	29	27	9	7	36	19	13	12	11	8	13	8	12	15	15	19	20	****	17	18
14	7	10	9	3	9	11	15	11	11	11	28	27	27	22	15	14	10	6	17	14	17	13	****	11	14
15	21	11	14	5	8	35	29	21	21	15	13	6	9	6	5	4	6	10	12	10	11	17	****	10	13
16	7	7	9	5	10	8	13	5	13	14	25	18	11	9	14	14	5	5	1	8	3	14	****	21	10
17	15	9	2	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	3	2	3	****	1	2	
18	1	1	1	1	0	0	1	2	3	3	2	2	2	3	2	1	2	1	3	3	4	2	****	2	2
19	1	2	0	0	0	0	0	0	0	1	1	0	0	1	0	4	0	0	2	1	3	13	****	9	2
20	6	14	8	8	7	2	1	2	3	5	11	4	2	3	5	2	5	21	13	24	10	****	16	8	
21	12	14	6	7	10	13	21	30	74	49	47	45	52	45	50	48	51	41	49	49	45	33	****	50	37
22	136	98	68	70	47	33	22	17	13	7	4	3	6	2	3	5	8	12	11	10	9	8	****	9	26
23	4	3	2	1	2	2	3	4	2	4	6	8	14	21	12	15	13	21	13	9	16	****	19	8	
24	15	13	8	4	5	5	10	5	6	11	6	12	6	4	7	9	14	4	6	5	6	5	****	10	8
25	16	7	3	10	5	7	12	13	12	9	11	11	7	8	10	7	5	10	7	9	16	9	****	6	9
26	8	14	22	14	19	18	13	15	27	22	40	25	19	18	23	3	2	0	0	0	0	1	****	2	13
27	1	1	2	2	3	2	2	4	3	3	2	3	2	3	2	1	1	0	0	0	0	0	****	1	2
28	0	0	0	0	0	1	3	1	0	0	1	1	1	0	0	0	1	1	1	1	1	0	****	12	1
29	20	26	9	9	7	6	8	7	11	19	24	24	10	18	17	10	6	23	15	13	10	11	****	6	13
30	8	12	7	10	11	14	8	17	12	10	10	6	4	11	6	5	12	9	11	8	9	7	****	15	10

MONTHLY STATISTICS:										NO. OF TIMES			
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR
6	7	12	7	28	47	66	94	0	- 136	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 : AP LEI CHAU
POLLUTANT : NITROGEN DIOXIDE
MONTH: APRIL
YEAR : 2012
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	8	11	8	8	11	12	19	17	18	22	17	11	9	9	9	7	7	7	10	12	6	4	****	7	11
2	5	4	2	2	3	4	11	24	34	44	90	34	0	0	1	0	1	3	3	1	1	20	****	103	17
3	90	93	89	74	72	82	94	101	92	72	M	71	56	38	38	31	44	67	87	87	97	91	****	71	74
4	70	79	10	5	4	4	8	9	12	13	11	12	8	12	14	12	16	24	28	25	14	22	****	21	19
5	30	30	35	49	47	60	65	32	16	15	23	10	35	55	98	87	58	83	92	99	91	95	****	17	53
6	14	6	5	5	4	7	8	9	7	9	19	15	16	16	18	16	16	15	13	10	9	7	****	6	11
7	7	6	5	4	4	8	9	11	15	17	17	18	20	22	20	21	16	14	12	11	9	10	****	8	12
8	6	4	3	2	3	3	8	8	10	11	11	9	8	8	7	9	14	13	9	8	6	6	****	9	8
9	20	13	15	12	8	10	30	54	72	89	94	77	68	77	61	42	15	25	24	23	21	16	****	11	38
10	10	10	8	6	7	16	28	47	42	15	4	7	<----- D ----->	8	17	35	38	38	24	11	****	6	19		
11	7	16	36	40	14	20	32	43	32	29	26	30	28	17	22	22	19	11	17	18	10	21	****	16	23
12	24	13	20	24	16	7	17	22	19	18	17	9	19	20	17	17	22	26	9	9	11	21	****	21	17
13	30	22	21	15	26	27	25	12	10	17	14	12	8	9	12	12	10	16	24	22	21	20	****	25	18
14	11	12	11	7	18	19	18	17	15	19	18	15	15	12	17	15	13	17	24	21	23	18	****	16	16
15	24	16	14	7	13	25	22	16	14	10	11	5	5	5	5	4	8	13	16	17	12	17	****	10	13
16	8	8	14	5	16	12	18	13	18	21	20	23	8	11	18	22	12	13	8	33	30	80	****	86	22
17	83	56	21	6	5	7	6	8	9	15	9	11	13	22	24	19	17	25	17	12	8	9	****	8	18
18	6	7	5	5	4	4	9	13	15	18	23	25	25	18	15	15	25	17	16	9	12	16	****	21	14
19	20	14	10	8	8	12	20	27	18	11	16	21	22	50	53	35	12	10	6	2	6	18	****	33	19
20	38	32	32	24	30	16	21	24	8	10	18	54	59	63	70	45	58	74	80	52	46	29	****	74	41
21	50	72	33	28	38	59	50	58	77	84	86	88	95	103	114	114	118	102	119	149	174	150	****	167	93
22	145	104	140	136	99	135	83	68	44	12	7	7	12	10	8	10	11	14	14	13	14	9	****	13	48
23	6	5	3	2	2	4	5	7	9	6	7	6	6	15	25	12	11	10	17	14	7	11	****	18	9
24	19	15	8	3	5	7	13	6	7	10	6	11	5	4	9	9	12	5	6	5	6	6	****	12	8
25	10	9	2	8	6	8	12	13	13	10	10	12	8	6	10	7	8	10	9	10	24	12	****	15	10
26	14	36	66	49	57	55	47	52	59	56	61	64	68	71	56	7	7	9	10	7	8	7	****	16	38
27	11	9	7	5	5	10	16	20	24	24	16	7	9	13	27	55	56	33	21	13	13	****	19	18	
28	18	20	7	4	3	5	8	6	3	6	8	4	1	1	2	1	3	3	3	1	5	2	****	17	6
29	22	19	7	8	6	7	9	18	30	20	14	9	11	13	7	5	15	14	13	13	11	****	8	12	
30	8	11	9	15	10	16	11	13	11	9	10	5	2	8	5	4	8	8	6	8	7	5	****	13	9

MONTHLY STATISTICS:										NO. OF TIMES			
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR
15	14	24	14	65	88	103	136	0	- 174	3	95	0	0

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

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	5	4	4	5	8	7	8	6	6	9	5	3	7	10	6	12	15	11	6	11	7	****	4	7
2	6	8	9	7	11	12	10	9	8	10	5	6	6	3	5	5	9	7	6	11	10	12	****	9	8
3	17	8	10	5	7	11	8	12	10	15	13	6	8	10	9	4	3	4	7	8	10	5	****	10	9
4	12	8	7	15	11	12	14	20	24	18	14	20	13	7	15	18	9	8	16	6	10	1	****	2	12
5	1	1	1	1	2	1	0	0	0	1	1	0	1	1	1	2	1	1	1	1	2	3	****	7	1
6	6	5	6	4	4	3	4	4	4	2	2	0	2	3	6	5	3	7	8	6	8	8	****	9	5
7	7	6	5	5	2	2	4	3	19	3	3	2	4	5	6	9	8	5	3	5	4	3	****	8	5
8	22	16	22	25	10	22	29	16	16	36	28	4	10	6	8	6	13	17	17	5	5	9	****	15	16
9	15	11	17	14	7	9	9	13	25	15	12	4	17	16	13	11	8	12	20	4	13	15	****	33	13
10	11	7	20	15	15	11	11	12	8	12	26	26	15	9	10	11	6	10	6	10	8	17	****	28	13
11	7	2	3	3	1	2	2	2	1	1	1	1	1	0	2	0	2	2	2	1	2	1	****	5	2
12	2	2	2	2	2	3	4	1	1	2	2	2	0	1	2	1	1	2	3	3	2	5	****	35	4
13	40	44	54	54	25	24	38	17	20	8	7	6	25	11	5	7	12	21	12	10	12	48	****	6	22
14	3	4	18	8	10	12	19	31	26	14	22	29	23	19	12	20	20	14	22	20	11	11	****	19	17
15	14	32	35	22	27	11	10	5	2	7	3	2	2	1	1	2	2	0	0	3	5	4	****	4	8
16	1	1	1	2	2	1	2	1	1	1	1	1	1	0	0	0	2	1	1	3	5	2	****	6	2
17	1	1	2	2	2	1	2	2	1	1	1	1	3	1	2	3	3	2	4	3	2	2	****	4	2
18	3	4	1	3	3	1	7	3	2	1	1	1	1	1	1	1	1	2	1	1	2	1	****	2	2
19	1	1	1	1	1	5	3	3	0	4	1	7	10	2	9	15	7	9	21	17	10	5	****	11	6
20	20	55	57	12	59	172	83	72	81	49	49	34	21	29	20	15	9	6	9	4	3	1	****	3	37
21	1	1	1	1	1	1	1	1	1	1	1	0	1	0	2	1	1	2	2	1	1	2	****	1	1
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	1	1	2	2	****	5	1
23	2	3	2	1	1	1	1	1	2	1	1	2	1	1	0	2	2	2	3	3	2	2	****	4	2
24	2	2	2	2	3	3	2	2	4	4	2	5	1	2	2	2	3	1	2	3	2	2	****	3	2
25	2	1	1	1	2	2	1	1	1	0	1	0	0	1	1	0	0	0	1	0	0	0	****	2	1
26	0	0	0	0	0	0	1	1	1	1	0	2	3	25	8	2	1	2	2	2	1	1	****	4	2
27	2	3	2	2	2	1	1	1	1	0	1	0	1	0	0	1	0	0	0	0	0	0	****	2	1
28	0	0	3	0	0	0	0	1	1	0	1	1	1	1	1	1	2	1	1	1	1	1	****	4	1
29	2	1	2	2	2	1	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	2	****	3	2
30	1	1	1	1	1	1	1	2	1	1	2	0	1	0	2	0	3	5	2	5	3	1	****	6	2
31	38	24	22	12	46	33	56	90	24	42	28	5	2	6	8	5	1	2	1	2	1	0	****	3	20

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
3	3	3	19	26	45	56	0	- 172	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 : AP LEI CHAU
POLLUTANT : NITROGEN DIOXIDE
MONTH: MAY
YEAR : 2012
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	3	2	2	3	5	6	4	5	3	3	4	1	5	6	6	7	6	10	8	9	6	****	2	5
2	6	7	7	6	12	9	8	9	14	21	15	15	10	10	15	11	10	8	8	12	9	15	****	11	11
3	17	6	9	5	7	12	11	12	15	15	17	9	6	11	8	5	6	7	8	9	12	7	****	8	10
4	9	8	9	18	8	15	17	18	14	17	16	19	13	7	19	19	13	18	16	9	15	17	****	15	14
5	18	16	10	1	4	2	7	14	27	33	41	21	12	14	17	16	20	19	12	5	4	5	****	14	14
6	10	7	6	7	9	12	23	18	16	12	5	3	4	4	5	4	4	10	15	26	19	11	****	7	10
7	8	5	12	12	7	9	28	29	43	7	2	1	1	1	2	5	6	2	3	5	3	2	****	4	9
8	21	13	22	22	5	21	18	11	9	34	31	11	10	13	13	12	18	20	16	6	5	8	****	12	15
9	18	16	17	12	8	10	11	15	20	22	20	13	23	24	25	24	18	19	22	8	19	19	****	28	18
10	18	11	19	17	17	12	15	11	11	19	32	31	24	17	20	12	14	14	10	9	5	8	****	18	16
11	10	3	5	5	3	4	8	9	3	5	5	4	4	4	5	6	6	6	6	3	1	1	****	7	5
12	2	1	1	1	1	3	6	3	5	9	13	6	2	1	2	2	3	3	4	3	2	6	****	26	5
13	31	25	26	26	14	21	21	10	10	5	4	13	10	7	15	26	22	23	16	16	35	****	8	17	
14	5	4	10	10	15	15	17	13	13	9	13	17	11	16	13	19	19	15	20	17	12	13	****	15	14
15	12	19	19	21	23	17	21	15	4	6	3	3	1	0	1	1	4	2	4	3	6	6	****	16	9
16	9	11	2	1	6	10	15	21	10	22	30	30	16	7	1	1	3	1	14	9	5	10	****	17	11
17	13	12	8	4	6	9	17	16	4	7	6	3	4	1	1	2	5	3	5	21	20	16	****	11	8
18	19	12	4	11	6	6	24	37	20	26	25	40	34	39	7	7	6	6	6	6	5	1	****	7	15
19	7	5	9	8	7	18	27	45	37	31	15	14	10	2	8	14	16	23	42	39	33	52	****	63	23
20	59	59	57	47	49	60	51	52	53	54	41	41	32	34	32	45	53	57	108	40	22	7	****	3	46
21	2	1	0	1	1	1	3	5	9	12	8	3	3	2	2	8	5	6	7	6	6	6	****	8	5
22	6	4	4	4	4	4	6	7	9	10	5	4	4	5	15	10	7	6	4	7	7	5	****	9	6
23	7	6	4	4	2	3	4	7	10	9	11	14	4	8	9	6	13	10	11	11	5	5	****	5	7
24	3	2	4	4	2	4	7	14	20	23	11	15	6	6	8	9	14	10	11	10	2	1	****	1	8
25	0	0	0	0	1	2	4	5	5	6	5	5	4	7	6	4	7	5	4	4	1	2	****	4	3
26	1	0	1	0	1	2	2	2	6	13	22	36	41	60	37	8	4	13	20	9	5	2	****	5	13
27	3	4	3	1	3	3	3	2	5	8	5	3	6	5	7	8	9	6	5	3	3	4	****	6	4
28	4	1	5	1	0	6	15	29	38	7	7	10	7	8	7	10	19	18	5	5	8	4	****	4	9
29	3	1	1	0	1	0	2	5	5	7	7	6	5	6	10	11	8	7	4	3	3	5	****	6	5
30	6	3	2	2	3	5	11	18	21	20	15	9	4	3	3	3	8	12	6	14	14	41	****	50	12
31	53	53	54	49	49	46	51	53	38	48	43	10	11	10	15	7	5	8	4	3	1	0	****	3	27

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
8	8	12	8	26	41	53	56	0	- 108	3	- 46	3	96	0	0

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

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

STATION : AP LEI CHAU
POLLUTANT : SULPHUR DIOXIDE

MONTH: JUNE

YEAR : 2012
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	1	2	1	2	3	1	2	3	2	2	2	3	1	1	3	5	4	5	4	2	3	****	4	2
2	3	2	2	3	4	5	5	5	5	6	6	5	6	6	5	5	5	4	8	9	6	5	****	5	5
3	5	4	4	4	5	5	4	4	5	4	6	4	3	2	3	3	2	2	4	3	3	5	****	5	4
4	4	6	4	4	2	5	7	12	7	8	6	7	7	5	6	8	8	9	11	10	13	10	****	16	8
5	15	28	39	29	18	14	8	6	3	22	48	16	10	11	8	11	8	10	5	6	3	4	****	7	14
6	7	4	5	7	5	7	5	5	4	5	5	4	5	5	3	3	4	5	5	5	5	4	****	4	5
7	3	3	2	2	3	2	2	2	4	1	1	3	3	2	3	3	5	5	6	7	4	2	****	4	3
8	2	2	2	2	3	4	4	7	3	5	10	29	16	11	18	15	12	10	9	15	10	6	****	29	10
9	31	21	8	15	9	8	34	19	12	14	7	8	12	6	9	9	5	6	6	6	9	7	****	8	12
10	5	4	9	3	7	8	13	10	14	5	7	18	10	5	4	7	6	7	6	9	5	9	****	13	8
11	8	6	9	8	4	4	8	8	5	6	8	8	7	7	15	9	5	1	6	9	6	3	****	7	7
12	8	13	3	1	6	28	22	12	14	21	9	26	33	20	16	27	9	16	3	2	5	0	****	13	13
13	18	9	10	24	25	21	10	13	12	11	13	6	37	5	0	0	0	0	0	0	0	0	****	2	9
14	0	0	0	1	1	1	2	0	0	0	7	0	0	M	2	0	0	1	1	0	0	1	****	3	1
15	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	****	1	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	****	25	1
20	15	10	10	15	12	17	22	24	19	15	47	43	36	24	25	20	16	7	2	1	6	1	****	7	17
21	1	8	5	1	8	0	1	5	23	17	10	0	2	2	6	1	5	7	2	2	0	2	****	10	5
22	0	0	2	1	2	2	4	4	2	5	1	0	<----- D ----->				8	0	2	1	5	0	****	3	2
23	4	2	1	4	3	2	2	2	1	0	4	1	0	3	1	2	1	2	2	2	0	1	****	4	2
24	1	2	0	1	3	1	1	2	1	1	0	5	3	2	4	8	4	1	3	5	4	2	****	7	3
25	4	2	2	3	2	1	1	5	1	2	1	2	5	5	0	2	3	1	3	0	2	2	****	10	2
26	6	4	7	0	8	1	4	8	6	1	5	1	0	1	2	2	2	4	5	1	1	4	****	5	3
27	2	8	2	5	1	4	3	4	1	6	4	3	4	2	1	4	3	3	4	4	12	5	****	6	4
28	1	3	0	4	4	0	6	6	12	6	23	19	11	9	11	5	8	8	4	5	26	2	****	12	8
29	11	22	13	10	13	14	15	12	22	36	42	41	52	32	6	5	3	0	0	1	0	0	****	3	15
30	1	0	2	1	1	0	0	0	0	0	1	2	4	10	7	8	6	2	1	1	1	1	****	5	2

MONTHLY STATISTICS:										NO. OF TIMES					
GEOM	ARITH			<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
4	4	6	4	14	22	30	38	0	- 52	3	95	0	0		

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

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	1	1	1	1	3	4	7	9	7	6	6	5	4	9	7	8	11	19	13	6	5	****	9	6
2	7	7	9	7	3	5	6	13	11	19	12	3	4	3	4	6	3	5	10	8	19	29	****	7	9
3	17	12	5	3	0	1	2	3	5	5	9	4	7	2	1	3	2	3	6	3	2	4	****	4	4
4	4	4	2	2	1	2	7	16	10	8	5	5	2	1	4	2	3	4	6	3	9	5	****	15	5
5	23	38	40	33	19	16	18	12	2	15	36	8	4	4	2	4	2	7	2	4	1	1	****	5	13
6	6	2	3	4	5	4	6	7	4	3	4	2	1	0	0	1	0	1	4	2	1	3	****	1	3
7	1	0	1	0	1	1	1	2	2	3	1	1	1	0	1	2	2	2	7	8	2	4	****	3	2
8	1	0	0	0	0	1	3	6	2	2	5	13	8	4	13	13	11	10	13	19	13	3	****	26	7
9	33	25	5	12	11	11	39	23	12	18	14	17	17	11	17	16	7	9	9	13	20	14	****	6	16
10	5	3	15	4	9	7	23	14	18	13	13	23	16	8	5	6	5	9	7	10	6	9	****	9	10
11	8	4	8	5	4	1	6	4	3	6	7	6	4	7	15	15	15	19	38	28	21	15	****	17	11
12	21	28	19	13	15	34	35	32	32	35	28	37	47	50	41	50	41	48	25	19	26	23	****	44	32
13	47	33	37	47	43	36	23	21	25	31	40	41	52	22	7	10	23	8	6	5	15	28	****	16	27
14	13	7	3	2	4	5	8	17	15	11	29	3	0	M	0	0	0	0	0	0	0	0	****	3	5
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0
19	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	16	32	23	25	28	****	58	8
20	53	40	21	13	3	7	23	32	32	24	51	46	22	18	8	10	11	1	3	0	1	0	****	1	18
21	0	0	0	0	0	0	0	1	17	3	8	0	0	0	2	0	2	0	0	0	0	1	****	5	2
22	0	0	0	0	0	1	1	1	0	2	0	0	<----- D ----->	10	3	7	5	3	0	****	6	2			
23	6	3	6	6	7	1	6	3	4	1	5	2	2	4	3	2	1	3	4	4	2	2	****	6	4
24	1	1	1	1	4	4	3	3	1	1	0	5	3	4	8	7	4	1	3	5	5	2	****	6	3
25	8	2	2	2	2	1	2	8	2	3	2	2	7	7	1	4	3	4	6	1	3	3	****	11	4
26	4	6	6	1	6	1	6	7	8	7	9	0	1	3	3	2	7	10	10	3	2	3	****	12	5
27	4	14	3	7	3	6	7	7	4	12	11	M	6	2	1	M	3	2	3	7	10	4	****	5	6
28	0	3	0	4	3	0	9	8	6	8	23	15	9	11	11	8	7	10	15	9	23	6	****	20	9
29	23	40	43	24	32	33	34	31	42	53	72	72	92	71	36	38	11	8	6	1	1	0	****	0	33
30	0	0	2	0	0	0	0	0	0	0	0	2	6	9	8	5	10	2	0	2	2	2	****	5	2

MONTHLY STATISTICS:					NO. OF TIMES								
GEOM	ARITH	<-----PERCENTILE----->			<-----RANGE----->		STD GEOM	PERCENT	ABOVE OBJECTIVE				
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR
5	4	8	4	23	36	47	53	0	- 92	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 300 OR 24-HR OBJECTIVE 150

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	6	6	6	8	9	8	10	12	10	12	12	12	11	11	10	11	10	7	7	9	8	8	****	9	9
2	10	10	8	7	8	8	9	10	14	17	20	21	15	7	7	8	6	7	6	6	6	10	****	16	10
3	16	22	24	29	35	43	32	27	33	42	38	34	28	30	32	33	24	16	11	10	12	14	****	9	26
4	16	15	14	12	8	7	6	7	10	12	9	10	9	9	8	6	5	7	6	9	12	7	****	11	9
5	11	11	10	11	11	12	14	14	14	11	11	12	10	12	8	2	6	7	8	5	9	15	****	6	10
6	3	2	3	5	7	4	5	5	6	7	6	5	4	6	5	5	11	5	13	16	13	6	****	3	6
7	3	6	7	9	7	10	11	13	15	16	13	16	17	18	17	16	18	15	13	11	12	11	****	11	12
8	9	10	7	9	8	7	7	8	10	8	8	7	8	13	8	7	6	6	6	7	7	6	****	8	8
9	11	13	13	8	5	5	4	5	7	15	21	20	23	25	12	7	4	4	6	5	4	3	****	3	10
10	2	3	6	5	6	8	7	10	6	8	4	6	9	8	10	13	9	24	27	22	26	14	****	10	11
11	10	8	6	6	5	8	10	14	13	7	9	9	7	8	5	3	3	3	3	3	3	3	****	4	6
12	6	6	9	6	8	18	25	23	14	10	6	7	23	28	14	7	7	4	3	3	6	6	****	4	11
13	4	4	5	6	6	7	5	9	7	7	8	8	7	5	6	7	4	5	4	4	4	5	****	5	6
14	4	3	3	3	4	3	2	4	4	7	8	24	15	9	4	3	2	1	4	4	4	3	****	1	5
15	1	1	1	1	1	3	3	3	3	3	4	4	5	5	3	1	1	1	1	2	2	1	****	1	2
16	1	2	2	3	2	3	3	3	5	5	4	2	1	1	1	0	0	0	0	0	0	0	****	5	2
17	3	18	22	4	1	4	2	2	1	5	1	0	2	1	1	9	4	9	18	14	5	6	****	2	6
18	5	8	8	2	1	1	1	3	3	11	6	3	2	3	3	3	4	6	3	4	5	6	****	7	4
19	7	7	8	8	6	5	6	8	4	4	4	2	2	6	4	7	3	2	5	6	9	10	****	6	6
20	6	9	7	22	17	16	17	18	9	8	7	4	4	4	5	6	7	9	4	4	5	3	****	3	8
21	6	4	4	5	4	6	10	31	39	41	54	49	50	50	56	53	56	40	34	29	27	33	****	30	31
22	27	19	30	21	21	34	54	67	75	40	25	11	9	8	5	10	11	11	10	10	10	10	****	10	23
23	10	5	4	3	3	3	3	4	8	10	10	8	13	6	3	4	2	3	3	3	3	3	****	5	5
24	4	4	3	3	3	3	3	3	3	3	4	3	4	4	3	3	3	2	3	2	2	2	****	3	3
25	2	2	5	8	5	4	4	3	4	3	2	1	1	1	1	1	1	1	1	5	3	3	****	0	3
26	0	1	3	9	8	4	2	2	3	3	4	3	5	6	13	7	1	0	1	4	12	20	****	9	5
27	6	7	7	5	7	4	5	5	7	16	7	<-----D----->		7	6	5	4	4	5	****	4	6			
28	8	4	2	2	2	3	2	2	2	4	3	3	3	1	2	4	3	2	2	2	2	2	****	3	3
29	0	0	0	0	0	0	0	0	0	1	4	7	2	1	0	0	0	0	0	0	0	0	****	0	1
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0

MONTHLY STATISTICS:											NO. OF TIMES				
GEOM	ARITH			<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
5	6	8	6	17	27	40	52	0	- 75	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 : CHEUNG CHAU
POLLUTANT : NITROGEN DIOXIDE
MONTH: APRIL
YEAR : 2012
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	12	16	13	16	18	19	28	32	23	45	20	17	14	13	10	11	10	9	9	14	12	11	****	13	17
2	14	17	15	13	14	36	54	59	85	88	90	76	20	9	7	11	12	11	18	28	16	56	****	94	37
3	91	102	101	94	97	94	68	66	70	67	71	62	63	72	83	86	46	44	52	64	44	68	****	47	72
4	73	66	72	28	18	16	13	14	27	32	27	26	24	23	20	8	10	15	14	50	104	16	****	94	34
5	69	74	48	43	42	55	56	57	41	22	37	35	45	72	70	39	72	78	44	56	89	104	****	73	57
6	21	5	13	53	71	17	40	52	24	20	32	23	31	57	19	24	34	20	33	31	23	19	****	13	29
7	14	10	12	13	9	15	21	22	25	29	24	38	32	34	30	33	46	32	39	21	35	20	****	47	26
8	37	37	30	32	28	25	51	50	59	34	27	26	33	75	28	13	13	18	17	36	17	15	****	60	33
9	63	74	85	77	57	47	40	48	57	59	71	73	74	50	27	20	12	17	26	31	24	16	****	19	46
10	15	33	47	25	39	52	45	35	10	31	5	15	22	10	9	13	12	31	51	43	48	32	****	13	28
11	26	37	13	23	24	35	34	41	38	18	7	11	9	9	8	7	8	9	30	49	29	38	****	50	24
12	50	39	43	25	28	41	48	46	28	28	6	5	21	25	14	7	5	7	5	6	10	14	****	15	22
13	19	20	13	21	19	22	10	15	11	8	5	7	6	6	5	9	10	6	13	6	9	17	****	17	12
14	16	16	20	19	19	13	8	15	11	10	8	20	22	14	6	5	6	7	21	28	21	14	****	9	14
15	10	15	6	8	15	16	14	14	6	8	7	8	6	5	6	2	4	5	11	14	12	14	****	14	9
16	10	16	10	14	15	22	11	9	11	11	9	7	4	4	5	4	2	12	5	12	18	****	66	12	
17	55	84	89	14	9	23	19	16	17	26	13	10	20	21	23	34	31	33	36	30	12	19	****	16	28
18	16	15	23	11	5	5	8	13	14	25	18	10	10	18	9	9	14	25	16	20	23	21	****	38	16
19	48	62	56	49	36	36	56	39	12	14	12	15	20	58	65	64	8	5	13	17	41	55	****	42	36
20	32	40	25	45	41	42	42	37	14	18	25	60	51	53	56	48	33	60	52	52	27	10	****	31	39
21	70	47	39	38	45	46	39	63	70	62	78	82	70	80	94	114	112	99	86	97	155	124	****	124	80
22	76	85	53	61	91	96	113	135	141	106	60	18	14	13	13	20	20	18	12	13	16	15	****	15	52
23	15	4	4	2	2	2	3	4	12	21	20	18	28	16	3	10	4	2	8	6	5	2	****	7	9
24	5	2	5	2	2	1	3	5	5	6	7	5	5	7	1	3	4	3	7	6	5	3	****	8	4
25	2	3	9	17	16	18	19	8	9	15	6	2	5	4	3	3	5	7	13	43	24	35	****	8	12
26	8	35	36	63	50	23	20	30	37	36	44	30	25	35	40	20	5	4	8	18	26	36	****	31	29
27	29	25	24	17	23	17	21	21	25	32	25	<-----D----->				78	63	64	27	21	54	****	54	34	
28	84	18	7	5	7	13	13	9	6	7	9	7	4	4	1	3	8	8	7	5	10	10	****	12	11
29	3	3	2	2	4	2	7	10	14	32	37	39	4	3	2	4	3	8	7	8	8	8	****	6	9
30	6	5	3	1	1	2	8	5	5	7	5	2	2	2	1	2	3	4	4	2	5	1	****	2	4

MONTHLY STATISTICS:										NO. OF TIMES			
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	ABOVE OBJECTIVE
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR
18	18	28	18	66	84	98	113	1	- 155	3	95	0	0

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

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

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

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

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	
3	3	3	12	19	25	28	0	- 35	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 : CHEUNG CHAU
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: MAY
 YEAR : 2012
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	0	4	2	8	3	5	6	6	3	1	4	2	3	3	2	3	6	6	8	8	3	****	2	4
2	4	3	2	3	5	5	5	13	6	5	5	2	2	1	2	3	2	3	3	1	4	5	****	7	4
3	4	5	3	5	9	8	8	8	7	4	5	5	2	1	2	0	1	3	1	5	5	2	****	6	4
4	3	5	9	8	12	7	9	6	6	8	5	7	3	2	3	2	1	4	5	5	6	4	****	9	6
5	3	3	10	16	6	4	6	11	13	17	24	24	6	4	6	4	5	4	5	8	5	10	****	17	9
6	17	12	9	12	14	14	35	26	15	16	9	7	5	5	6	2	11	23	13	13	10	****	8	12	
7	7	6	13	11	13	11	4	19	33	30	8	6	6	6	9	11	8	6	14	18	41	28	****	21	14
8	26	19	30	27	24	27	32	38	31	22	11	3	3	2	2	4	3	8	8	8	10	14	****	15	16
9	16	21	14	20	11	8	5	3	1	2	2	1	1	1	5	7	13	10	7	6	5	6	****	6	7
10	12	8	6	5	4	5	4	3	5	9	3	3	7	7	3	2	2	8	9	10	19	18	****	30	8
11	23	14	6	12	4	11	8	12	10	9	5	4	4	3	4	6	5	5	11	9	6	4	****	12	8
12	15	13	7	3	3	8	10	9	6	7	8	7	5	4	5	4	4	7	12	11	20	11	****	14	8
13	9	4	7	4	6	5	6	7	4	0	17	8	3	5	5	10	30	27	57	63	54	56	****	52	19
14	48	29	28	32	34	24	25	4	18	15	5	3	4	1	2	1	2	1	3	3	4	2	****	4	13
15	2	8	11	25	26	26	24	24	23	14	15	10	14	7	3	5	12	22	21	31	28	26	****	16	17
16	29	13	12	10	10	27	30	34	36	39	17	35	26	15	1	2	3	2	4	7	10	14	****	21	17
17	2	17	33	37	15	19	20	9	8	5	4	3	5	2	10	8	3	13	17	21	18	****	13	13	
18	10	16	11	22	15	42	40	36	37	3	2	23	60	53	7	6	4	5	8	4	5	2	****	3	18
19	7	12	25	20	38	52	68	59	60	46	24	11	7	9	16	7	3	21	19	23	47	57	****	53	30
20	52	51	59	57	59	59	53	42	43	35	35	31	36	39	23	8	35	52	84	127	65	29	****	10	47
21	8	6	15	17	18	19	17	36	33	29	11	2	9	1	2	3	3	3	3	5	3	3	****	4	11
22	4	5	4	11	18	26	22	9	7	7	4	4	4	3	14	11	4	4	4	9	9	4	****	8	9
23	10	13	19	25	25	22	17	16	20	12	12	21	19	8	20	15	4	3	2	7	3	4	****	3	13
24	3	1	4	13	20	15	18	16	11	21	18	12	12	12	15	12	13	12	16	14	10	6	****	5	12
25	4	3	2	5	8	13	11	12	9	7	7	6	2	12	8	3	3	14	11	18	8	20	****	14	9
26	13	10	22	17	28	28	27	24	27	27	27	37	51	45	40	41	33	25	19	16	16	9	****	16	26
27	10	12	14	19	17	17	16	12	16	19	18	14	15	15	12	8	10	14	8	9	8	11	****	14	13
28	10	5	11	12	3	15	11	43	34	18	12	12	9	11	6	9	14	13	9	11	11	7	****	12	13
29	15	17	16	21	27	26	22	17	18	17	12	12	10	10	15	12	8	5	4	9	4	11	****	10	14
30	10	5	6	9	7	5	14	14	20	14	15	9	5	4	7	4	7	30	13	11	14	24	****	47	13
31	42	49	60	66	61	55	46	41	52	48	46	15	10	4	M	4	4	12	17	13	7	8	****	11	30

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	
9	10	10	33	46	57	60	0 -	127	3	96	0	0	

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

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

STATION : CHEUNG CHAU
POLLUTANT : SULPHUR DIOXIDE

MONTH: JUNE

YEAR : 2012
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	0	0	0	0	2	2	2	3	1	0	3	2	1	1	2	1	1	1	****	1	1
2	0	0	0	0	0	0	0	1	2	4	2	2	2	4	4	6	6	2	1	2	1	1	****	0	2
3	0	1	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	****	0	0
4	0	0	1	1	1	0	0	3	4	2	3	3	2	2	0	3	4	7	4	3	2	7	****	8	3
5	3	1	1	0	0	2	9	11	5	4	8	10	17	7	6	2	1	2	2	1	1	0	****	7	4
6	1	0	1	1	3	3	7	5	2	2	1	1	0	0	1	2	2	1	5	1	1	1	****	9	2
7	4	1	0	1	0	0	0	1	1	1	3	1	2	2	1	1	3	5	5	6	4	2	****	12	2
8	5	2	0	0	0	0	0	0	0	2	6	5	3	1	1	0	0	0	0	0	0	0	****	7	1
9	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	****	13	1
10	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
11	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	12	1
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	24	1
13	8	5	5	4	3	4	5	7	5	4	5	9	M	0	0	0	0	0	0	0	0	0	****	1	3
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
15	0	0	0	0	0	0	0	0	0	0	M	M	0	0	M	0	0	0	0	0	0	0	****	4	0
16	0	0	0	0	0	2	1	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
18	0	0	0	0	0	0	0	0	0	0	0	M	M	8	0	0	0	0	0	0	0	0	****	2	0
19	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	2	2	0	****	7	1
20	8	6	4	1	0	3	10	26	29	23	17	18	13	12	7	4	0	0	0	0	0	0	****	1	8
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	1	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	M	M	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
26	0	0	0	0	0	0	0	0	0	0	0	<-----M----->					2	0	0	0	0	0	****	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	0	0
28	0	0	0	0	0	0	0	0	1	1	2	<-----M----->			1	1	2	0	0	2	2	****	2	1	
29	2	1	2	3	3	5	7	40	96	50	97	52	64	44	44	15	7	6	3	3	4	4	****	4	24
30	2	2	1	0	0	1	1	1	0	1	2	1	1	1	0	0	0	6	8	9	12	11	****	4	3

MONTHLY STATISTICS:											NO. OF TIMES						
GEOM	ARITH		<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	ABOVE OBJECTIVE			
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	1-HR	24-HR			
1	0	2	0	5	8	17	42	0	-	97	0	-	24	6	93	0	0

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

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

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

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN											
1	7	9	11	21	16	12	16	18	21	15	14	13	4	2	10	9	4	5	14	16	12	14	****	14	12											
2	16	8	21	9	10	13	7	7	10	12	5	2	1	3	6	6	11	6	7	11	8	24	****	5	9											
3	7	26	11	10	2	2	3	7	9	6	14	6	3	5	0	1	0	1	6	3	1	1	****	3	6											
4	1	4	8	6	5	3	3	16	11	7	7	5	2	2	2	5	5	9	8	9	8	16	****	8	7											
5	13	17	13	3	6	16	32	33	18	15	10	12	17	10	8	4	1	6	5	7	6	3	****	3	11											
6	6	3	9	5	9	10	23	12	8	8	4	3	1	0	3	3	2	3	16	5	8	9	****	11	7											
7	11	8	5	9	2	9	3	5	4	2	5	1	1	0	2	1	4	8	15	21	10	9	****	5	6											
8	10	3	3	7	4	5	5	11	9	11	11	8	4	2	0	1	0	1	0	1	3	1	****	4	4											
9	2	4	1	0	3	8	11	2	1	1	3	7	2	2	1	2	1	3	2	4	6	1	****	4	3											
10	2	2	3	4	9	8	5	4	2	1	3	2	1	1	2	3	4	2	4	3	4	5	****	5	3											
11	4	6	3	3	4	5	5	5	4	3	5	4	4	4	8	5	12	14	16	6	5	4	****	3	6											
12	3	2	5	9	13	16	22	24	<----->														18	5	9	10	18	10	4	2	1	****	11			
13	FAILURE OF NOX ANALYZER												<----->												18	5	9	10	18	10	4	2	1	****	11	
14	8	41	34	2	3	25	11	7	12	4	3	3	3	2	3	9	8	4	2	1	0	0	****	5	8											
15	3	5	3	2	3	0	4	10	9	8	M	M	1	1	M	0	0	2	6	10	3	14	****	10	5											
16	3	3	18	4	13	28	36	41	45	22	42	7	15	11	0	16	7	9	6	5	0	1	****	1	15											
17	2	2	0	0	1	1	2	7	1	1	0	0	0	0	0	0	0	0	3	4	6	1	****	2	1											
18	0	0	0	0	1	0	0	0	0	0	0	M	M	8	4	8	4	10	9	11	11	5	****	4	4											
19	8	5	8	11	12	8	29	45	43	27	41	34	28	22	19	22	31	40	72	85	80	49	****	73	35											
20	75	68	59	46	47	46	54	50	46	46	37	36	28	19	13	16	7	9	10	6	12	25	****	8	33											
21	5	5	3	2	8	27	40	26	14	3	2	1	1	1	1	2	3	6	4	2	1	****	1	7												
22	1	0	3	9	25	5	4	1	3	0	0	0	0	0	0	0	1	0	0	1	0	0	****	0	2											
23	0	0	0	3	0	0	0	1	0	1	1	4	0	0	0	0	0	0	1	0	1	0	****	0	1											
24	0	1	0	0	0	0	0	0	0	1	3	1	4	1	2	1	3	4	4	4	4	2	4	1	2											
25	1	2	3	2	2	2	2	1	M	M	0	0	1	1	1	1	1	2	2	1	1	1	****	1	1											
26	0	0	1	1	0	1	1	2	1	0	0	<----- M ----->					1	2	1	0	1	****	0													
27	0	0	2	0	0	0	0	1	2	0	1	0	0	0	1	1	0	0	0	1	0	****	2	1												
28	1	2	1	2	4	2	2	2	2	1	2	<----- M ----->					1	1	3	0	1	5	8	****	16	3										
29	11	5	12	25	20	25	28	37	51	48	86	81	93	61	61	39	27	20	16	17	22	23	****	14	36											
30	1	5	3	0	0	3	2	3	2	5	4	1	2	2	0	0	1	6	11	17	25	20	****	8	5											

MONTHLY STATISTICS:												NO. OF TIMES					
GEOM	ARITH			<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	ABOVE OBJECTIVE		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR			
3	4	8	4	22	37	53	73	0	-	93	1	-	36	5	90	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 : April – June 2012

Week Ending	No. of Samples	Suspended Solids, mg/L			pH		
		Maximum	Minimum	Average	Maximum	Minimum	Average
07/04/12	6*	14	11	13	8.2	8.1	8.1
14/04/12	3*	14	11	13	8.2	8.1	8.2
21/04/12	3*	13	11	12	8.1	8.1	8.1
28/04/12	3*	14	11	12	8.2	8.1	8.1
05/05/12	3*	14	11	13	8.2	8.0	8.1
12/05/12	3*	13	11	12	8.2	8.1	8.1
19/05/12	1*	14	14	14	8.1	8.1	8.1
26/05/12	4*	13	11	12	8.2	8.1	8.2
02/06/12	1*	10	10	10	8.2	8.2	8.2
09/06/12	1*	15	15	15	8.3	8.3	8.3
16/06/12	4*	16	10	13	8.2	8.0	8.1
23/06/12	5*	13	11	12	8.1	8.0	8.1
30/06/12	1*	14	14	14	8.2	8.2	8.2

Remark :

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

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

Period : April – June 2012

Sampling date		3/4/2012	9/5/2012	6/6/2012
Barium,	ug/L	<150	<150	<150
Mercury,	ug/L	<0.5	<0.5	<0.5
Cadmium,	ug/L	3	2	3
Iron,	ug/L	<400	<400	<400
Total Phosphorous,	mg/L	<0.8	<0.8	<0.8
Total Nitrogen,	mg/L	203	120	156
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