

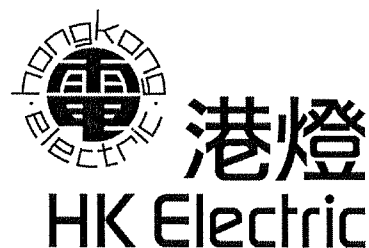
香港電燈有限公司
The Hongkong Electric Co., Ltd.



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

**Quarterly Environmental Monitoring & Audit Report
October – December 2011**

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



ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499

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

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

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

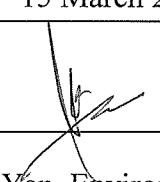
Report Title	Quarterly EM&A Report (October to December 2011)
Date	15 March 2012
Certified by	 (Mr. IP Tat-Yan, Environmental Team Leader)

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EXECUTIVE SUMMARY

This is the quarterly Environmental Monitoring and Audit (EM&A) report for the Projects “Lamma Power Station Units L4 & L5 Flue Gas Desulphurization Plant Retrofit” and “Lamma Power Station Unit L2 Flue Gas Desulphurization Plant Retrofit” prepared by the Environmental Team (ET). This report presents the results of impact monitoring on air and water quality and environmental audit for the operation of the said projects in the period from October to December 2011.

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

Plant Availability

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

Unit	Period	Remark
L2	07/10/2011 17:08 to 10/10/2011 05:27	Condensers leak repair
L2	16/11/2011 00:01 to 5/12/2011 06:12	Unit overhaul
L4	24/12/2011 14:36 to 28/12/2011 06:27	Boiler inspection
L5	11/11/2011 20:26 to 14/11/2011 05:43	Defect rectification
L5	07/12/2011 23:34 to 30/12/2011 06:32	Boiler inspection

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	15/10/2011 00:31 to 29/12/2011 12:00	FGD was bypassed for Booster Fan Rotor replacement	EPD was informed by letter dated 30/12/2011

Equipment	Period	Cause	Actions Taken
L5 FGD	28/11/2011 00:10 to 07/12/2011 23:59	FGD was bypassed for miscellaneous defects rectification as well as absorber, mist eliminator and gas-gas heater washing	EPD was informed by letter dated 09/12/2011

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

Environmental Monitoring Works

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

Air Quality

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

Water Quality

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

Environmental Licensing and Permitting

Description	Permit / Licence No.	Valid Period		Issued To	Date of Issuance
		From	To		
Environmental Permit for L4/5 FGD plants retrofit project	EP-248/2006	25/04/2006	-	HK Electric	25/04/2006
Environmental Permit for Unit L2 FGD plant retrofit project	EP-287/2007	02/10/2007	-	HK Electric	02/10/2007
Specified Processes Licence issued under APCO	L-7-002(8)	01/01/2011	31/12/2012	HK Electric	30/12/2010
WPCO discharge licence for Ash Lagoon	EP890/W2/XD018	16/04/2007	31/12/2011	HK Electric	16/04/2007
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

There was no environmental complaint against the projects during the reporting period.

Future key issues

Key issues to be considered in the coming months include:

Air Impact

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

Water Impact

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

Concluding Remarks

The environmental performance of the projects was generally satisfactory.

1. INTRODUCTION

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

This report summarizes the environmental monitoring and audit work for the said Projects for the period from October to December 2011.

1.1 Background

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

The Projects include the installation and operation of FGD plants with flue gas desulphurization efficiency of 90% for the three coal-fired Units L2, L4 & L5 to reduce the overall SO₂ emissions from Lamma Power Station. The process adopted for the FGD plants is “Wet Limestone-Gypsum”, a technology which has already been used in, and proved effective and reliable for the existing coal-fired units L6, L7 & L8. The flue gas from the boiler is directed to the FGD absorber inside which removal of SO₂ is take place by reaction with limestone slurry. After passing through the absorber, the treated flue gas is heated up by a gas-gas heater to over 80°C at boiler rated capacity and directed back to the existing chimney for discharge to the atmosphere. Figure 1.1a, Figure 1.1b, Figure 1.2a, Figure 1.2b and Figure 1.3 show the location and schematic of the FGD plants.

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

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

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

1.2 Project Organisation

The management structure to oversee the Projects includes the following:

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

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

1.3 Plant Availability during the Reporting Period

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

Unit	Period	Remark
L2	07/10/2011 17:08 to 10/10/2011 05:27	Condensers leak repair
L2	16/11/2011 00:01 to 5/12/2011 06:12	Unit overhaul
L4	24/12/2011 14:36 to 28/12/2011 06:27	Boiler inspection
L5	11/11/2011 20:26 to 14/11/2011 05:43	Defect rectification
L5	07/12/2011 23:34 to 30/12/2011 06:32	Boiler inspection

1.4 Malfunction/Outage Records of Pollution Control Equipment

Equipment	Period	Cause	Actions Taken
L2 FGD	15/10/2011 00:31 to 29/12/2011 12:00	FGD was bypassed for Booster Fan Rotor replacement	EPD was informed by letter dated 30/12/2011
L4 FGD	01/10/2011 02:40 to 02:42	Routine damper exercise	EPD was informed by letter dated 04/10/2011
L4 FGD	08/10/2011 01:57 to 02:02	Routine damper exercise	EPD was informed by letter dated 10/10/2011
L4 FGD	15/10/2011 02:58 to 03:10	Routine damper exercise	EPD was informed by letter dated 17/10/2011
L4 FGD	22/10/2011 02:37 to 02:40	Routine damper exercise	EPD was informed by letter dated 26/10/2011

Equipment	Period	Cause	Actions Taken
L4 FGD	29/10/2011 02:30 to 02:32	Routine damper exercise	EPD was informed by letter dated 31/10/2011
L4 FGD	05/11/2011 02:58 to 03:09	Routine damper exercise	EPD was informed by letter dated 10/11/2011
L4 FGD	12/11/2011 02:06 to 02:13	Routine damper exercise	EPD was informed by letter dated 17/11/2011
L4 FGD	19/11/2011 03:48 to 03:53	Routine damper exercise	EPD was informed by letter dated 22/11/2011
L4 FGD	26/11/2011 02:38 to 02:49	Routine damper exercise	EPD was informed by letter dated 30/11/2011
L4 FGD	03/12/2011 02:45 to 02:50	Routine damper exercise	EPD was informed by letter dated 07/12/2011
L4 FGD	10/12/2011 03:02 to 03:06	Routine damper exercise	EPD was informed by letter dated 12/12/2011
L4 FGD	17/12/2011 01:32 to 01:44	Routine damper exercise	EPD was informed by letter dated 21/12/2011
L5 FGD	01/10/2011 02:47 to 02:49	Routine damper exercise	EPD was informed by letter dated 04/10/2011
L5 FGD	08/10/2011 02:04 to 02:08	Routine damper exercise	EPD was informed by letter dated 10/10/2011
L5 FGD	15/10/2011 03:15 to 03:33	Routine damper exercise	EPD was informed by letter dated 17/10/2011
L5 FGD	22/10/2011 02:41 to 02:45	Routine damper exercise	EPD was informed by letter dated 26/10/2011
L5 FGD	29/10/2011 02:56 to 02:58	Routine damper exercise	EPD was informed by letter dated 31/10/2011
L5 FGD	05/11/2011 02:46 to 02:56	Routine damper exercise	EPD was informed by letter dated 10/11/2011
L5 FGD	19/11/2011 04:07 to 04:12	Routine damper exercise	EPD was informed by letter dated 22/11/2011
L5 FGD	28/11/2011 00:10 to 07/12/2011 23:59	FGD was bypassed for miscellaneous defects rectification as well as absorber, mist eliminator and gas-gas heater washing	EPD was informed by letter dated 09/12/2011

1.5 Summary of EM&A Requirements

Environmental Monitoring and Audit (EM&A) requirements have been discussed in the Environmental Impact Assessment (EIA) Report/ Project Profile for the Projects. The assessment results indicate that environmental monitoring works required for the EM&A programmes of these Projects are already in place or would be implemented

under Lamma Power Station Extension Environmental Permit or environmental licenses for the operation of the existing Lamma Power Station. Such monitoring works are considered adequate for the Projects and no additional EM&A activities are required. Hence, environmental monitoring for air quality and water quality are carried out for the purpose of this EM&A program as well as for fulfilling the requirements stipulated in the relevant licences.

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

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

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

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

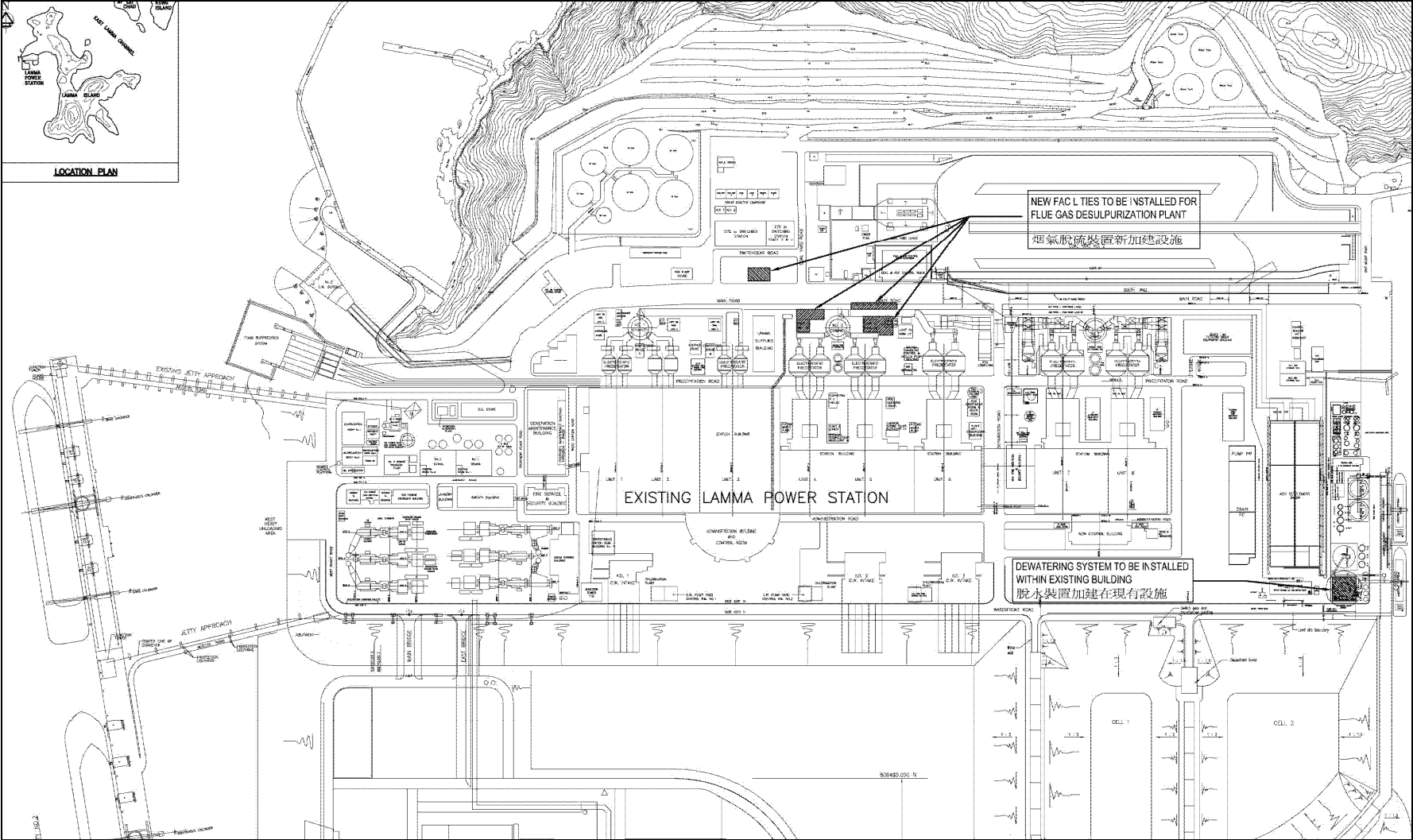


Figure 1.1a Location of New Facilities for L4 & L5 FGD Plants

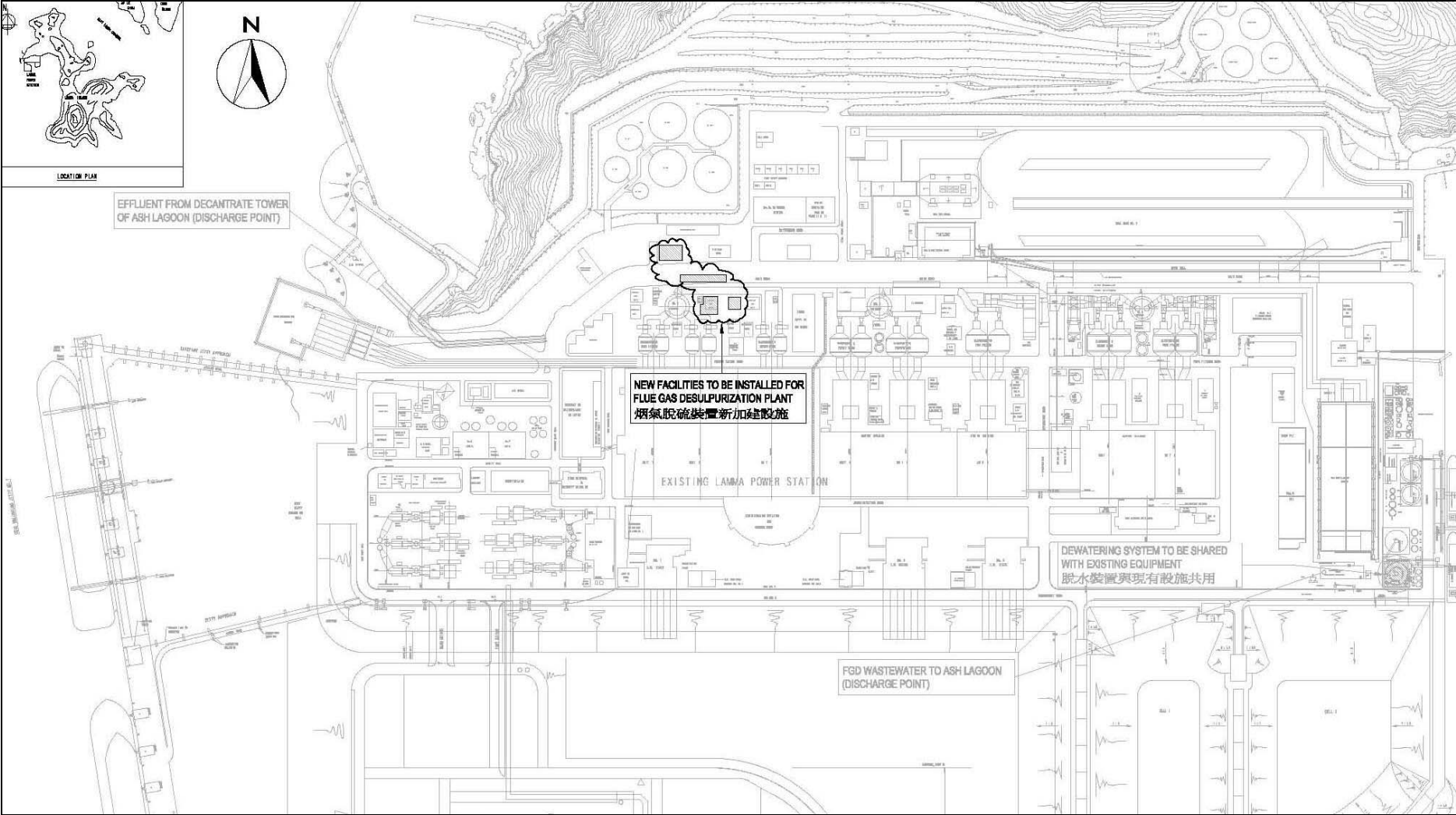


Figure 1.1b Location of New Facilities for L2 FGD Plant

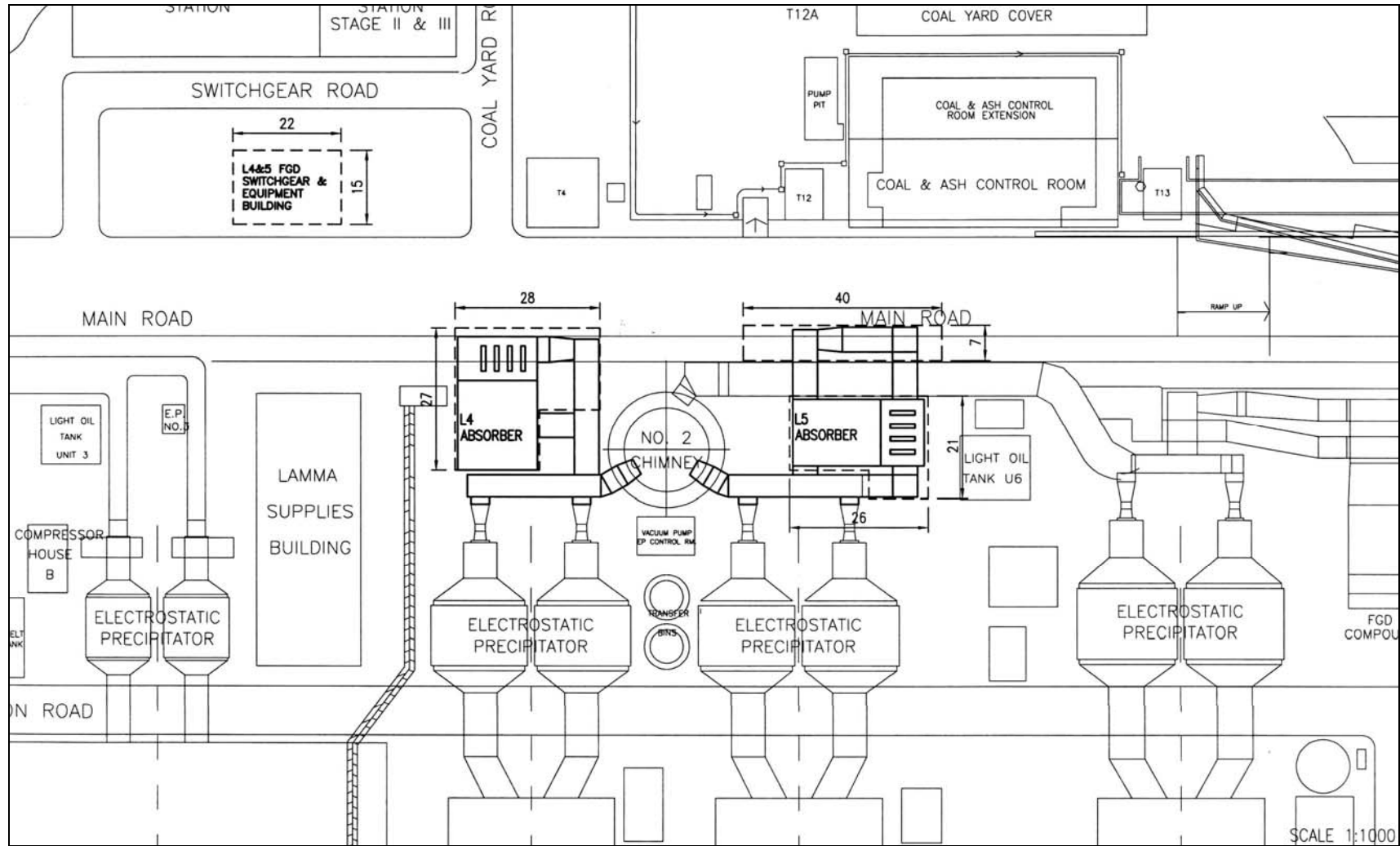


Figure 1.2a General Arrangement of L4 & L5 FGD Plants

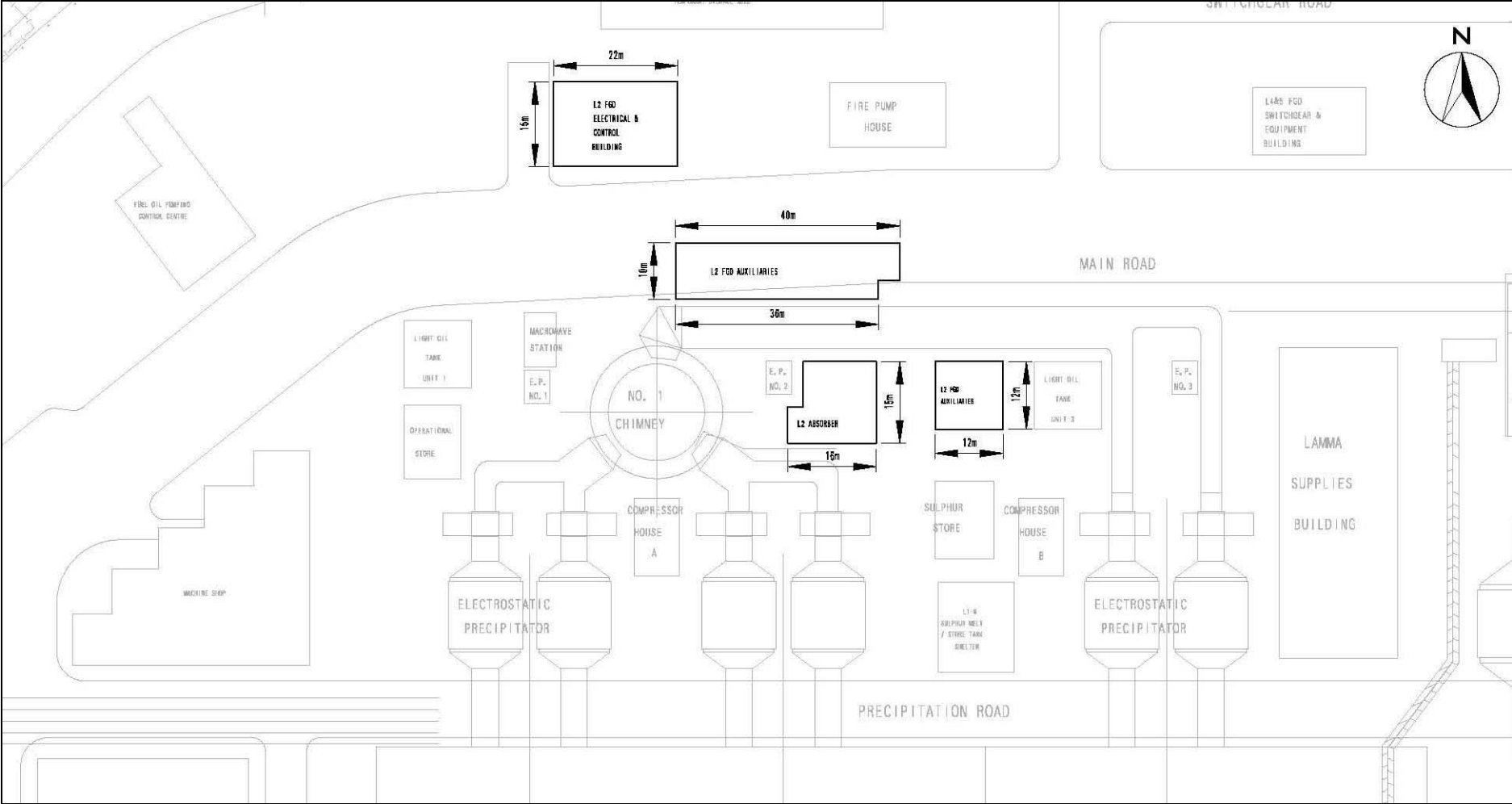


Figure 1.2b General Arrangement of L2 FGD Plant

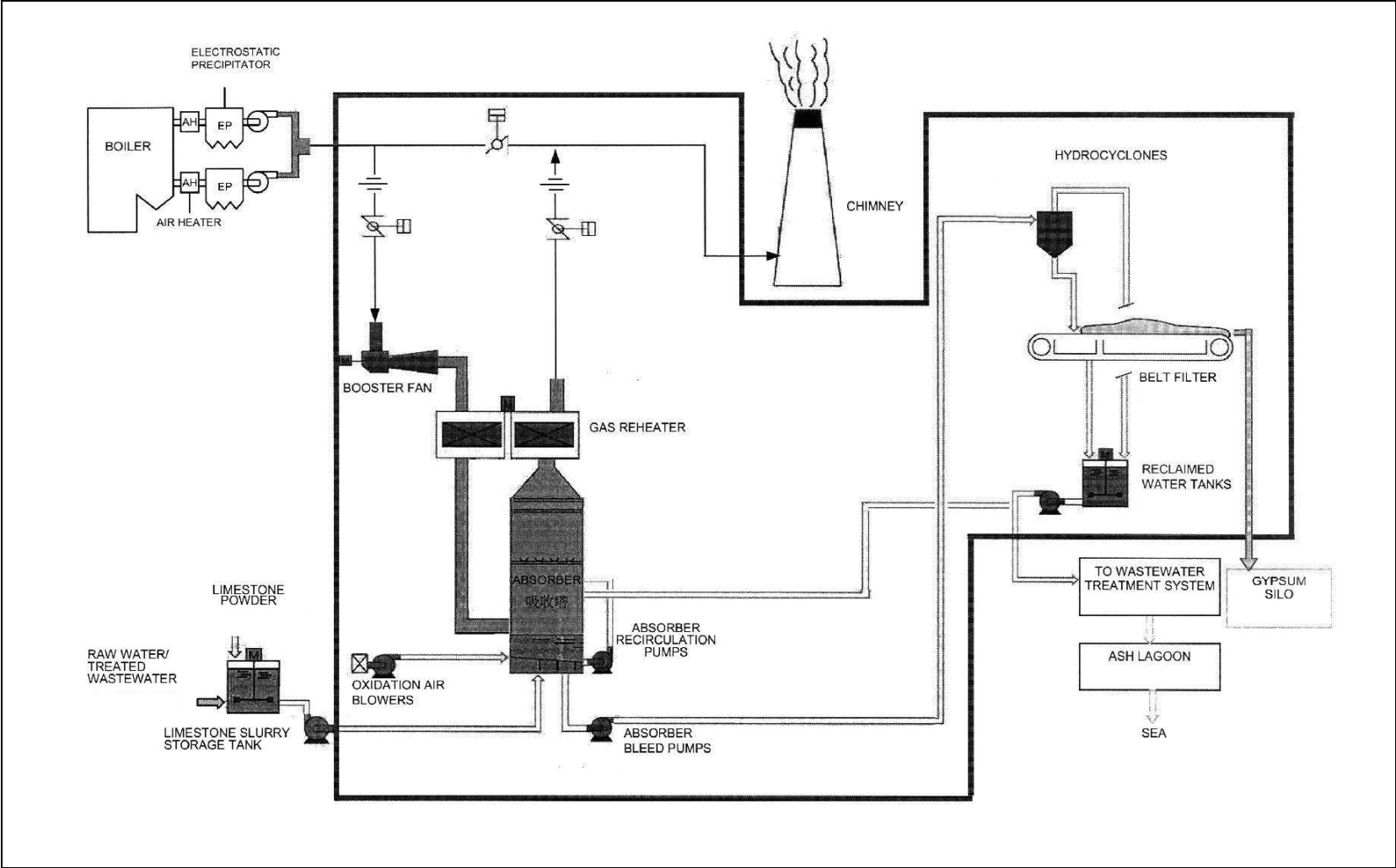


Figure 1.3 Schematic Diagram of the L4 & L5 FGD Plant

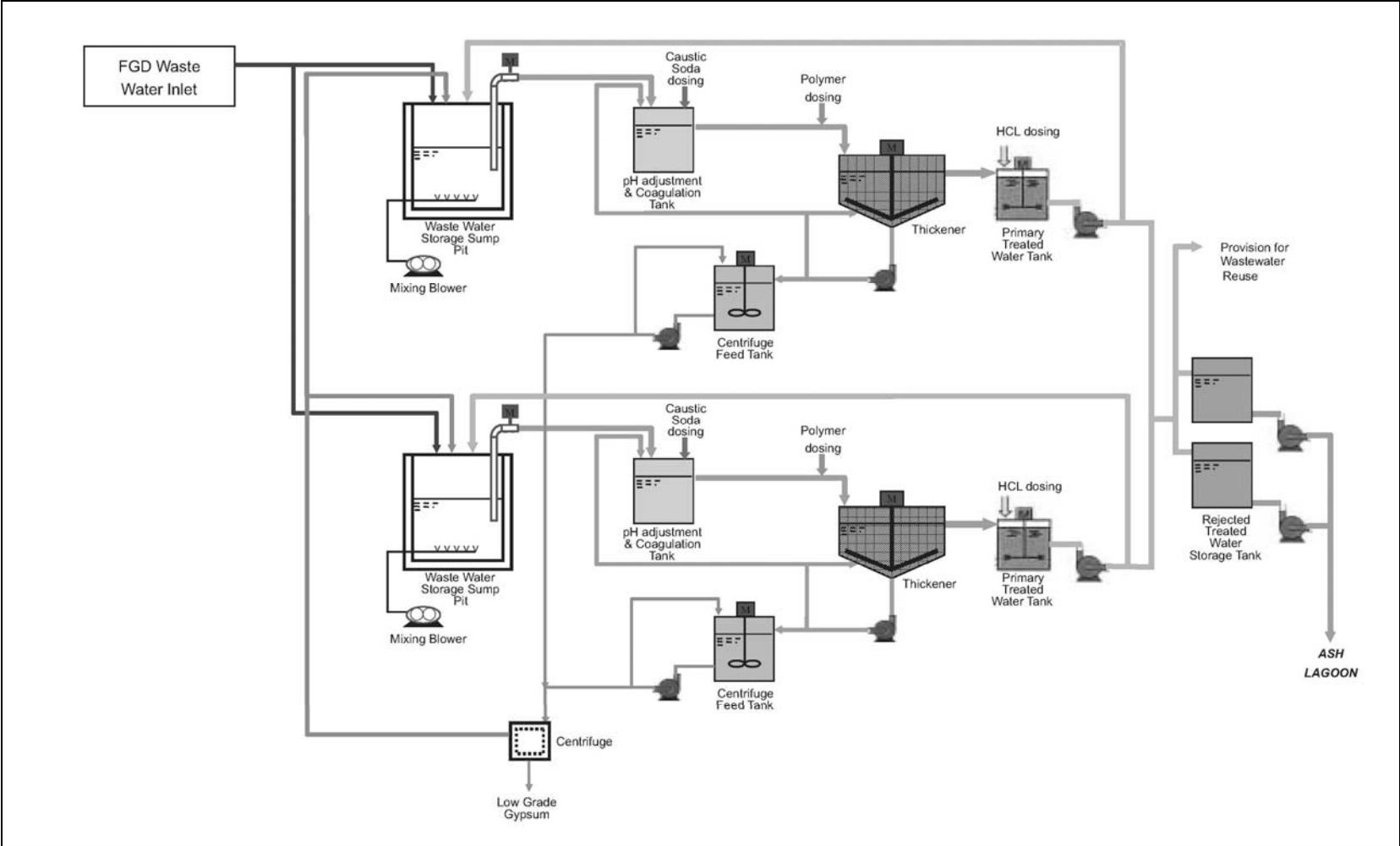


Figure 1.4 Simplified Schematic Diagram of FGD Wastewater Treatment Plant

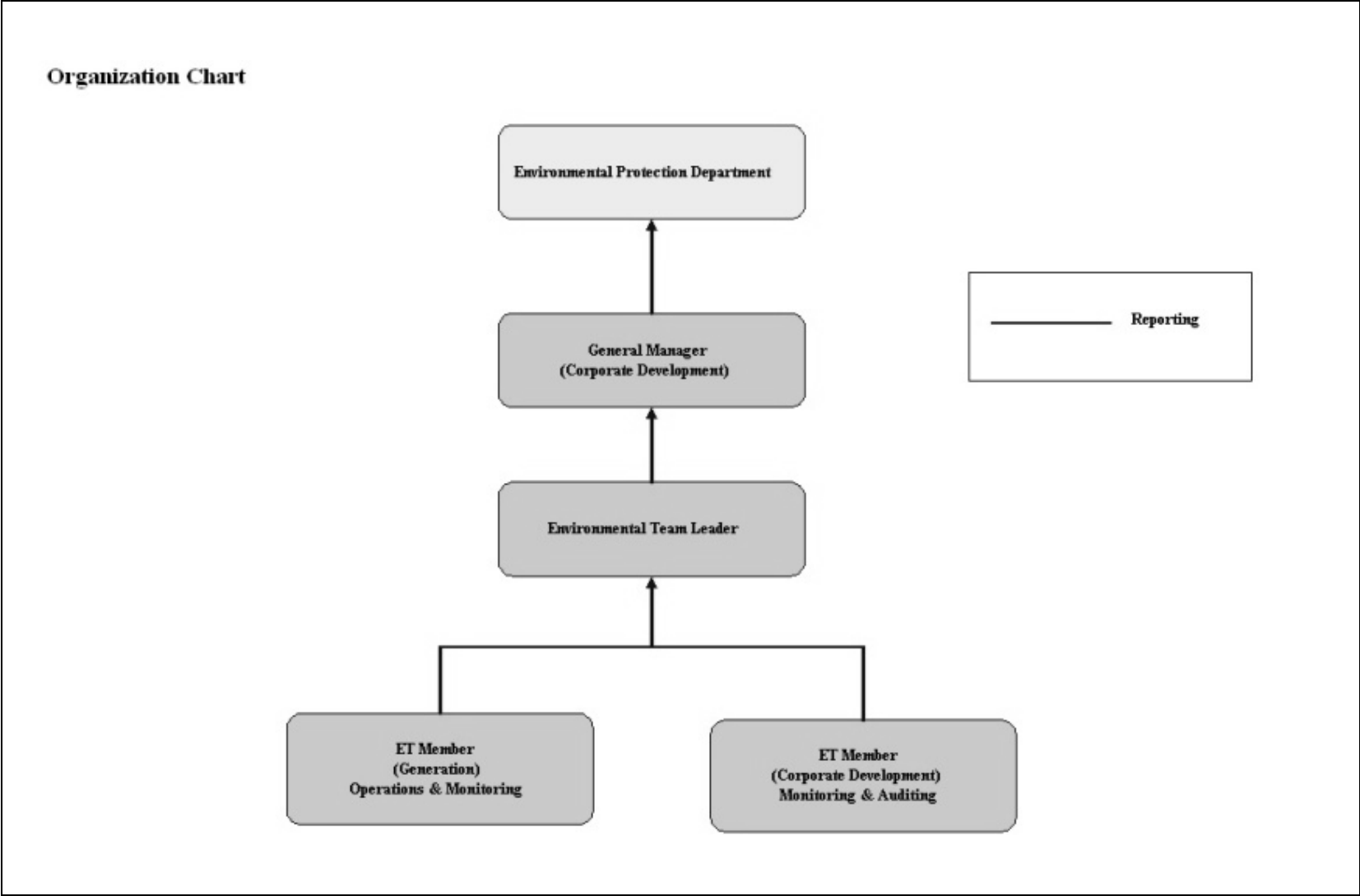


Figure 1.5 Organization Structure at Operational Phase of the Projects

2. AIR QUALITY

2.1 Monitoring Requirements

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

Table 2.1 Air Quality Monitoring Parameters and Frequency

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

2.2 Summary of Results and Observations

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

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

3. WATER QUALITY

3.1 Monitoring Requirements

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

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

Table 3.1 Water Quality Monitoring Parameters and Frequencies

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

3.2 Summary of Results and Observations

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

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

4. ENVIRONMENTAL AUDIT

4.1 Review of Environmental Monitoring Procedures

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

4.2 Assessment of Environmental Monitoring Results

Monitoring results for Air Quality and Water Quality

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

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

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
Air					
1	Annual analysis of dust particulate emission rates at chimney stacks.	01/10/11-31/12/11	N.A.	0	
2	Continuous monitoring of opacity, NOx, SO2 and CO2 in the flue gas at the chimney stacks	01/10/11-31/12/11	0	0	
3	TSP monitoring at Lamma Power Station Boundary (ie East Gate and Reservoir).	01/10/11-31/12/11	0	0	
4	Ambient SO2 & NOx monitoring at the Peak, Queen Mary Hospital, Victoria Road, Chung Hom Kok, Ap Lei Chau and	01/10/11-31/12/11	0	0	

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
	Cheung Chau.				
Water					
1	pH in WWTP Effluent	01/10/11-31/12/11	0	0	
2	Suspended Solids in WWTP Effluent	01/10/11-31/12/11	0	0	
3	Iron in WWTP Effluent	01/10/11-31/12/11	0	0	
4	Barium in WWTP Effluent	01/10/11-31/12/11	0	0	
5	Mercury in WWTP Effluent	01/10/11-31/12/11	0	0	
6	Cadmium in WWTP Effluent	01/10/11-31/12/11	0	0	
7	Cyanide in WWTP Effluent	01/10/11-31/12/11	0	0	
8	Total Phosphorus in WWTP Effluent	01/10/11-31/12/11	0	0	
9	Total Nitrogen in WWTP Effluent	01/10/11-31/12/11	0	0	

Waste Management Records

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

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

Period	Amount of Gypsum Collected	Amount of Sludge Collected
October 2011	11,270.6 MT	0 MT
November 2011	6,360.4 MT	0 MT
December 2011	3,824.2 MT	0 MT

4.3 Status of Environmental Licensing and Permitting

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

Table 4.3 Summary of Environmental Licensing and Permit Status

Description	Permit / Licence No.	Valid Period		Status
		From	To	
Environmental Permit for Units L4/5 FGD Plants Retrofit	EP-248/2006	25/04/2006	-	Valid
Environmental Permit for Unit L2 FGD Plant Retrofit	EP-287/2007	02/10/2007	-	Valid
Specified Processes Licence issued under APCO	L-7-002(8)	01/01/2011	31/12/2012	Valid
WPCO discharge licence for Ash Lagoon	EP890/W2/XD018	16/04/2007	31/12/2011	Superseded
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. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix D.

4.5 Implementation Status of Event/Action Plan

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

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

4.6 Implementation Status of Environmental Complaint Handling Procedures

There was no environmental complaint against the projects during the reporting period.

Table 4.4 Environmental Complaints / Enquiries Received

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

Table 4.5 Outstanding Environmental Complaints / Enquiries Carried Over

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

5. FUTURE KEY ISSUES

5.1 Outage Plan for the coming 3 months

Unit / Equipment	Period	Remark
L4	01/03/2012 to 02/07/2012	Unit overhaul
L2 FGD	16/02/2012 to 22/02/2012	Inspection of Booster Fan after rotor replacement

5.2 Key issues for the coming 3 months

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

Air Impact

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

Water Impact

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

6. CONCLUSION

Environmental monitoring was performed as required in the reporting period from October to December 2011. All monitoring results were checked and reviewed.

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

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

Environmental mitigation measures recommended in the EIA Report and EP were implemented in the reporting period. There was no environmental complaint against the projects during the reporting period. 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 (%)
1/10/2011	32	318	16
2/10/2011	19	369	16
3/10/2011	41	340	17
4/10/2011	51	370	18
5/10/2011	50	416	17
6/10/2011	60	401	19
7/10/2011	40	465	19
8/10/2011	13	307	18
9/10/2011	17	365	18
10/10/2011	31	316	19
11/10/2011	52	316	18
12/10/2011	91	323	19
13/10/2011	93	387	19
14/10/2011	55	316	19
15/10/2011	33	370	20
16/10/2011	67	347	20
17/10/2011	75	395	20
18/10/2011	39	391	20
19/10/2011	49	393	20
20/10/2011	40	388	20
21/10/2011	53	319	21
22/10/2011	60	418	21
23/10/2011	39	378	21
24/10/2011	82	271	21
25/10/2011	37	283	22
26/10/2011	89	349	22
27/10/2011	78	344	22
28/10/2011	94	449	22
29/10/2011	66	405	22
30/10/2011	26	411	22
31/10/2011	72	344	22

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/11/2011	47	314	22
2/11/2011	44	364	22
3/11/2011	49	345	21
4/11/2011	7	442	21
5/11/2011	16	313	22
6/11/2011	20	182	21
7/11/2011	7	278	21
8/11/2011	40	366	22
9/11/2011	34	326	19
10/11/2011	55	324	19
11/11/2011	46	326	21
12/11/2011	*	*	*
13/11/2011	*	*	*
14/11/2011	94	305	24
15/11/2011	55	352	26
16/11/2011	85	362	26
17/11/2011	71	392	16
18/11/2011	83	362	17
19/11/2011	64	344	17
20/11/2011	24	427	19
21/11/2011	59	430	20
22/11/2011	42	322	19
23/11/2011	10	389	19
24/11/2011	18	241	19
25/11/2011	16	192	20
26/11/2011	*	*	*
27/11/2011	*	*	*
28/11/2011	FGD Bypassed	375	26
29/11/2011	FGD Bypassed	353	24
30/11/2011	FGD Bypassed	325	24

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/12/2011	FGD Bypassed	328	21
2/12/2011	FGD Bypassed	290	23
3/12/2011	FGD Bypassed	425	23
4/12/2011	FGD Bypassed	487	23
5/12/2011	FGD Bypassed	391	24
6/12/2011	FGD Bypassed	358	23
7/12/2011	FGD Bypassed	300	22
8/12/2011	*	*	*
9/12/2011	*	*	*
10/12/2011	*	*	*
11/12/2011	*	*	*
12/12/2011	*	*	*
13/12/2011	*	*	*
14/12/2011	*	*	*
15/12/2011	*	*	*
16/12/2011	*	*	*
17/12/2011	*	*	*
18/12/2011	*	*	*
19/12/2011	*	*	*
20/12/2011	*	*	*
21/12/2011	*	*	*
22/12/2011	*	*	*
23/12/2011	*	*	*
24/12/2011	*	*	*
25/12/2011	*	*	*
26/12/2011	*	*	*
27/12/2011	*	*	*
28/12/2011	*	*	*
29/12/2011	*	*	*
30/12/2011	5	490	19
31/12/2011	9	401	30

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 (%)
1/10/2011	31	367	22
2/10/2011	26	315	20
3/10/2011	26	408	20
4/10/2011	40	403	20
5/10/2011	15	348	18
6/10/2011	27	472	24
7/10/2011	9	377	19
8/10/2011	14	419	19
9/10/2011	17	460	18
10/10/2011	23	453	24
11/10/2011	28	438	17
12/10/2011	71	318	20
13/10/2011	56	345	19
14/10/2011	88	435	18
15/10/2011	77	424	22
16/10/2011	102	417	18
17/10/2011	93	429	19
18/10/2011	56	434	19
19/10/2011	69	351	18
20/10/2011	75	364	20
21/10/2011	68	331	25
22/10/2011	31	448	19
23/10/2011	83	358	20
24/10/2011	54	339	21
25/10/2011	68	454	22
26/10/2011	66	448	18
27/10/2011	109	438	18
28/10/2011	71	482	19
29/10/2011	94	420	18
30/10/2011	73	439	18
31/10/2011	133	377	22

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/11/2011	58	419	18
2/11/2011	71	391	18
3/11/2011	84	386	23
4/11/2011	42	402	21
5/11/2011	21	363	24
6/11/2011	24	267	24
7/11/2011	24	283	21
8/11/2011	50	448	19
9/11/2011	49	348	16
10/11/2011	44	315	16
11/11/2011	50	332	17
12/11/2011	77	283	17
13/11/2011	93	296	17
14/11/2011	53	407	20
15/11/2011	77	398	18
16/11/2011	72	380	18
17/11/2011	103	428	18
18/11/2011	97	439	19
19/11/2011	83	424	20
20/11/2011	36	434	20
21/11/2011	89	421	24
22/11/2011	82	488	21
23/11/2011	42	400	20
24/11/2011	13	390	18
25/11/2011	16	392	22
26/11/2011	19	459	23
27/11/2011	6	451	19
28/11/2011	23	394	24
29/11/2011	18	438	21
30/11/2011	2	370	25

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/12/2011	1	388	20
2/12/2011	10	418	20
3/12/2011	19	425	19
4/12/2011	18	442	19
5/12/2011	65	472	20
6/12/2011	50	358	22
7/12/2011	17	452	21
8/12/2011	18	409	23
9/12/2011	17	434	22
10/12/2011	24	464	24
11/12/2011	8	404	22
12/12/2011	3	402	25
13/12/2011	9	404	20
14/12/2011	2	413	25
15/12/2011	3	447	21
16/12/2011	15	399	22
17/12/2011	16	453	20
18/12/2011	14	494	24
19/12/2011	6	434	23
20/12/2011	5	419	26
21/12/2011	1	409	28
22/12/2011	21	483	20
23/12/2011	24	496	19
24/12/2011	26	450	18
25/12/2011	*	*	*
26/12/2011	*	*	*
27/12/2011	*	*	*
28/12/2011	19	404	23
29/12/2011	13	495	20
30/12/2011	13	501	23
31/12/2011	14	493	22

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	
	SO2 concentration (mg/Nm3) #	Opacity (%)
1/10/2011	*	*
2/10/2011	*	*
3/10/2011	*	*
4/10/2011	*	*
5/10/2011	*	*
6/10/2011	*	*
7/10/2011	59	13
8/10/2011	*	*
9/10/2011	*	*
10/10/2011	59	15
11/10/2011	92	16
12/10/2011	128	14
13/10/2011	129	14
14/10/2011	105	14
15/10/2011	FGD Bypassed	17
16/10/2011	*	*
17/10/2011	FGD Bypassed	15
18/10/2011	FGD Bypassed	16
19/10/2011	FGD Bypassed	16
20/10/2011	*	*
21/10/2011	FGD Bypassed	14
22/10/2011	*	*
23/10/2011	*	*
24/10/2011	FGD Bypassed	13
25/10/2011	FGD Bypassed	15
26/10/2011	*	*
27/10/2011	*	*
28/10/2011	*	*
29/10/2011	*	*
30/10/2011	*	*
31/10/2011	*	*

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

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) [#]	Opacity (%)
1/12/2011	*	*
2/12/2011	*	*
3/12/2011	*	*
4/12/2011	*	*
5/12/2011	FGD Bypassed	15
6/12/2011	FGD Bypassed	14
7/12/2011	*	*
8/12/2011	FGD Bypassed	13
9/12/2011	FGD Bypassed	13
10/12/2011	FGD Bypassed	21
11/12/2011	*	*
12/12/2011	FGD Bypassed	19
13/12/2011	FGD Bypassed	12
14/12/2011	FGD Bypassed	13
15/12/2011	FGD Bypassed	15
16/12/2011	FGD Bypassed	19
17/12/2011	*	*
18/12/2011	FGD Bypassed	17
19/12/2011	28	26
20/12/2011	FGD Bypassed	22
21/12/2011	FGD Bypassed	14
22/12/2011	FGD Bypassed	14
23/12/2011	FGD Bypassed	17
24/12/2011	FGD Bypassed	14
25/12/2011	FGD Bypassed	20
26/12/2011	FGD Bypassed	15
27/12/2011	FGD Bypassed	12
28/12/2011	FGD Bypassed	14
29/12/2011	55	9
30/12/2011	*	*
31/12/2011	*	*

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

* - Unit L2 was not on load.

B.2.4 Summary of Annual Stack Particulate Sampling

Unit	Date	Results (mg/Nm ³)
L5	17/10/2011	5

Monitoring Equipment: Napp model 32 (Manual stack sampling system)

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: OCTOBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	0	1	1	1	2	1	1	1	1	3	2	1	1	4	4	1	0	1	1	3	4	****	8	2
2	6	1	1	2	5	5	5	5	4	4	4	4	3	2	3	3	3	4	4	6	4	2	****	3	4
3	2	1	2	2	2	3	3	4	7	8	7	7	6	4	5	3	3	2	2	2	2	2	****	4	4
4	3	3	3	4	4	4	4	4	4	5	5	5	3	4	4	5	6	6	5	5	4	5	****	4	4
5	4	6	5	6	7	7	8	8	7	6	5	4	4	5	6	5	2	6	3	3	3	3	****	3	5
6	3	3	3	4	2	4	5	8	11	11	10	9	8	8	6	7	7	7	6	5	5	4	****	6	6
7	6	5	4	6	6	6	6	7	9	7	8	10	9	7	6	6	6	7	6	8	1	2	****	2	6
8	2	4	8	8	8	9	8	11	12	10	10	7	8	6	6	6	6	5	6	6	5	5	****	3	7
9	3	4	6	8	8	8	21	17	9	17	11	8	7	6	7	6	6	7	9	6	7	9	****	12	9
10	9	8	8	7	6	5	5	5	6	5	4	4	3	3	5	4	3	2	2	3	3	3	****	3	5
11	2	3	3	3	2	2	3	2	2	3	3	3	3	2	2	3	3	3	3	2	2	2	****	2	2
12	2	2	2	2	2	1	1	2	1	2	2	2	2	2	1	3	2	2	2	3	2	2	****	2	2
13	0	1	0	2	1	3	2	3	2	0	0	1	1	0	0	1	1	1	0	2	2	1	****	1	1
14	0	1	2	2	2	3	3	0	2	0	2	2	3	7	6	8	7	5	8	8	9	8	****	7	4
15	5	0	0	0	0	0	0	0	0	0	7	10	10	6	6	5	5	7	9	11	9	6	****	9	5
16	7	7	7	9	9	11	11	12	11	12	10	6	4	5	5	15	19	21	17	9	10	11	****	9	10
17	9	8	8	8	7	7	7	9	21	13	9	11	10	8	13	18	19	19	13	9	10	11	****	8	11
18	7	7	8	8	9	9	7	10	14	12	14	12	12	12	13	14	13	9	7	9	9	****	11	10	
19	11	10	10	10	10	13	13	13	15	16	13	12	11	9	9	7	6	8	9	8	8	8	****	7	10
20	7	6	7	7	7	7	8	8	10	10	10	10	14	18	16	13	17	17	22	25	29	17	****	9	13
21	6	7	6	6	5	5	6	6	9	9	10	8	6	5	9	8	14	15	13	9	3	9	****	8	8
22	6	6	6	6	7	6	6	7	8	10	9	10	10	9	7	7	9	8	5	4	4	3	****	5	7
23	5	6	5	6	6	6	6	5	5	5	4	5	6	6	4	3	4	5	5	4	6	****	6	5	
24	7	7	7	7	8	7	7	9	10	10	9	32	27	28	25	28	25	27	17	24	27	36	****	63	19
25	40	37	56	64	54	40	36	34	29	15	13	17	15	13	10	6	5	5	8	10	9	9	****	7	23
26	8	7	8	8	7	9	10	11	12	12	8	5	4	7	7	7	8	8	8	7	7	7	****	6	8
27	5	5	5	6	6	5	4	6	6	7	9	9	8	8	6	6	7	7	7	7	6	6	****	5	6
28	4	4	5	6	5	4	5	6	6	4	4	5	6	7	16	7	4	3	9	6	6	5	****	5	6
29	5	6	6	6	7	7	7	6	7	7	7	7	7	14	19	19	16	21	21	18	10	8	****	8	10
30	8	6	6	4	5	5	6	8	7	7	8	9	9	8	8	8	8	10	9	9	8	7	****	7	7
31	6	7	6	5	6	8	8	8	7	8	7	6	6	5	6	6	7	8	7	8	8	9	****	12	7

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	NO. OF TIMES				
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	1-HR	24-HR			
5	6	6	13	18	28	36	0	-	64	1	-	23	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: OCTOBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	0	0	2	1	1	0	1	4	10	16	14	11	10	13	13	6	7	15	13	15	13	****	16	8
2	14	6	6	2	13	12	15	31	21	18	32	44	38	39	36	39	47	45	41	49	49	48	****	41	30
3	25	14	3	2	2	3	12	31	40	45	42	55	42	45	51	53	50	43	39	43	37	19	****	10	31
4	5	1	0	0	0	0	4	20	29	29	30	29	22	24	28	38	39	49	35	28	22	20	****	10	20
5	9	10	8	9	10	10	13	15	21	21	28	29	24	33	62	59	66	66	55	44	40	39	****	30	30
6	27	15	9	10	9	5	13	25	39	36	38	39	29	26	29	41	48	45	34	34	31	16	****	12	26
7	6	4	2	3	5	3	9	22	24	21	30	35	33	32	30	37	30	35	53	38	13	18	****	10	21
8	9	11	11	12	11	10	14	24	30	36	43	29	25	22	45	38	33	49	44	35	38	34	****	22	27
9	15	16	12	13	14	22	45	60	43	69	56	53	45	40	38	42	46	34	39	50	35	22	****	27	36
10	17	11	7	7	5	5	12	18	28	31	26	27	23	27	29	24	19	22	22	19	16	13	****	9	18
11	7	5	5	4	5	5	8	10	12	15	17	19	19	14	16	17	17	19	14	16	14	9	****	8	12
12	7	5	4	3	4	4	2	8	6	11	6	6	9	10	13	10	6	8	6	9	6	5	****	6	7
13	0	0	0	1	0	3	5	12	11	7	12	10	6	11	6	7	9	12	13	14	15	12	****	3	7
14	1	3	5	2	3	5	8	10	15	15	31	37	44	49	47	50	53	58	64	70	77	70	****	57	34
15	48	47	32	15	13	10	16	33	43	50	52	59	54	46	54	57	57	74	90	104	90	90	****	69	52
16	72	40	35	40	33	24	32	37	49	55	70	40	34	36	41	55	59	77	76	39	60	56	****	30	47
17	36	20	17	15	14	13	25	59	84	54	46	59	54	43	45	50	52	59	98	86	37	34	****	24	45
18	25	18	13	11	12	14	23	38	49	44	31	49	35	26	21	20	19	29	22	24	17	14	****	17	25
19	10	6	5	8	5	6	13	26	48	49	34	22	20	14	18	17	16	24	30	26	26	25	****	19	20
20	16	12	7	8	8	7	16	35	48	52	59	50	31	44	41	51	48	60	99	152	171	153	****	105	55
21	50	26	19	17	13	11	15	32	49	46	50	44	39	32	27	28	34	38	63	102	87	43	****	31	39
22	24	32	12	12	8	7	15	17	37	47	28	27	22	20	20	24	27	32	36	28	19	22	****	18	23
23	11	9	7	10	11	8	9	15	15	18	23	36	24	15	36	36	35	62	47	47	25	28	****	30	24
24	24	12	16	6	6	7	20	45	72	72	63	74	54	57	52	66	65	91	64	63	80	124	****	170	57
25	77	116	176	162	138	88	81	101	99	75	54	48	35	33	40	29	39	27	30	62	52	55	****	36	72
26	33	25	19	12	11	15	22	31	35	39	38	39	43	36	29	23	26	36	30	46	32	23	****	24	29
27	28	21	8	13	13	11	10	16	21	22	37	40	34	43	36	40	55	81	89	71	48	48	****	30	35
28	20	14	8	8	10	8	18	27	33	34	27	37	46	36	52	81	73	69	98	83	70	48	****	48	41
29	35	48	45	40	41	36	44	44	57	64	55	53	47	43	62	63	51	69	79	93	84	83	****	42	55
30	40	34	30	23	14	7	10	33	37	36	49	42	34	34	38	33	37	45	49	35	31	33	****	15	32
31	13	13	8	6	9	8	11	18	28	39	27	29	28	23	25	35	38	33	36	36	34	26	****	21	24

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
22	28	28	60	77	99	120	0	- 176	3	96	0	0	

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

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

STATION : VICTORIA PEAK
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: NOVEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	12	11	11	12	10	12	11	14	13	12	12	12	9	8	7	7	7	6	7	7	7	9	****	7	10
2	7	6	6	8	10	8	8	13	22	21	11	6	7	10	11	18	10	9	9	10	10	4	****	8	10
3	9	9	10	10	9	10	10	9	12	8	9	9	7	7	7	8	9	7	6	5	3	****	4	8	
4	4	5	7	5	6	7	7	8	9	8	7	5	3	2	3	3	3	4	4	4	7	5	****	4	5
5	4	4	3	5	6	6	5	6	6	3	6	6	7	6	5	5	4	7	5	7	8	8	****	7	6
6	6	7	7	7	8	9	10	11	10	9	8	7	8	8	7	6	4	4	3	4	3	4	****	4	7
7	6	7	6	6	5	6	9	9	9	8	6	7	7	6	7	5	5	5	5	5	5	5	****	5	6
8	4	4	2	2	2	2	2	2	3	1	3	2	3	1	2	2	2	3	3	2	3	2	****	3	2
9	2	3	3	1	2	3	1	2	3	4	2	2	2	2	3	3	3	3	4	5	4	4	****	4	3
10	7	4	3	2	3	3	3	4	4	4	4	5	5	5	5	5	6	7	7	7	6	5	****	5	5
11	5	3	3	5	4	4	4	5	5	5	5	7	15	13	10	8	13	26	26	14	17	11	****	7	9
12	8	7	6	6	7	8	14	19	9	18	11	34	34	21	24	15	9	6	7	9	9	9	****	8	13
13	7	7	7	7	9	11	9	8	7	7	8	9	11	16	15	9	9	9	8	10	9	10	****	7	9
14	7	8	10	10	8	8	10	9	9	11	11	11	10	8	7	6	8	8	8	6	8	7	****	7	8
15	7	7	7	9	12	16	14	13	13	13	15	14	11	11	13	11	9	9	7	6	5	4	****	4	10
16	4	4	6	5	6	7	6	6	8	9	9	8	6	6	7	6	5	5	5	6	6	6	****	8	6
17	7	6	7	6	7	6	6	6	5	4	4	4	4	3	3	3	3	4	4	3	3	3	****	3	5
18	3	3	3	3	3	2	2	3	3	5	14	21	34	26	27	18	14	8	7	13	6	21	****	4	11
19	4	3	4	11	5	3	7	8	9	25	16	8	9	8	7	6	5	7	9	8	9	7	****	7	8
20	8	8	7	7	7	6	6	7	7	8	10	9	10	8	8	8	9	8	8	7	7	7	****	7	8
21	7	8	7	7	10	10	11	11	10	9	9	10	9	8	8	8	8	8	8	9	6	6	****	5	8
22	6	5	4	5	6	6	8	8	11	10	13	13	10	9	9	8	10	12	12	20	14	12	****	10	10
23	10	9	10	11	13	12	11	11	20	16	14	12	14	10	9	8	8	11	13	15	14	11	****	11	12
24	12	12	12	12	11	10	10	10	14	14	13	12	12	12	12	13	12	13	13	13	13	12	****	15	12
25	13	12	13	13	14	12	12	14	17	17	13	13	16	15	12	12	13	14	14	12	13	10	****	7	13
26	8	9	9	10	11	11	12	13	13	14	15	13	13	11	10	11	12	11	8	8	8	9	****	13	11
27	13	17	13	12	11	10	10	10	9	7	6	5	4	4	5	4	4	5	5	7	6	****	3	8	
28	2	3	5	6	6	7	7	7	8	9	9	8	6	7	7	6	6	8	8	9	6	6	****	6	7
29	6	6	7	6	5	5	4	6	7	7	7	5	3	4	3	3	3	0	1	6	6	6	****	4	5
30	5	4	3	2	2	3	5	5	6	6	6	8	8	12	17	16	19	18	28	29	24	27	****	11	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		
7	7	8	7	13	16	22	27	0	- 34	2	- 13	2	96	0	0

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

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

STATION : VICTORIA PEAK
POLLUTANT : NITROGEN DIOXIDE
MONTH: NOVEMBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	16	9	11	8	10	10	16	31	43	47	43	36	36	35	44	56	58	79	78	125	105	67	****	30	43
2	21	14	9	12	17	17	27	55	80	85	60	40	45	45	48	60	43	62	91	91	58	39	****	37	46
3	23	9	12	13	12	13	20	28	48	47	40	35	31	27	41	65	66	69	65	47	42	27	****	17	35
4	22	16	10	14	13	15	16	24	31	23	35	36	25	17	25	35	30	32	30	39	83	56	****	47	29
5	35	29	21	17	32	19	20	25	38	39	47	37	30	30	36	50	72	115	99	52	65	59	****	54	44
6	40	24	22	29	23	21	23	28	44	43	40	40	35	23	18	26	24	20	16	18	17	25	****	14	27
7	12	8	9	10	11	10	20	30	44	37	23	24	23	33	37	36	38	50	49	51	40	32	****	26	28
8	22	14	7	5	5	8	8	14	22	27	26	29	25	25	33	40	37	34	47	39	29	32	****	30	24
9	36	32	25	21	14	12	19	30	38	41	37	38	33	28	34	42	41	48	50	47	42	42	****	27	34
10	39	19	21	17	14	17	24	32	43	39	35	32	34	31	32	41	47	53	49	43	46	47	****	63	36
11	61	55	41	38	33	23	31	47	50	52	58	66	66	67	81	101	103	137	147	143	137	117	****	83	76
12	75	80	61	54	53	58	49	44	29	69	69	95	84	65	68	64	51	70	54	104	111	111	****	93	70
13	83	76	47	60	66	54	32	49	60	59	58	51	54	57	40	42	62	70	131	132	71	49	****	43	63
14	21	11	13	17	12	9	21	38	49	64	56	62	53	42	29	37	51	72	86	46	38	31	****	26	38
15	19	15	15	12	13	16	21	37	57	74	71	68	57	44	37	35	40	42	28	36	30	26	****	16	35
16	13	10	10	9	8	8	14	33	58	68	58	50	46	58	60	78	57	66	64	53	56	39	****	38	41
17	24	22	16	13	14	13	17	29	46	52	38	35	35	31	36	25	31	19	20	20	19	12	****	13	25
18	11	16	15	13	13	12	9	20	27	31	39	39	42	36	33	39	48	41	39	38	31	43	****	13	28
19	13	9	15	48	32	22	36	39	45	54	56	50	60	45	43	43	43	58	64	60	57	48	****	38	42
20	34	29	26	20	21	17	14	25	23	27	43	35	31	27	29	41	43	40	51	36	34	37	****	16	30
21	11	8	7	7	9	13	16	30	37	35	32	33	32	34	37	50	48	42	42	33	30	27	****	13	27
22	13	8	7	10	10	9	16	41	73	76	72	61	59	61	82	87	87	81	112	135	127	111	****	85	62
23	58	29	24	24	17	17	26	55	79	87	80	75	61	47	42	53	60	74	90	105	84	72	****	44	57
24	35	29	20	23	16	19	34	34	54	54	45	34	49	44	52	67	69	49	50	44	50	43	****	31	41
25	27	18	15	14	16	15	18	36	44	52	45	36	37	37	40	46	49	63	60	46	44	34	****	17	35
26	22	19	16	19	15	16	23	23	38	55	57	53	52	51	54	79	67	64	38	40	51	38	****	37	40
27	34	28	20	18	22	20	28	36	36	41	37	39	36	35	40	55	67	57	65	82	56	58	****	50	42
28	41	19	17	14	12	12	16	25	22	23	36	37	30	20	23	31	38	42	66	61	47	32	****	23	30
29	16	14	11	11	8	9	13	26	33	28	22	35	14	23	25	23	29	47	41	32	47	50	****	20	25
30	23	10	6	5	5	5	17	37	46	53	54	51	50	57	60	48	57	82	149	150	150	144	****	109	59

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	
33	37	40	37	70	86	116	137	5	- 150	2	96	0	0	

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

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

STATION : VICTORIA PEAK
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: DECEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	9	8	9	8	8	7	8	10	12	10	10	10	10	9	6	10	11	13	12	12	11	10	****	7	10
2	6	7	14	21	16	10	11	12	14	12	12	10	9	9	10	11	11	10	13	14	14	12	****	10	12
3	10	9	9	9	9	13	15	13	12	10	10	10	10	8	7	5	5	7	7	8	8	9	****	10	9
4	11	12	11	11	12	11	11	13	14	13	12	12	11	12	12	11	9	9	12	11	11	8	****	10	11
5	11	11	11	12	17	16	13	14	12	10	9	9	7	7	7	4	4	6	7	7	6	7	****	6	9
6	7	6	5	4	7	8	9	10	10	9	8	7	8	9	8	8	8	7	8	9	7	7	****	9	8
7	8	9	11	10	13	12	10	10	9	8	8	7	21	19	32	24	25	45	24	18	17	16	****	10	16
8	14	10	8	7	8	11	11	10	9	9	8	8	7	7	7	8	8	9	9	12	8	8	****	8	9
9	8	9	11	13	13	13	15	15	17	15	13	13	12	10	12	12	13	14	15	14	12	12	****	11	13
10	11	12	13	12	12	13	13	13	12	15	16	15	15	15	17	17	12	11	11	9	13	15	****	14	13
11	14	14	14	13	13	13	14	15	15	16	16	16	13	14	17	16	16	18	20	21	18	19	****	18	16
12	19	19	19	20	21	21	21	21	27	27	23	22	21	19	28	26	38	47	32	34	27	25	****	25	25
13	23	23	22	22	25	24	24	25	25	29	31	25	22	18	20	27	25	26	16	14	15	16	****	19	22
14	17	13	11	12	15	16	22	22	25	18	17	18	19	18	18	24	27	37	38	58	33	20	****	16	22
15	19	17	15	16	16	17	16	17	31	25	25	23	23	27	31	20	20	21	23	23	23	22	****	23	21
16	24	25	29	30	30	31	28	25	27	28	28	26	25	24	23	23	23	24	25	25	22	19	****	18	25
17	18	19	19	21	21	20	21	23	22	23	25	24	23	23	21	21	20	19	16	15	13	****	12	20	
18	12	13	11	11	13	13	14	16	21	21	18	16	17	18	25	21	17	16	16	15	12	11	****	9	15
19	9	9	9	10	10	10	9	11	20	19	14	12	14	15	15	22	13	11	11	9	8	7	****	5	12
20	7	7	7	9	12	16	18	19	25	18	17	18	18	18	15	13	12	12	10	8	10	****	13	14	
21	10	11	10	11	14	13	12	12	21	11	10	12	14	13	14	9	25	45	33	33	39	33	****	13	18
22	9	7	7	16	19	18	18	17	21	27	23	19	18	17	17	18	21	21	20	26	22	18	****	19	18
23	19	19	20	20	19	19	19	18	26	21	19	18	22	21	24	30	21	17	19	19	17	18	****	31	21
24	30	32	36	38	38	35	34	33	30	28	29	25	21	19	21	20	21	22	21	22	25	30	****	28	28
25	27	26	25	25	25	25	26	26	26	26	24	20	21	21	20	22	21	20	22	24	22	21	****	17	23
26	19	18	18	19	21	22	23	21	20	19	17	15	13	11	11	10	11	16	13	10	12	12	****	12	16
27	9	9	11	10	15	14	15	16	18	17	17	16	16	15	15	15	13	8	6	7	7	6	****	6	12
28	6	5	6	6	8	8	9	9	13	14	15	14	15	15	14	14	17	13	10	14	10	9	****	8	11
29	5	6	6	8	9	8	8	7	8	9	9	8	8	9	12	13	12	10	8	7	6	5	****	5	8
30	5	5	6	5	5	8	10	12	22	16	<--- D --->	7	9	11	11	9	8	9	8	7	6	****	8	9	
31	8	8	9	8	6	5	5	5	6	8	10	10	8	17	35	37	25	20	17	16	9	8	****	8	12

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	
14	14	14	25	29	34	38	4	- 58	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: DECEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	70	44	32	19	20	23	38	49	49	62	52	51	56	46	46	49	54	53	53	52	46	53	****	45	46
2	41	30	27	45	37	27	32	32	44	48	44	42	41	43	43	50	52	65	69	78	77	73	****	78	49
3	77	63	52	38	25	27	33	36	59	70	67	73	61	37	18	17	50	71	88	88	92	85	****	57	56
4	48	31	28	23	20	25	35	46	52	47	38	30	26	27	34	38	52	44	50	47	44	35	****	31	37
5	23	17	16	15	17	18	23	37	46	54	45	42	42	31	42	47	53	56	61	52	37	34	****	26	36
6	35	30	21	20	15	13	21	42	47	43	40	34	35	37	41	53	56	54	50	61	51	41	****	38	38
7	34	26	23	19	20	21	26	31	47	58	58	67	73	75	84	87	90	128	116	110	97	84	****	67	63
8	67	53	28	21	20	21	24	32	38	42	37	43	42	42	43	46	54	65	78	95	70	61	****	54	47
9	48	38	32	27	26	33	41	47	45	46	43	40	45	48	56	53	66	68	68	61	56	54	****	53	47
10	49	41	27	22	21	18	23	39	43	51	48	45	37	35	45	64	62	68	69	66	58	61	****	59	46
11	52	38	32	30	26	24	27	41	39	41	48	49	38	41	49	51	51	66	62	84	82	80	****	62	48
12	53	50	50	43	36	19	22	63	84	81	72	77	82	82	108	118	136	136	155	143	112	112	****	104	84
13	110	85	59	50	53	50	49	45	55	106	114	99	85	69	59	103	142	180	170	164	150	127	****	107	97
14	71	45	46	47	27	23	43	87	105	62	72	70	63	69	82	120	148	172	187	212	181	137	****	95	94
15	81	67	65	39	27	30	32	77	103	99	87	79	86	88	86	80	80	92	118	137	120	92	****	82	80
16	67	52	51	31	30	29	34	52	65	71	78	68	68	71	61	71	79	102	116	98	89	71	****	60	66
17	35	30	24	23	22	21	26	32	49	57	54	55	60	52	44	47	45	61	78	69	64	64	****	26	45
18	29	26	21	24	24	22	35	52	50	48	45	43	40	52	60	60	77	105	133	116	88	50	****	49	54
19	53	33	25	21	19	21	36	59	84	69	44	50	48	55	73	60	71	51	48	52	46	****	25	47	
20	25	20	23	36	29	30	36	47	79	107	92	87	79	79	76	88	101	109	113	115	95	75	****	73	70
21	53	47	38	60	32	28	34	69	86	77	67	61	76	86	86	68	96	134	161	168	168	150	****	80	84
22	57	40	33	29	22	28	30	52	72	86	86	93	68	69	66	73	93	110	112	123	107	87	****	90	71
23	99	67	45	35	32	36	43	66	78	76	67	60	71	69	77	101	109	110	108	95	79	61	****	52	71
24	48	33	31	30	29	27	29	38	44	49	57	53	62	57	60	61	79	87	84	82	77	69	****	61	54
25	59	62	56	47	41	37	36	67	68	69	61	39	34	41	44	57	66	86	120	118	85	78	****	52	62
26	50	42	29	25	28	29	38	46	46	54	56	51	45	47	50	49	56	74	67	55	46	45	****	26	46
27	25	25	20	18	20	17	19	27	28	28	29	31	30	29	33	39	39	42	48	50	40	33	****	23	30
28	26	21	18	17	16	14	16	57	52	100	98	94	100	94	95	114	140	161	137	125	92	73	****	35	74
29	26	28	17	14	9	10	18	24	47	52	47	42	46	41	58	53	55	46	44	50	41	41	****	25	36
30	22	20	20	19	23	29	42	63	74	66	<--- D --->	43	48	48	48	67	91	101	79	63	47	43	****	39	50
31	39	30	28	29	28	25	26	36	47	59	63	65	61	68	91	100	82	88	155	157	139	61	****	64	67

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	
50	51	51	100	118	150	166	9	-	212	2	96	0	0	

NOTES:

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

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

STATION : VICTORIA ROAD SUBSTATION
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: OCTOBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	****	2	0
2	2	2	2	2	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	2	0	1	****	1	1
3	1	1	1	1	1	2	2	2	2	3	3	3	3	3	2	2	2	2	2	2	2	2	****	2	2
4	1	2	2	2	1	1	2	2	2	2	2	2	2	1	2	2	2	2	1	1	1	0	****	1	2
5	0	1	1	1	2	3	3	3	3	2	2	2	2	2	2	1	1	1	1	1	1	1	****	2	2
6	2	2	2	2	2	3	4	6	9	8	7	6	6	5	4	4	4	3	3	3	2	3	****	4	4
7	3	3	3	3	3	4	4	4	4	4	5	5	4	3	4	3	3	2	2	2	1	1	****	1	3
8	1	1	2	2	2	3	2	3	4	5	5	5	4	4	4	4	3	2	2	1	1	1	****	2	3
9	0	0	1	2	3	3	4	7	17	9	7	5	6	13	4	7	12	4	3	4	3	3	****	5	5
10	3	3	3	3	3	2	3	3	3	3	3	2	2	2	1	1	1	1	1	1	1	1	****	2	2
11	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	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	****	2	0
13	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	****	1	0
14	0	0	0	0	0	0	0	1	1	1	2	5	12	8	14	17	25	31	21	15	18	6	****	5	8
15	4	3	2	1	2	5	6	5	3	3	5	7	6	6	6	4	4	5	6	7	6	7	****	6	5
16	3	3	5	5	5	6	6	7	7	7	21	27	12	11	18	31	17	12	10	3	4	4	****	3	10
17	3	2	2	3	3	3	3	6	9	8	7	7	10	22	14	8	4	7	5	5	5	5	****	3	7
18	2	2	3	3	3	3	3	7	8	7	7	6	6	6	6	6	6	5	3	3	4	****	3	5	
19	2	2	2	2	2	4	5	5	7	8	5	5	3	3	3	2	2	3	2	2	2	****	2	3	
20	1	1	1	2	2	2	2	3	5	5	8	9	12	13	5	4	6	10	13	12	19	20	****	8	7
21	3	3	3	3	2	2	3	3	6	6	12	26	21	17	6	8	10	8	4	6	4	5	****	4	7
22	3	3	2	2	3	2	2	3	3	4	3	3	3	3	3	3	3	2	2	1	1	0	****	1	2
23	1	1	1	1	1	2	2	1	1	1	1	2	3	3	2	3	3	2	1	1	2	****	8	2	
24	5	5	10	9	15	21	15	17	28	8	37	30	43	36	26	29	29	38	26	24	20	20	****	55	24
25	58	48	68	55	64	51	45	43	70	25	8	12	11	7	5	1	0	1	2	4	4	3	****	2	26
26	3	2	2	2	2	3	4	4	5	5	5	3	3	3	3	4	5	5	4	4	3	3	****	3	3
27	2	2	2	3	3	2	2	2	3	3	6	5	5	4	3	3	3	3	3	3	3	3	****	3	3
28	2	2	2	3	3	3	2	3	3	3	3	3	4	13	9	6	4	5	6	7	5	4	****	4	4
29	3	4	5	4	5	5	5	5	5	5	4	4	7	16	12	15	14	14	10	14	8	7	****	6	8
30	5	4	3	4	4	3	5	8	6	6	7	5	4	4	4	4	3	4	4	3	2	2	****	1	4
31	2	2	1	1	1	2	3	2	2	3	2	2	1	1	2	3	2	2	1	1	1	1	****	1	2

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	1-HR	24-HR	
3	3	3	10	20	31	47	0	-	70	4	96	0	0	

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

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

STATION : VICTORIA ROAD SUBSTATION
POLLUTANT : NITROGEN DIOXIDE
MONTH: OCTOBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	10	1	1	1	1	1	1	3	5	6	9	8	9	9	7	7	7	9	8	9	10	9	****	19	7
2	15	12	13	15	14	22	26	35	25	21	31	40	41	42	45	49	35	35	30	33	25	28	****	30	29
3	19	10	6	4	4	6	18	29	37	39	36	38	31	39	38	40	47	55	53	51	45	27	****	16	30
4	9	6	4	3	3	5	13	25	32	32	28	25	24	17	25	29	32	32	28	22	15	12	****	10	19
5	6	8	10	10	13	12	16	21	23	24	23	22	20	28	37	37	40	39	30	36	33	34	****	29	24
6	25	15	11	11	8	7	21	32	45	43	42	31	24	22	26	34	40	47	26	22	18	13	****	11	25
7	7	4	3	4	4	7	16	28	31	20	29	29	31	26	38	28	24	29	47	28	14	14	****	18	21
8	12	9	6	6	6	10	17	22	28	31	22	19	18	33	45	42	39	39	30	24	19	16	****	14	22
9	7	6	6	7	16	18	45	61	64	64	40	31	31	48	20	45	55	30	26	37	21	16	****	20	31
10	9	6	4	3	2	3	10	19	30	24	18	17	15	15	22	19	18	17	17	11	13	11	****	12	14
11	3	1	1	0	0	1	7	17	15	16	13	12	15	15	14	15	18	21	14	11	11	5	****	10	10
12	1	0	0	0	0	0	2	12	13	21	17	16	15	13	15	21	19	21	17	18	19	12	****	19	12
13	7	6	3	1	3	7	17	24	26	21	23	23	15	22	19	17	25	28	25	15	14	13	****	19	16
14	9	9	10	4	2	10	25	24	27	30	35	41	47	38	49	51	57	67	68	65	86	69	****	61	38
15	50	48	27	17	18	32	35	45	43	49	53	55	55	50	59	69	63	71	79	92	90	71	****	62	54
16	59	20	26	28	22	19	41	46	52	53	64	68	44	44	64	69	74	66	73	49	61	46	****	24	48
17	35	20	16	12	11	14	24	57	79	57	60	53	62	47	34	32	30	108	122	49	25	****	20	45	
18	15	14	9	7	13	17	29	61	67	31	36	35	32	35	33	33	37	36	35	25	18	17	****	13	28
19	11	4	3	4	4	7	19	38	56	56	26	19	22	25	24	24	22	22	30	24	21	17	****	17	22
20	12	9	6	6	6	10	44	42	62	56	60	32	27	34	16	17	24	38	79	101	146	168	****	137	49
21	49	18	12	12	9	9	27	64	65	59	46	59	70	57	15	28	29	28	62	110	96	64	****	25	44
22	15	21	9	11	6	9	28	24	26	44	23	26	18	18	18	19	23	22	26	21	14	11	****	13	19
23	12	8	5	7	7	7	11	14	15	16	15	20	21	14	28	35	40	56	38	64	35	53	****	75	26
24	69	36	46	32	42	57	55	78	69	30	54	57	63	53	49	60	65	97	91	98	130	148	****	136	70
25	135	125	125	120	111	114	117	115	116	80	43	36	23	21	32	16	22	19	28	57	51	50	****	27	69
26	22	10	9	7	6	10	20	37	37	40	44	39	32	17	40	26	24	33	31	52	29	18	****	22	26
27	21	15	5	8	10	9	15	27	31	29	29	27	25	31	32	44	65	81	111	98	44	46	****	23	36
28	13	6	4	5	6	7	16	28	32	32	26	33	26	48	30	38	58	96	96	90	76	40	****	60	38
29	50	51	53	35	38	40	37	59	67	66	47	47	54	63	65	61	44	42	67	83	67	91	****	57	56
30	63	50	35	28	25	15	21	39	29	40	41	27	29	29	34	42	35	33	38	23	25	20	****	10	32
31	6	5	3	2	4	5	10	19	24	25	18	25	18	15	18	33	34	33	30	24	26	20	****	16	18

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	
22	25	25	64	79	113	125	0	- 168	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 : NITROGEN DIOXIDE
MONTH: NOVEMBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	5	4	4	5	8	24	35	40	50	40	31	34	35	22	25	58	69	81	106	126	109	****	24	41
2	12	8	6	7	12	15	46	73	84	94	74	36	37	59	80	24	57	54	99	99	45	31	****	27	47
3	13	6	5	7	6	8	24	47	65	50	37	26	26	20	37	51	67	80	79	41	24	10	****	12	32
4	4	3	3	4	3	7	14	22	25	18	30	25	17	13	20	30	24	32	31	23	71	38	****	35	21
5	34	30	18	51	39	19	24	25	38	39	41	31	28	27	31	49	59	54	75	33	66	66	****	42	40
6	15	8	10	16	14	15	25	24	26	37	23	20	22	12	11	14	13	12	8	10	10	11	****	5	16
7	2	2	3	5	5	8	21	44	51	36	23	9	7	20	18	21	29	37	31	27	23	15	****	15	20
8	4	0	0	0	0	0	2	13	21	21	19	20	18	20	26	40	29	30	41	31	23	25	****	27	18
9	32	19	8	3	0	1	11	25	28	32	29	27	27	24	27	29	31	37	34	27	18	23	****	25	23
10	35	7	3	1	1	3	10	23	28	29	27	30	26	29	32	43	63	72	65	52	40	42	****	45	31
11	38	27	18	23	21	19	33	38	44	47	48	54	57	66	72	88	109	126	129	127	130	103	****	72	65
12	74	72	60	46	30	46	46	52	67	64	72	70	61	55	30	23	13	24	54	83	104	102	****	90	58
13	80	62	44	36	61	68	43	58	69	69	74	76	67	36	6	3	7	14	35	93	82	27	****	30	50
14	5	0	0	1	0	1	18	52	51	57	43	34	37	28	14	30	46	61	53	30	23	8	****	10	26
15	2	3	0	0	0	2	17	41	54	69	76	57	11	28	37	21	26	21	15	11	6	4	****	3	22
16	0	0	0	0	0	0	5	55	66	68	51	34	35	48	50	55	37	62	51	20	25	16	****	18	30
17	0	0	0	0	0	0	3	18	33	31	15	14	12	11	13	5	8	2	3	3	6	1	****	4	8
18	0	0	0	0	0	16	33	38	34	34	30	28	32	20	31	43	48	53	47	47	44	42	****	27	28
19	26	19	17	34	34	41	47	47	45	54	59	50	46	35	32	36	37	40	34	33	26	19	****	17	36
20	9	1	4	2	4	5	9	22	22	14	27	20	14	7	11	10	12	10	14	10	8	11	****	2	11
21	0	0	0	0	0	0	8	18	21	20	16	17	13	17	17	<----- M ----->	18	9	2	****	0	9	0	9	
22	1	0	0	0	0	0	11	47	74	67	<-- D -->	53	62	82	99	128	100	129	136	129	119	****	104	64	
23	84	36	20	17	15	13	27	55	85	85	78	76	65	46	38	55	69	88	92	74	63	69	****	54	57
24	43	30	21	23	17	23	33	61	62	54	40	31	41	40	69	78	78	41	38	32	30	24	****	21	40
25	16	12	12	11	14	16	24	42	45	52	49	32	34	34	33	39	40	54	53	34	27	22	****	12	31
26	15	12	11	16	14	14	26	31	43	53	53	58	50	54	54	79	65	56	34	35	47	28	****	32	38
27	28	21	15	12	18	21	33	42	50	31	23	25	24	26	31	23	32	48	71	101	77	45	****	50	37
28	53	18	11	12	11	16	36	49	44	44	27	29	30	20	23	25	40	38	65	55	24	12	****	13	30
29	12	10	9	8	6	8	18	24	28	27	23	23	22	22	23	26	32	39	50	38	36	27	****	16	23
30	12	7	5	5	7	8	22	44	49	50	76	79	79	54	38	52	66	120	150	165	154	106	****	116	64

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			
24	27	34	27	72	85	118	129	0	-	165	8	-	65	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: DECEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	8	7	7	6	6	6	6	8	9	8	7	8	7	7	7	7	9	9	10	12	9	8	****	5	8
2	6	13	14	18	15	8	14	14	16	11	12	13	10	8	10	10	8	8	8	10	11	9	****	8	11
3	8	7	7	6	7	13	18	15	13	11	11	13	5	5	2	2	2	2	2	2	4	4	****	5	7
4	5	5	4	6	6	6	6	6	12	13	9	6	4	4	3	3	3	3	4	4	3	3	****	3	5
5	3	5	5	5	6	6	6	7	6	6	5	4	4	3	3	2	2	3	4	4	4	4	****	5	5
6	5	3	3	2	3	4	5	7	5	4	4	4	4	4	3	2	2	2	2	2	3	2	****	4	3
7	4	6	7	6	8	21	11	10	9	6	30	33	33	49	40	24	29	50	31	20	18	14	****	19	21
8	21	18	14	12	11	14	12	12	9	6	6	5	6	4	4	4	4	4	3	3	3	3	****	5	8
9	4	6	6	8	9	9	10	11	12	11	11	10	9	10	11	12	11	10	11	10	10	10	****	10	10
10	10	11	10	10	10	10	10	11	12	13	13	12	10	10	10	11	10	10	9	10	10	10	****	9	10
11	9	9	9	8	9	9	9	9	10	10	10	10	8	8	9	8	7	10	12	12	12	12	****	13	10
12	12	12	14	13	13	12	12	14	20	29	26	32	30	20	21	30	34	30	20	20	18	18	****	20	20
13	18	17	16	15	21	19	21	20	18	21	42	27	30	24	27	25	33	31	25	18	12	11	****	14	22
14	12	11	9	19	21	25	25	21	21	18	16	26	51	55	41	43	43	35	38	38	27	23	****	14	28
15	17	14	13	13	20	23	14	12	28	37	42	37	33	34	33	43	28	18	16	17	18	16	****	17	24
16	17	18	20	21	21	22	21	21	22	22	21	20	18	18	20	20	16	16	18	17	15	13	****	13	19
17	13	12	13	13	13	14	15	16	17	18	18	16	15	15	13	12	12	10	9	8	7	7	****	7	13
18	6	7	7	7	7	8	9	10	16	17	14	12	13	18	18	18	11	9	10	9	7	7	****	6	11
19	6	6	6	6	6	7	8	12	19	18	11	10	10	10	19	15	9	7	7	5	4	4	****	4	9
20	3	4	4	6	8	10	12	13	26	19	15	13	12	11	9	8	7	8	6	6	4	5	****	15	10
21	17	30	28	13	12	11	11	11	15	20	11	12	34	24	32	52	45	33	23	22	24	22	****	13	22
22	7	6	6	14	15	14	13	14	15	17	23	17	20	19	22	24	27	14	12	14	14	12	****	11	15
23	13	13	14	14	14	13	15	16	19	20	19	22	21	16	24	26	17	14	14	14	13	15	****	25	17
24	25	27	30	30	29	27	26	24	22	19	16	14	18	16	14	14	13	13	13	16	19	19	****	19	20
25	18	17	16	16	17	17	18	19	21	20	16	9	9	9	10	9	8	11	12	13	13	13	****	9	14
26	10	9	9	10	11	12	13	13	15	14	13	10	9	7	6	5	5	9	6	5	5	5	****	5	9
27	4	3	3	3	5	4	4	5	7	8	8	7	6	5	5	5	3	1	1	2	1	0	****	1	4
28	1	1	1	2	3	5	5	5	13	35	36	28	19	20	15	9	26	15	12	10	11	22	****	25	14
29	17	13	10	8	9	8	7	7	8	9	8	7	9	6	7	6	4	3	2	2	1	0	****	0	6
30	0	0	1	0	1	2	4	7	10	10	8	7	6	5	6	5	4	3	4	4	3	3	****	4	4
31	5	5	6	6	3	6	6	6	7	9	20	13	32	51	33	22	14	9	13	10	9	7	****	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			
10	10	10	24	31	38	43	0	-	55	3	-	28	2	96	0	0

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

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

STATION : QUEEN MARY HOSPITAL
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: OCTOBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	4	4	4	3	2	2	4	4	****	5	2
2	5	5	5	5	5	5	6	6	5	5	5	6	6	4	6	4	4	4	4	4	3	3	****	4	5
3	3	3	3	4	3	4	5	4	4	4	4	3	4	4	3	2	2	2	2	2	2	2	****	1	3
4	2	2	2	2	2	2	2	3	3	4	4	3	4	3	4	4	5	5	4	4	3	3	****	2	3
5	3	4	3	5	6	7	7	8	6	5	5	4	5	6	5	4	3	4	4	3	5	3	****	4	5
6	4	3	3	3	4	4	5	8	12	10	9	8	7	6	5	4	3	2	2	2	2	2	****	2	5
7	3	4	3	5	5	5	6	6	6	6	7	8	7	7	7	6	6	5	6	6	5	5	****	6	6
8	6	6	7	7	8	8	8	10	11	11	11	10	10	9	9	9	8	6	6	5	5	5	****	5	8
9	4	4	5	7	9	6	7	13	16	11	11	9	11	31	10	17	28	7	7	7	6	5	****	9	10
10	7	7	6	4	3	3	4	4	4	3	3	2	3	3	2	1	1	1	1	1	1	1	****	1	3
11	1	1	1	1	1	1	1	1	1	2	2	1	2	1	2	3	3	3	2	2	2	2	****	2	2
12	2	2	2	2	2	2	2	1	1	2	1	2	2	2	2	2	1	2	2	2	1	2	****	3	2
13	2	2	2	1	1	1	1	2	1	1	1	3	2	1	1	1	1	1	1	1	1	1	****	1	1
14	1	1	1	1	2	1	1	2	2	2	3	3	9	11	11	16	10	20	25	24	21	6	****	5	8
15	4	3	2	2	2	3	3	4	3	2	3	6	6	7	6	5	4	6	7	7	7	9	****	7	5
16	3	5	6	6	7	6	8	8	8	16	31	15	9	23	15	24	18	13	4	7	6	****	3	11	
17	5	4	5	6	6	6	7	10	12	12	11	10	7	17	32	18	23	16	15	9	10	10	****	7	11
18	7	7	8	8	8	9	8	11	13	12	11	11	11	10	10	11	12	12	9	7	8	8	****	5	9
19	5	4	5	5	5	9	9	9	12	12	9	9	7	8	6	5	5	7	5	5	5	5	****	5	7
20	5	5	5	5	6	5	7	7	9	9	14	32	23	23	11	18	19	21	20	19	26	24	****	16	14
21	8	6	6	4	4	4	5	6	10	7	10	22	18	18	10	11	8	11	9	12	5	3	****	3	9
22	2	2	2	2	2	2	2	3	4	5	4	5	5	4	4	4	5	4	3	2	2	2	****	2	3
23	2	3	3	4	3	3	3	3	2	2	1	2	3	3	4	2	8	5	2	2	2	5	****	T	3
24	16	16	10	23	42	35	40	34	40	25	31	43	31	50	34	30	31	39	31	23	22	24	****	48	31
25	46	41	51	88	57	28	24	45	43	14	9	14	11	8	7	2	1	1	4	8	6	5	****	4	22
26	6	4	4	4	4	6	6	7	7	7	7	6	5	5	5	7	8	8	8	6	6	6	****	5	6
27	5	5	5	5	5	4	3	3	4	4	7	7	5	4	4	4	3	4	3	2	3	****	1	4	
28	1	1	1	3	3	3	3	4	4	3	3	4	7	24	18	21	9	8	7	8	5	5	****	6	7
29	6	7	6	6	7	7	6	6	9	7	6	5	6	22	19	20	20	21	18	15	9	10	****	8	11
30	7	6	6	6	7	6	8	12	9	8	10	8	6	6	11	7	6	7	7	6	5	4	****	4	7
31	4	5	4	3	4	7	7	6	5	6	5	5	4	4	6	7	7	5	5	5	5	4	****	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	16	24	35	43	1	- 88	2	96	0	0	

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

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

STATION : QUEEN MARY HOSPITAL
POLLUTANT : NITROGEN DIOXIDE
MONTH: OCTOBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	2	1	3	3	3	3	4	6	6	9	10	8	7	4	5	5	8	9	10	11	12	11	****	22	7
2	21	19	14	13	14	16	25	32	17	16	16	20	26	27	37	44	36	40	38	29	28	29	****	29	26
3	24	18	15	13	13	15	22	30	33	34	36	34	32	32	38	41	43	53	57	51	46	36	****	17	32
4	14	12	9	8	9	12	12	22	20	16	18	16	14	20	22	23	30	30	33	29	20	23	****	16	19
5	16	12	10	13	14	15	15	15	15	14	17	15	22	23	22	22	26	24	25	31	19	****	20	18	
6	18	16	15	14	11	10	14	21	27	25	24	24	21	22	17	20	22	30	32	28	30	21	****	19	21
7	14	14	15	13	12	13	17	24	26	25	26	25	23	33	32	27	39	42	38	40	36	27	****	24	25
8	23	20	16	16	15	15	18	26	40	33	28	23	23	25	28	36	33	33	36	34	28	26	****	24	26
9	18	14	11	12	23	25	25	46	55	49	42	27	28	50	27	46	59	31	26	26	28	17	****	24	31
10	18	14	11	9	9	9	12	23	20	24	24	18	18	14	23	21	21	23	25	23	17	15	****	15	18
11	10	9	8	6	8	8	9	10	12	14	16	18	18	11	12	15	16	18	17	21	15	10	****	10	13
12	7	7	6	6	7	5	4	11	8	12	4	5	6	8	11	5	4	6	5	7	5	4	****	9	7
13	4	5	4	4	5	7	8	11	8	5	5	9	14	13	6	5	8	8	22	15	18	14	****	16	9
14	10	8	14	11	16	13	18	21	19	18	17	33	44	41	49	58	56	63	65	67	88	55	****	57	36
15	43	44	18	12	19	25	25	37	32	35	38	41	43	43	48	43	49	63	70	76	65	61	****	51	43
16	25	20	24	24	15	10	24	29	32	37	54	62	39	30	56	45	65	62	43	26	27	32	****	29	35
17	29	21	14	14	12	11	18	68	72	77	63	47	41	51	55	36	47	61	77	75	25	23	****	26	42
18	19	16	14	14	14	15	25	66	56	45	33	33	31	29	23	17	20	25	20	22	18	16	****	19	26
19	15	11	9	10	10	12	15	22	30	31	25	17	19	13	15	15	12	13	29	24	28	19	****	15	18
20	14	14	12	11	11	9	14	25	32	44	60	61	43	35	26	38	40	69	66	48	118	138	****	89	44
21	45	28	17	14	12	10	11	17	43	34	38	54	52	50	27	32	29	46	43	84	100	52	****	29	38
22	25	28	17	13	11	13	13	16	26	34	26	21	21	22	22	28	25	29	38	26	17	17	****	18	22
23	15	11	12	14	15	12	13	18	19	18	20	20	22	19	25	29	42	51	57	57	34	35	****	49	26
24	51	43	27	46	64	43	53	47	75	60	51	57	39	58	46	53	55	75	99	73	71	77	****	92	59
25	81	118	139	128	112	58	64	105	102	62	25	25	26	27	30	24	30	27	29	36	34	41	****	26	59
26	25	20	15	14	14	17	20	30	28	29	28	27	33	31	38	17	23	33	26	48	34	18	****	27	26
27	28	20	12	14	14	14	13	27	34	27	33	31	24	21	28	35	36	40	35	38	39	36	****	27	27
28	27	18	12	11	14	11	16	28	29	28	22	26	41	53	46	55	64	60	56	49	54	32	****	23	34
29	36	49	50	39	37	31	30	41	58	45	21	22	28	54	55	67	51	54	51	68	57	63	****	28	45
30	26	27	22	22	28	14	16	29	19	28	43	24	21	29	39	28	28	30	30	20	22	20	****	16	25
31	12	14	10	9	11	11	14	20	24	23	20	21	20	20	24	31	31	31	37	42	34	23	****	25	22

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	
23	24	24	55	65	79	101	1	7	2	96	0	0	

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

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

STATION : QUEEN MARY HOSPITAL
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: NOVEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	4	5	5	5	5	4	7	7	6	6	6	4	8	10	9	9	9	5	5	6	5	****	3	6
2	3	4	3	4	7	6	6	7	9	13	9	4	6	6	21	12	6	5	5	7	7	6	****	5	7
3	5	5	5	6	5	6	7	7	10	9	7	7	5	5	5	6	7	7	5	4	4	2	****	2	6
4	2	3	4	4	3	5	5	6	6	6	4	2	1	0	1	1	1	0	1	1	1	1	****	0	2
5	0	2	0	1	3	3	1	3	3	4	4	4	6	5	4	4	23	16	9	6	7	7	****	7	5
6	6	5	6	6	7	7	9	9	8	7	7	6	6	6	6	4	3	1	1	1	0	0	****	1	5
7	1	2	2	2	2	3	6	6	5	4	3	3	4	4	5	3	2	2	2	2	2	1	****	2	3
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	****	1	1
9	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	****	1	1
10	10	2	2	1	1	2	2	2	2	3	3	3	3	3	3	4	7	10	13	8	5	4	****	4	4
11	2	3	4	8	10	6	11	12	14	15	7	18	15	12	7	7	11	15	19	10	7	7	****	4	10
12	4	4	4	3	14	34	34	17	12	28	30	35	18	16	19	15	8	4	4	13	12	11	****	7	15
13	5	6	6	5	21	10	7	5	14	47	82	49	27	16	12	8	6	5	4	6	7	6	****	5	16
14	3	4	5	6	4	3	6	6	7	8	9	8	6	6	5	6	7	6	6	5	6	5	****	5	6
15	5	5	5	7	9	13	12	12	12	13	13	27	17	12	13	11	7	7	7	5	5	4	****	3	10
16	4	4	5	5	6	7	6	7	13	10	9	8	6	22	7	5	5	5	5	5	6	7	****	7	7
17	6	5	5	4	5	4	4	4	3	3	3	1	1	1	1	0	0	0	1	0	0	0	****	0	2
18	0	0	0	0	0	4	22	20	20	32	28	18	30	18	25	30	32	45	36	25	7	7	****	1	17
19	2	5	3	12	5	9	9	14	15	19	16	8	6	6	3	4	4	5	4	5	5	4	****	5	7
20	5	4	4	5	4	4	4	4	4	6	7	6	6	5	5	5	5	5	4	4	4	4	****	4	5
21	5	5	4	6	7	9	10	10	8	8	8	8	7	8	8	7	8	8	8	8	6	6	****	5	7
22	5	5	5	5	6	6	7	8	10	9	10	10	7	8	9	10	7	7	10	10	9	8	****	7	8
23	6	6	7	8	11	9	8	8	8	8	8	8	7	5	4	5	7	6	8	9	9	8	****	8	7
24	8	8	9	8	8	8	8	9	12	11	10	9	9	18	30	11	8	8	9	10	9	9	****	9	10
25	9	9	9	9	11	10	10	12	14	13	10	8	8	7	6	7	8	8	8	6	5	4	****	2	8
26	3	4	4	5	4	7	7	7	7	7	6	5	6	5	4	5	5	4	3	2	2	3	****	7	5
27	8	11	9	7	7	6	6	6	9	8	4	3	2	2	2	6	13	3	5	3	5	5	****	4	6
28	5	13	7	4	4	6	9	4	5	6	6	5	3	3	3	2	2	3	3	3	3	2	****	2	4
29	2	2	2	2	1	0	0	2	3	3	3	2	0	1	0	0	0	1	1	3	3	3	****	1	2
30	1	0	0	0	0	1	3	3	4	3	23	37	26	18	16	16	24	25	22	24	28	29	****	17	14

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	13	20	30	35	0	- 82	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: NOVEMBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	18	13	15	12	11	10	16	27	37	29	40	37	29	34	39	44	54	73	79	100	71	53	****	27	38
2	20	17	10	12	14	21	31	56	81	84	61	25	36	48	56	43	47	67	82	74	50	34	****	26	43
3	19	11	12	12	10	10	10	45	53	29	21	25	20	25	26	26	48	51	38	36	34	24	****	21	26
4	18	14	12	14	14	15	19	23	24	24	22	17	19	16	20	25	29	28	25	34	26	17	****	21	21
5	7	14	7	8	19	12	11	20	21	20	23	24	19	20	17	30	66	70	87	51	35	23	****	36	28
6	36	22	12	13	12	13	13	13	17	18	18	19	19	16	12	16	14	14	16	21	18	****	19	17	
7	15	11	9	10	10	13	17	17	23	25	23	18	18	17	20	22	23	29	26	28	23	17	****	18	19
8	10	7	6	6	8	7	6	12	11	14	18	24	18	18	30	39	17	20	22	19	21	20	****	30	17
9	35	29	19	16	13	14	22	30	38	39	37	36	32	30	34	33	33	44	42	38	32	34	****	39	31
10	45	21	19	18	17	19	24	31	35	37	34	34	30	31	33	40	60	75	73	52	38	41	****	47	37
11	38	33	35	37	38	33	41	48	51	52	52	56	60	71	73	86	94	127	128	125	118	94	****	70	68
12	59	70	62	55	55	57	53	27	43	69	69	70	57	54	44	36	30	32	36	91	105	107	****	95	60
13	85	77	59	58	75	38	26	28	61	70	78	77	62	44	30	26	31	44	63	85	57	33	****	27	54
14	28	12	12	15	11	12	15	29	38	32	35	37	25	31	26	38	42	45	65	52	46	31	****	27	31
15	20	16	13	13	14	15	15	26	55	67	63	65	41	38	35	28	40	44	33	35	24	19	****	17	32
16	13	11	9	7	8	9	14	41	58	56	46	28	23	63	49	27	51	35	21	40	30	33	****	19	30
17	19	13	10	10	10	11	12	20	26	23	27	24	22	20	20	24	26	23	24	21	21	11	****	14	19
18	15	14	10	13	13	16	40	40	42	41	36	30	35	29	34	44	49	57	56	45	21	26	****	17	31
19	20	25	19	41	36	42	50	46	46	56	60	42	46	44	37	35	48	49	50	41	34	33	****	25	40
20	21	17	18	18	18	20	17	30	24	16	23	23	21	20	18	19	24	25	25	26	25	21	****	19	21
21	14	11	11	11	12	14	17	23	35	33	25	25	20	20	22	29	34	40	43	31	27	21	****	14	23
22	14	9	8	10	9	8	14	61	65	68	57	42	32	64	86	95	62	64	121	121	98	88	****	33	53
23	26	31	20	21	18	11	20	30	43	46	51	56	53	42	23	36	59	67	85	79	62	35	****	54	42
24	32	24	26	27	23	30	63	72	41	29	27	27	37	58	82	60	36	55	49	35	29	****	24	40	
25	20	16	14	12	14	15	15	24	33	32	32	30	34	26	37	35	48	41	41	44	32	30	****	21	28
26	19	18	14	14	12	17	21	22	31	40	30	30	27	26	27	46	56	45	29	19	24	28	****	25	27
27	24	23	15	12	12	14	12	18	36	40	29	23	16	17	25	37	51	47	83	79	37	33	****	30	31
28	27	46	20	11	11	15	27	31	33	23	37	32	19	22	23	28	32	56	52	44	45	26	****	21	29
29	17	15	13	10	8	10	16	29	34	32	23	22	13	18	17	23	35	51	55	41	44	37	****	17	25
30	18	10	6	6	6	7	10	21	35	36	68	68	66	56	43	37	62	73	128	109	102	114	****	80	50

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	
28	28	34	28	63	79	97	116	6	- 128	2	96	0	0	

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

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

STATION : QUEEN MARY HOSPITAL
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: DECEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	10	9	10	8	8	6	7	9	9	7	7	8	7	7	7	8	10	10	11	12	9	8	****	5	8	
2	6	13	17	21	15	10	15	15	16	12	12	14	11	8	10	11	11	10	10	11	13	10	****	9	12	
3	9	9	8	7	9	20	24	16	10	9	8	7	6	5	2	2	2	3	4	4	4	6	****	7	8	
4	7	7	7	8	8	8	8	8	8	14	7	6	5	5	5	4	3	4	5	6	6	4	****	5	6	
5	5	7	7	7	9	8	9	9	7	6	5	5	4	6	4	3	3	3	5	5	3	3	****	3	6	
6	4	4	4	3	5	7	7	8	7	6	5	5	5	5	5	4	3	3	5	5	6	6	****	8	5	
7	7	10	12	11	12	11	9	13	10	12	23	23	25	30	33	29	39	49	30	17	15	12	****	16	19	
8	19	17	11	11	11	13	11	10	7	6	5	5	5	3	4	5	5	5	5	4	3	4	****	5	8	
9	6	7	8	9	10	11	12	13	14	12	11	11	9	10	11	12	11	11	12	12	11	11	****	11	11	
10	10	12	11	10	11	10	11	12	13	14	13	12	11	11	12	12	11	10	11	10	12	11	****	10	11	
11	10	10	9	9	11	9	10	11	11	11	11	11	11	10	11	9	9	12	15	14	13	14	****	14	11	
12	14	14	15	15	14	13	13	14	20	20	23	28	25	22	24	29	41	36	21	19	18	19	****	19	21	
13	18	17	16	19	29	25	28	29	18	25	48	24	26	21	23	24	37	38	30	17	15	14	****	15	24	
14	14	13	13	18	26	33	30	32	27	22	17	18	27	38	34	40	44	35	51	41	35	21	****	18	28	
15	22	18	17	16	20	19	15	17	26	35	37	34	28	21	30	51	26	18	19	19	18	18	****	18	24	
16	20	22	23	24	25	26	23	23	22	<--- D --->	16	17	17	16	16	15	17	16	15	17	16	15	13	****	13	19
17	12	13	14	15	15	16	17	18	18	20	19	18	17	17	16	15	15	14	13	11	10	10	****	9	15	
18	9	10	9	9	11	12	13	15	19	20	16	14	15	21	21	27	25	13	19	15	12	9	****	7	15	
19	8	7	7	7	8	9	10	15	21	21	11	10	10	11	19	18	13	8	7	5	4	4	****	4	10	
20	4	4	5	7	10	13	15	15	16	18	15	13	13	12	11	10	10	11	9	7	5	6	****	20	11	
21	28	34	23	9	9	9	10	10	10	20	11	9	35	31	20	50	53	30	25	23	34	22	****	12	23	
22	9	6	8	17	17	16	16	16	17	17	19	18	20	23	24	23	24	17	16	19	19	18	****	16	17	
23	16	17	18	18	17	17	17	17	19	22	21	22	21	18	23	26	18	15	14	14	14	16	****	26	19	
24	28	29	33	34	32	31	30	29	26	25	23	20	18	23	22	19	19	18	18	19	22	26	****	25	25	
25	24	23	23	23	23	24	23	24	25	23	22	17	15	15	16	14	14	14	16	18	18	17	****	14	19	
26	13	13	13	14	16	17	16	17	18	17	14	13	13	9	8	8	8	13	10	8	9	8	****	8	12	
27	6	6	6	6	8	7	8	10	12	11	11	10	9	8	8	8	5	5	6	4	4	4	****	4	7	
28	5	4	4	5	8	10	10	10	17	39	50	33	31	27	18	12	28	24	14	14	20	17	****	26	19	
29	11	9	9	8	9	12	9	9	9	12	10	9	15	9	8	8	5	4	4	3	3	2	****	1	8	
30	2	3	3	3	3	6	8	10	14	12	10	8	7	6	7	7	6	5	5	5	4	3	****	6	6	
31	7	7	7	7	6	10	11	9	10	11	12	14	19	47	33	32	21	16	11	15	12	10	****	9	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	
12	12	12	26	32	38	46	1	- 53	2	96	0	0	

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

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

STATION : QUEEN MARY HOSPITAL
POLLUTANT : NITROGEN DIOXIDE
MONTH: DECEMBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	53	41	23	18	21	22	37	53	50	48	40	43	42	42	40	40	47	48	52	53	35	35	****	32	40
2	30	35	31	39	32	23	34	38	42	39	37	44	37	36	48	47	46	45	56	71	70	49	****	65	43
3	47	43	42	30	29	41	49	38	42	58	53	46	46	38	10	11	30	34	36	26	31	42	****	33	37
4	31	19	21	20	15	20	35	38	36	34	23	18	16	17	22	18	9	21	41	31	27	21	****	17	24
5	21	17	13	14	14	14	18	29	31	30	20	21	25	35	23	21	25	33	24	48	43	44	****	33	26
6	32	29	24	15	15	18	21	35	34	24	33	26	29	37	41	31	35	31	33	34	21	24	****	22	28
7	26	22	13	9	16	22	27	55	55	67	66	69	66	71	72	78	91	113	108	91	81	72	****	64	59
8	62	56	35	40	31	38	38	43	42	34	32	36	34	34	37	44	47	51	54	57	55	50	****	38	43
9	32	27	24	23	24	29	34	39	43	42	38	33	31	40	47	47	53	55	62	50	42	39	****	40	39
10	34	28	20	18	16	14	19	30	33	37	30	28	28	26	32	42	38	35	39	33	33	29	****	30	29
11	24	23	18	18	19	19	29	36	36	35	35	38	37	34	43	41	38	47	44	59	67	55	****	62	37
12	31	31	40	30	17	9	11	30	63	71	66	68	62	60	68	80	91	127	111	87	86	72	****	79	60
13	76	54	27	38	63	57	74	59	32	69	98	69	68	68	74	101	144	160	191	153	140	76	****	76	86
14	52	43	58	65	75	86	81	79	105	83	46	57	75	87	103	129	155	168	186	188	181	109	****	80	100
15	56	43	69	31	38	36	46	80	96	82	85	80	70	64	67	118	99	96	103	110	97	58	****	50	73
16	55	60	36	30	25	28	31	43	54	55	<--- D --->	55	59	61	65	68	82	77	70	55	59	****	49	53	
17	18	16	16	16	15	18	21	21	45	39	32	32	33	41	52	47	35	33	40	41	31	36	****	19	30
18	23	18	15	19	19	20	28	34	45	49	32	28	32	45	46	53	65	57	76	63	43	36	****	32	38
19	25	17	15	14	13	23	45	72	82	87	24	24	22	33	58	56	54	52	44	40	37	26	****	24	38
20	15	16	26	25	23	26	32	41	44	80	81	64	47	50	76	65	71	96	99	105	89	69	****	77	57
21	82	82	65	38	18	18	36	63	72	85	57	51	80	72	57	90	111	105	99	122	143	97	****	44	73
22	30	24	34	21	21	22	31	53	71	56	81	70	66	56	72	75	87	92	77	65	47	35	****	45	54
23	59	45	40	34	25	24	49	71	77	77	75	60	59	58	68	93	92	93	78	60	42	38	****	43	59
24	42	31	30	29	23	18	22	26	38	48	39	42	39	50	48	48	53	48	58	49	45	40	****	37	39
25	28	37	36	28	26	27	39	46	52	45	43	34	17	20	36	44	52	40	54	64	48	35	****	43	39
26	42	29	19	20	21	24	47	51	59	36	25	33	47	26	20	27	34	34	38	34	30	31	****	22	33
27	22	20	17	14	15	13	17	22	22	15	17	19	16	20	20	24	29	31	25	32	22	27	****	23	21
28	26	13	14	17	21	23	32	49	72	81	78	66	52	52	43	33	64	88	104	105	124	81	****	65	57
29	19	26	14	10	11	19	18	34	50	54	30	32	40	40	39	53	43	34	44	46	39	26	****	11	32
30	14	16	14	18	25	27	47	63	66	67	47	35	34	31	35	39	54	47	46	48	38	29	****	31	38
31	30	25	20	27	28	27	27	26	50	49	43	62	58	75	69	71	54	63	70	106	96	49	****	28	50

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE			
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	1-HR	24-HR			
40	39	39	80	97	120	149	9	-	191	21	-	100	2	96	0	0

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

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

STATION : AP LEI CHAU
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: OCTOBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	2	1	0	0	1	2	****	4	1
2	3	4	3	4	4	3	3	4	2	4	2	4	3	3	3	2	2	1	1	2	1	1	****	3	3
3	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	****	1	2
4	1	2	1	1	1	1	1	1	2	1	2	2	2	2	3	3	4	4	3	2	2	1	****	2	2
5	1	2	2	3	5	6	6	4	4	3	2	3	4	3	1	1	1	1	1	3	2	****	3	3	
6	2	2	3	2	2	2	5	7	13	12	10	8	8	6	6	5	6	3	3	3	4	2	****	7	5
7	5	6	6	5	4	8	10	8	8	7	11	10	6	8	7	8	5	5	6	5	2	3	****	5	6
8	3	4	7	5	4	5	5	8	10	9	10	9	9	8	8	8	7	3	4	2	1	1	****	3	6
9	1	1	2	5	6	9	11	4	18	9	8	8	8	7	6	6	7	8	8	7	7	****	13	7	
10	7	9	7	5	4	3	4	4	6	3	3	3	3	3	3	3	1	1	1	1	1	1	****	1	3
11	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	****	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	2	3	2	1	2	****	3	1
13	1	1	2	1	2	2	1	2	0	0	1	2	0	3	1	1	1	1	2	1	1	2	****	3	1
14	2	3	3	3	2	1	2	3	5	4	4	4	15	18	23	24	28	50	29	24	24	15	****	6	13
15	3	3	2	2	2	3	3	8	4	3	5	15	11	10	9	7	6	5	8	8	8	8	****	7	6
16	4	5	6	6	8	8	10	14	25	10	7	4	3	5	25	25	36	13	8	6	7	7	****	6	11
17	6	6	6	8	6	7	8	8	12	10	10	18	29	24	20	13	10	8	7	8	11	9	****	7	11
18	6	7	7	8	8	8	8	9	11	10	11	10	12	9	12	12	16	13	12	9	10	11	****	7	10
19	6	5	6	6	7	11	10	11	13	13	9	9	9	8	7	7	4	5	7	5	5	5	****	5	8
20	4	4	4	5	6	5	6	8	8	8	8	8	9	10	9	9	10	10	12	14	18	22	****	9	9
21	6	7	6	5	5	5	6	6	6	6	37	25	12	4	4	1	3	4	4	4	4	8	****	5	7
22	3	3	2	3	3	1	1	3	4	5	3	4	6	4	3	4	4	6	3	3	2	3	****	4	3
23	4	5	4	5	5	4	3	3	3	1	3	4	4	5	3	2	4	4	3	3	7	****	5	4	
24	5	5	6	8	14	12	5	7	8	8	10	9	15	40	57	40	51	45	38	37	35	65	****	109	27
25	97	26	52	77	69	92	72	66	53	31	11	14	12	9	5	3	2	1	3	5	7	5	****	5	31
26	5	4	4	3	3	5	5	5	5	5	5	4	3	4	<-----D----->	6	5	5	3	4	4	****	3	4	
27	2	2	2	3	3	2	3	3	4	3	6	6	6	6	4	5	5	5	6	5	5	6	****	4	4
28	3	3	4	5	4	3	3	6	5	4	4	4	3	7	9	4	4	4	5	4	5	5	****	6	5
29	5	5	5	5	5	5	5	4	5	6	4	4	3	19	15	29	26	23	15	22	12	7	****	7	10
30	6	6	6	6	6	6	7	9	8	7	6	6	6	7	7	7	9	9	8	8	7	5	****	7	7
31	6	7	6	5	5	7	8	8	6	7	6	5	6	4	8	7	7	7	6	5	5	5	****	5	6

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
4	5	5	12	24	40	61	0 - 109	0 - 31	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: OCTOBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	2	1	1	1	1	1	1	2	3	4	4	4	3	1	2	1	3	5	3	4	5	4	****	10	3
2	9	12	12	9	10	14	24	31	13	15	15	18	17	18	30	28	33	30	31	37	27	28	****	18	21
3	18	14	13	11	10	13	22	29	33	28	30	28	26	23	28	29	29	31	28	25	25	21	****	23	23
4	21	16	11	9	9	12	14	17	20	20	20	17	15	17	14	17	21	23	17	8	8	7	****	6	15
5	6	10	10	12	13	15	14	15	13	11	12	12	11	17	18	17	20	30	35	29	35	30	****	23	18
6	26	21	14	11	10	11	18	30	32	27	23	23	15	17	21	20	23	32	14	9	5	6	****	5	18
7	3	5	4	4	3	5	7	17	18	7	16	20	15	7	7	7	9	15	20	7	3	4	****	5	9
8	5	8	4	5	4	5	8	14	14	17	23	8	7	4	6	7	10	9	9	8	4	5	****	4	8
9	4	5	4	6	14	21	31	25	36	29	23	22	17	12	8	14	20	12	20	24	20	9	****	17	17
10	16	11	7	5	4	7	13	19	19	16	15	14	9	13	12	11	14	9	9	5	4	3	****	3	10
11	1	1	1	1	1	1	2	4	3	4	4	5	4	4	8	8	6	7	6	3	3	3	****	5	4
12	4	2	1	0	1	1	0	3	1	2	0	3	5	6	11	5	5	7	7	6	4	4	****	8	4
13	5	4	5	4	4	8	8	7	3	2	4	3	2	4	3	4	12	23	22	16	8	10	****	10	8
14	7	9	8	5	6	8	8	6	11	11	27	31	38	40	52	57	50	68	66	67	74	71	****	61	34
15	45	45	34	19	21	21	36	40	44	49	49	54	47	49	62	53	49	70	80	78	71	83	****	66	51
16	59	47	23	29	32	28	38	41	56	43	41	17	11	19	50	45	62	40	21	15	36	31	****	33	36
17	29	20	13	13	14	18	32	64	59	43	45	65	55	40	33	28	18	15	21	26	20	14	****	16	30
18	27	10	7	9	12	18	33	54	36	15	14	21	13	10	8	10	12	12	15	10	10	11	****	11	17
19	8	6	6	8	7	8	13	22	30	29	14	11	10	8	8	8	6	8	9	8	7	8	****	10	11
20	7	7	7	8	9	11	19	25	30	30	27	12	13	20	11	10	14	29	30	34	115	141	****	43	28
21	25	27	22	18	15	18	26	38	37	23	22	48	42	27	10	9	8	11	18	72	31	35	****	44	27
22	44	30	19	9	14	12	17	24	32	25	15	9	12	8	6	8	13	14	12	8	5	5	****	10	15
23	9	7	7	8	8	8	9	10	9	8	8	10	9	10	10	12	11	14	12	20	11	18	****	41	12
24	38	29	18	14	32	34	39	55	29	14	19	20	17	48	64	49	56	58	58	108	95	****	119	46	
25	111	50	72	98	93	103	110	97	92	52	22	23	19	23	17	10	12	9	18	40	55	38	****	22	52
26	30	20	12	11	12	16	25	30	33	28	30	26	17	10	<----- D ----->	5	12	18	9	1	****	18	18		
27	23	4	0	3	2	2	2	6	11	13	12	10	9	10	8	7	38	51	20	19	13	15	****	11	13
28	7	5	4	5	5	5	8	21	23	25	9	13	20	37	19	8	18	46	74	64	45	42	****	57	24
29	50	53	40	39	46	45	54	54	52	53	30	20	17	43	55	68	67	57	35	39	76	93	****	55	50
30	60	47	31	22	24	18	23	22	24	18	17	12	14	12	12	9	10	14	13	10	10	7	****	8	19
31	7	7	5	4	6	5	7	15	17	16	16	19	11	6	10	11	11	11	14	15	11	7	****	7	10

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	
14	14	14	49	62	79	98	0	- 141	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: NOVEMBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	5	5	6	6	7	6	6	9	8	6	6	6	3	5	6	5	7	6	8	9	8	11	****	8	7
2	7	6	7	9	10	9	9	14	17	18	7	5	7	17	27	8	8	8	9	10	11	8	****	7	10
3	6	7	7	7	7	9	9	8	12	11	7	9	6	7	8	8	10	10	9	7	5	4	****	5	8
4	4	6	8	7	7	8	9	9	9	9	8	5	6	5	6	5	6	7	7	6	7	7	****	5	7
5	5	5	5	7	6	6	6	7	7	6	8	8	9	8	8	8	8	8	9	9	9	9	****	8	7
6	7	7	8	8	10	12	10	13	12	10	8	9	8	10	10	9	6	5	5	4	3	4	****	5	8
7	5	6	6	5	5	6	8	8	8	6	6	6	8	8	8	6	5	5	4	3	4	3	****	3	6
8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	****	5	3
9	3	4	3	3	3	3	4	4	7	6	5	5	5	5	6	6	6	7	6	8	5	5	****	4	5
10	9	5	4	5	5	5	6	6	6	6	6	6	6	6	6	6	6	8	8	8	8	7	****	7	6
11	5	6	6	6	6	6	5	10	9	10	14	18	25	16	13	11	14	20	25	18	11	11	****	9	12
12	8	8	8	6	7	7	11	21	24	53	77	57	37	21	24	7	7	8	9	9	9	9	****	9	19
13	10	10	8	8	9	31	27	13	13	59	67	83	41	16	9	9	8	9	8	8	9	10	****	7	21
14	5	6	9	10	8	7	10	9	10	10	12	11	9	10	9	9	12	11	11	8	10	9	****	9	9
15	8	8	9	10	16	18	15	13	13	14	25	17	13	18	15	13	10	10	8	7	6	5	****	6	12
16	6	5	6	6	8	7	7	7	9	9	10	8	4	5	7	6	5	5	5	7	6	7	****	7	7
17	6	5	6	5	6	6	6	4	4	4	4	5	4	5	3	4	4	4	4	5	5	3	****	4	5
18	3	3	3	3	3	3	3	3	18	44	49	51	47	64	106	61	69	60	60	66	22	10	****	23	34
19	16	19	14	15	14	16	19	17	13	24	22	13	10	10	6	7	5	8	8	8	9	6	****	7	12
20	7	7	6	6	6	6	5	6	6	6	8	8	8	8	8	8	8	7	8	7	6	6	****	7	7
21	7	7	6	8	9	9	11	12	10	9	8	9	8	7	8	9	8	8	9	9	7	6	****	6	8
22	6	5	5	5	6	6	8	7	10	14	10	10	8	8	8	7	7	8	18	19	15	12	****	9	9
23	7	9	8	11	12	11	11	11	11	9	9	10	9	7	5	6	5	8	7	9	10	9	****	10	9
24	9	8	8	8	8	9	9	10	12	11	9	9	9	10	10	9	8	8	9	8	8	8	****	7	9
25	8	9	10	10	10	11	12	14	16	14	12	11	10	9	9	10	12	13	13	9	9	8	****	6	11
26	6	7	8	8	9	9	11	11	10	12	12	10	10	8	8	8	9	9	7	6	6	8	****	13	9
27	12	15	12	11	9	9	8	8	7	6	6	4	3	4	3	4	5	4	6	5	6	6	****	4	7
28	4	4	4	5	4	6	6	6	7	6	6	6	6	4	4	4	4	8	7	7	6	6	****	5	5
29	5	5	4	5	4	3	3	5	6	5	6	4	3	3	1	3	1	3	4	4	5	6	****	4	4
30	2	2	2	2	2	3	4	5	4	4	5	36	33	15	28	28	33	46	43	37	29	24	****	12	17

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	8	8	15	24	50	63	1	- 106	2	96	0	0	

NOTES:

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

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

STATION : AP LEI CHAU
POLLUTANT : NITROGEN DIOXIDE
MONTH: NOVEMBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	6	4	6	5	7	8	12	19	20	18	25	19	14	22	10	8	11	11	32	33	29	37	****	10	16
2	10	8	7	8	13	17	38	75	79	80	37	18	24	43	47	10	12	12	50	31	15	10	****	12	29
3	8	6	7	8	9	10	24	50	54	36	18	18	14	19	19	14	15	25	43	25	24	7	****	8	20
4	7	8	9	10	10	13	14	17	21	20	23	17	15	9	17	25	24	13	22	42	42	49	****	28	20
5	26	20	19	23	12	16	18	11	23	17	15	12	8	6	21	36	43	32	15	16	20	19	****	23	19
6	23	19	12	14	13	15	17	15	21	19	15	17	15	9	6	10	6	7	6	5	3	5	****	12	12
7	7	7	5	6	7	14	20	28	27	21	16	12	12	19	20	22	37	26	20	20	18	25	****	9	17
8	9	4	5	7	7	9	18	31	35	35	31	30	26	33	40	41	41	45	38	32	35	34	****	32	27
9	29	31	24	15	15	16	24	32	37	41	38	36	33	32	37	35	39	45	45	39	35	32	****	29	32
10	39	22	14	14	12	17	25	35	38	37	39	38	36	40	38	38	51	52	45	47	54	54	****	56	37
11	56	49	38	32	36	29	33	45	53	54	60	63	67	67	80	102	106	131	136	141	127	111	****	87	74
12	76	69	53	43	49	55	55	61	59	66	83	70	41	34	38	21	19	12	16	51	62	62	****	47	50
13	58	37	21	38	48	74	66	54	46	60	65	78	70	27	11	8	15	20	31	90	27	21	****	15	43
14	7	6	7	9	7	6	22	45	22	31	22	19	17	11	8	7	10	17	22	12	11	8	****	11	15
15	7	8	9	7	8	7	14	30	29	49	80	31	11	11	10	9	10	11	8	7	6	6	****	7	16
16	6	5	6	6	7	7	13	23	39	25	31	22	17	17	34	24	12	36	36	15	22	19	****	17	19
17	12	11	9	9	10	9	14	18	25	23	19	17	15	17	25	25	28	19	12	10	10	8	****	8	15
18	7	11	8	9	9	14	25	35	38	37	37	36	33	40	48	38	50	34	51	54	52	23	****	41	32
19	47	50	45	43	44	47	55	53	46	57	63	59	49	43	44	37	38	43	54	43	41	32	****	24	46
20	29	28	21	22	21	19	26	26	23	26	17	16	12	11	15	11	15	22	13	12	12	12	****	8	18
21	7	6	6	6	8	11	15	23	13	13	18	23	17	18	26	31	37	30	26	15	13	10	****	8	16
22	8	6	6	7	9	9	23	39	64	78	66	49	34	53	63	63	76	91	95	119	118	96	****	81	55
23	64	53	27	17	15	16	34	53	65	77	76	66	63	38	27	44	60	86	89	83	69	41	****	55	53
24	49	24	19	18	16	19	34	46	50	31	21	26	16	12	36	19	16	12	15	19	20	10	****	10	23
25	9	8	8	9	12	12	14	23	25	28	22	13	11	23	11	19	16	30	31	20	15	12	****	9	17
26	8	10	10	11	12	18	22	22	38	54	53	36	33	40	48	50	45	54	29	28	21	18	****	22	30
27	22	20	19	14	15	19	24	24	24	19	16	13	9	18	11	11	11	11	23	39	43	33	****	24	20
28	25	14	15	12	11	15	28	34	12	10	9	12	10	6	8	6	10	12	26	36	30	26	****	16	17
29	8	8	7	5	4	5	5	10	13	12	15	7	7	5	5	6	6	7	9	7	26	27	****	12	9
30	12	4	1	1	1	3	20	20	25	17	19	67	70	41	52	57	67	69	62	57	61	38	****	53	35

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	
21	21	28	21	56	69	88	109	1	- 141	2	96	0	0	

NOTES:

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

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

STATION : AP LEI CHAU
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: DECEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	10	10	8	8	7	6	8	10	9	10	10	9	7	7	7	8	10	9	10	8	7	****	5	8
2	5	7	12	19	14	15	12	12	13	12	11	10	8	7	9	9	10	10	11	11	11	9	****	10	11
3	8	8	8	8	7	10	18	15	9	7	9	13	5	2	1	3	3	4	3	3	4	5	****	7	7
4	7	7	6	7	7	8	9	8	8	8	8	7	6	5	5	6	7	6	7	8	6	5	****	5	7
5	6	8	8	9	9	9	9	9	8	7	6	6	6	6	4	2	3	3	5	5	5	6	****	6	6
6	6	7	4	3	3	5	5	7	6	5	5	4	4	4	4	3	3	2	3	4	3	3	****	6	4
7	5	8	9	8	10	9	7	7	6	10	30	40	33	35	56	26	24	56	36	21	18	15	****	18	21
8	19	17	12	10	9	13	10	10	9	9	8	8	7	6	4	7	7	8	8	7	6	7	****	6	9
9	6	7	8	10	11	12	13	12	16	14	12	11	9	9	10	11	12	12	12	10	10	10	****	9	11
10	10	11	11	11	11	10	11	11	12	13	13	12	12	12	12	12	12	12	13	13	13	13	****	11	12
11	10	11	9	9	10	9	11	11	11	11	11	10	6	6	13	16	11	12	15	17	14	14	****	14	11
12	13	13	13	13	16	14	15	14	17	19	23	25	32	24	26	38	36	41	31	23	20	19	****	19	22
13	17	17	17	17	18	20	20	20	22	27	18	17	28	26	30	24	36	37	39	22	16	16	****	18	23
14	15	12	12	13	26	30	34	27	21	18	20	38	46	50	40	39	49	42	55	44	34	32	****	18	31
15	18	14	14	16	15	15	16	16	22	28	32	35	33	34	35	42	32	44	32	21	19	19	****	19	25
16	19	22	25	24	25	26	25	23	25	23	22	20	20	28	30	39	22	18	18	17	17	15	****	15	23
17	14	14	15	17	17	17	19	19	20	20	20	18	19	17	17	18	18	16	14	14	14	11	****	12	17
18	11	12	12	11	15	15	16	16	21	19	16	14	14	15	12	12	11	14	15	13	11	11	****	8	14
19	8	8	8	7	8	11	10	13	14	13	11	9	8	9	8	8	7	7	4	4	4	4	****	4	8
20	4	4	4	6	10	13	14	15	19	15	15	14	14	13	10	8	8	8	8	8	8	10	****	11	10
21	10	12	15	14	12	12	10	10	11	8	9	10	11	15	25	46	26	51	26	25	23	24	****	11	18
22	8	6	6	11	17	16	15	16	18	16	30	36	20	23	31	33	23	16	16	17	18	14	****	13	18
23	13	13	13	15	15	14	13	13	17	14	15	20	22	18	24	27	23	18	14	15	16	16	****	28	17
24	28	28	32	33	33	30	29	29	26	24	23	21	17	15	17	18	17	18	18	19	22	23	****	23	24
25	22	20	20	20	20	21	22	22	22	21	18	15	16	16	15	15	15	16	17	18	20	20	****	16	19
26	16	16	15	17	18	18	20	20	19	18	16	14	12	11	10	8	9	12	9	8	8	8	****	8	13
27	7	5	6	6	8	8	9	11	12	10	10	9	7	8	8	6	5	4	4	4	4	2	****	4	7
28	3	4	5	5	7	7	9	28	25	20	20	16	11	10	10	9	10	11	10	11	10	9	****	10	11
29	8	8	9	8	8	9	10	10	10	10	10	10	9	10	11	11	9	8	6	7	5	5	****	5	8
30	5	5	5	5	6	8	11	13	15	13	11	10	10	9	12	10	9	8	10	8	6	6	****	9	9
31	8	8	9	9	8	7	8	9	10	11	11	10	37	38	18	13	7	9	9	11	11	11	****	10	12

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->			STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE	
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	1-HR	24-HR	
12	11	11	26	33	40	45	1	- 56	2	96	0	0	

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

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

STATION : AP LEI CHAU
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: DECEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	44	36	32	18	17	20	34	46	48	58	62	55	54	50	48	49	64	57	60	54	51	62	****	49	46
2	42	32	27	40	35	34	41	39	49	50	51	46	44	52	57	52	64	62	73	58	54	62	****	75	50
3	79	67	51	45	34	30	55	55	58	63	59	58	43	11	7	9	13	52	44	54	57	49	****	60	46
4	50	28	20	24	22	20	28	40	39	27	21	14	17	12	10	17	29	23	28	28	25	19	****	17	24
5	15	13	12	14	15	14	25	21	22	30	24	23	24	23	29	44	39	34	44	27	27	26	****	20	25
6	26	21	16	13	11	14	24	39	29	28	24	28	19	10	20	36	35	42	38	37	36	27	****	16	26
7	13	17	19	16	17	20	28	41	50	55	64	73	62	64	77	67	68	116	117	105	92	83	****	72	58
8	68	61	44	34	30	34	37	47	54	53	47	53	48	56	48	43	58	79	80	71	60	58	****	49	53
9	46	38	34	31	30	33	41	46	46	43	41	35	37	43	53	57	60	57	69	56	54	42	****	39	45
10	35	31	29	26	23	24	27	38	37	41	40	45	39	37	43	40	47	52	43	39	39	37	****	38	37
11	33	28	22	19	18	19	27	35	34	37	38	35	20	18	31	45	52	70	71	76	66	62	****	70	40
12	56	44	48	41	33	24	28	64	76	69	71	74	70	58	67	91	117	138	166	133	120	103	****	115	79
13	108	86	64	44	52	57	63	76	75	96	86	70	77	74	75	61	112	153	133	140	83	46	****	54	82
14	61	53	40	40	50	76	105	114	83	45	54	67	73	86	103	133	177	187	200	183	161	145	****	78	101
15	61	49	61	60	35	37	71	95	105	104	96	93	83	66	57	95	94	103	114	127	90	76	****	73	80
16	66	47	38	31	30	29	41	61	68	61	62	60	62	62	77	92	97	96	76	70	63	38	****	56	60
17	41	25	25	22	20	22	28	35	47	40	29	33	24	21	15	16	18	35	52	27	28	17	****	13	27
18	16	17	16	19	20	22	32	42	32	34	28	22	23	29	14	15	17	29	50	36	37	33	****	59	28
19	50	38	18	14	16	23	36	53	63	46	24	22	17	21	19	15	17	18	15	17	22	16	****	10	26
20	18	17	22	23	25	30	36	60	92	92	75	43	33	26	16	20	37	47	31	23	22	34	****	80	39
21	60	83	69	73	43	32	37	63	71	67	56	55	39	35	63	81	73	117	107	99	107	106	****	34	68
22	23	22	27	34	24	25	38	54	78	81	95	106	77	72	92	79	70	93	95	94	90	69	****	69	65
23	74	56	33	27	26	29	36	62	80	64	57	68	67	62	76	106	90	109	93	76	64	49	****	44	63
24	41	29	27	26	25	32	38	42	45	46	48	46	41	45	49	56	58	61	56	50	46	****	50	43	
25	56	49	42	43	40	37	43	54	59	44	36	22	19	21	27	31	45	62	73	81	51	54	****	44	45
26	29	23	26	23	26	32	37	42	46	41	40	36	38	26	22	20	21	31	23	21	21	28	****	17	29
27	17	17	17	15	18	17	17	24	21	19	17	14	14	10	10	13	12	13	23	24	23	14	****	11	16
28	16	18	16	16	14	20	30	71	68	62	39	27	24	24	34	34	45	40	48	86	131	63	****	41	42
29	31	17	13	18	11	10	32	28	31	30	30	21	15	11	12	14	13	14	15	17	13	12	****	17	18
30	12	11	15	18	19	28	44	67	76	60	40	32	24	20	30	37	52	35	33	26	16	20	****	26	32
31	28	22	22	16	19	29	31	38	48	50	43	46	65	66	40	28	19	28	39	93	43	23	****	27	38

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE			
MEAN	MEDIAN	50	90	95	98	99	1-HR			24-HR	DEVIATION	VALID DATA	1-HR	24-HR		
38	40	40	81	103	124	143	7	-	200	16	-	101	2	96	0	0

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

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

STATION : CHEUNG CHAU
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: OCTOBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	2	2	2	1	1	1	1	4	7	8	3	2	2	3	4	3	3	6	8	7	4	****	12	4
2	10	7	5	5	6	7	11	18	11	8	7	4	10	8	9	9	6	2	4	3	7	5	****	7	7
3	8	4	2	2	2	2	3	3	5	4	4	6	6	5	6	4	4	7	8	10	11	12	****	12	6
4	10	7	9	9	9	9	9	8	10	7	6	5	5	4	3	6	5	5	3	4	3	2	****	2	6
5	2	5	12	10	12	13	11	11	9	8	7	7	3	6	11	11	8	10	13	13	17	15	****	10	10
6	10	14	9	8	9	11	9	9	12	13	12	14	9	8	7	6	7	6	7	5	4	5	****	6	9
7	7	6	5	5	4	7	8	7	8	8	8	9	10	7	6	6	5	6	5	6	5	4	****	6	6
8	6	5	6	6	6	7	8	7	8	9	9	8	7	7	6	6	6	6	6	6	5	4	****	4	6
9	5	3	5	7	9	5	8	7	11	11	8	15	14	9	7	6	6	6	6	6	7	7	****	11	8
10	10	8	6	6	4	6	6	5	6	5	4	3	3	3	3	3	4	1	1	1	1	2	****	3	4
11	2	3	3	2	0	2	3	4	9	8	3	2	3	4	4	7	6	4	7	4	2	5	****	7	4
12	4	2	3	3	3	2	2	1	2	3	2	2	3	2	2	3	2	2	2	3	3	4	****	4	3
13	5	4	4	4	3	3	4	2	5	2	3	6	4	9	5	3	2	3	2	1	2	2	****	2	3
14	2	2	4	3	2	5	5	5	5	5	10	7	7	4	5	6	6	7	6	5	6	10	****	11	6
15	9	9	9	10	3	3	5	4	4	4	5	6	6	6	5	4	6	7	7	8	12	14	****	11	7
16	22	17	8	15	10	10	10	12	11	11	10	10	13	13	13	11	11	11	14	7	8	9	****	8	11
17	8	9	6	21	26	20	17	14	23	20	16	15	15	14	19	20	20	21	16	9	14	14	****	8	16
18	7	7	7	7	9	17	14	13	25	24	12	12	11	10	12	12	13	12	12	11	11	13	****	11	12
19	8	6	7	7	7	9	11	11	13	14	18	9	8	7	7	7	5	5	8	14	10	10	****	6	9
20	10	6	6	5	6	7	6	8	9	13	14	12	10	13	13	14	12	10	10	10	10	13	****	12	10
21	8	10	7	8	13	13	16	18	19	15	15	15	13	13	13	13	10	7	13	16	17	13	****	10	13
22	8	6	7	6	6	9	14	18	10	8	7	6	5	6	5	4	5	5	7	6	4	4	****	6	7
23	5	8	6	5	5	5	6	6	7	6	6	5	5	5	5	3	4	5	7	5	10	****	10	6	
24	13	9	11	12	16	20	25	32	19	15	10	11	14	14	12	14	15	12	11	8	8	10	****	16	14
25	20	26	39	60	53	43	21	15	16	15	18	13	13	11	9	10	8	3	11	12	11	11	****	6	19
26	5	5	5	7	10	14	12	10	20	11	11	10	6	5	6	8	7	8	10	10	7	7	****	6	9
27	5	12	7	6	5	5	4	6	12	6	6	8	6	6	5	5	5	8	5	7	4	5	****	3	6
28	4	4	4	5	8	7	6	5	6	7	5	6	4	6	6	6	5	5	4	12	19	17	****	19	7
29	18	15	9	6	6	7	9	14	20	15	16	10	7	9	9	9	9	12	14	17	21	16	****	12	12
30	19	17	13	12	10	13	13	10	14	16	13	11	14	8	7	8	8	9	9	8	8	6	****	6	11
31	5	5	5	4	4	6	6	9	11	8	8	6	6	5	6	7	7	6	5	7	6	6	****	6	6

MONTHLY STATISTICS:

GEOM	ARITH	<-----PERCENTILE----->					<-----RANGE----->				STD GEOM	PERCENT	NO. OF TIMES ABOVE OBJECTIVE			
MEAN	MEDIAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	1-HR	24-HR			
7	7	7	14	18	21	25	0	-	60	3	-	19	2	96	0	0

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

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

STATION : CHEUNG CHAU
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: OCTOBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

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

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	
16	16	16	48	58	69	78	1	- 91	2	96	0	0	

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

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

STATION : CHEUNG CHAU
 POLLUTANT : SULPHUR DIOXIDE
 MONTH: NOVEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN					
1	4	5	4	7	6	6	5	7	9	12	12	12	11	6	5	6	5	14	19	18	11	10	****	11	9					
2	10	7	5	6	7	8	8	9	10	10	12	13	13	15	10	10	18	14	9	7	13	11	****	6	10					
3	6	6	7	6	7	9	10	13	13	14	22	12	10	6	7	7	10	10	12	16	9	7	****	5	10					
4	5	5	8	9	7	9	10	10	9	9	9	6	4	6	6	5	5	5	7	10	15	14	****	15	8					
5	25	17	9	18	21	8	8	6	9	8	10	10	7	6	9	6	11	11	7	10	10	13	****	11	11					
6	9	9	8	9	23	20	11	10	11	9	10	10	8	8	6	5	20	6	21	29	15	****	4	12						
7	2	3	3	5	6	12	12	18	15	6	5	7	7	4	4	5	7	4	4	7	2	7	****	3	6					
8	3	2	3	3	9	6	4	4	6	5	6	7	6	6	4	3	4	5	6	6	5	5	****	4	5					
9	3	3	2	2	1	2	2	2	2	3	3	2	2	2	2	2	3	3	3	3	3	3	****	5	2					
10	4	4	3	3	3	3	3	3	5	6	5	5	6	7	6	7	7	7	7	8	9	8	****	5	5					
11	6	4	4	4	4	3	3	4	6	6	8	6	7	10	11	12	14	14	22	18	12	12	****	11	9					
12	14	15	24	14	8	7	7	8	10	9	10	14	15	17	16	15	15	18	18	15	15	14	****	13	14					
13	11	17	19	25	38	20	18	19	13	12	20	17	19	20	17	12	16	18	16	11	11	12	****	10	17					
14	10	7	8	11	9	8	9	9	15	12	19	17	10	10	10	10	9	9	9	9	9	9	****	8	10					
15	8	11	8	9	9	15	15	15	17	19	26	20	15	17	16	10	8	7	7	10	5	5	****	5	12					
16	4	4	4	4	6	8	9	13	17	14	16	15	12	9	5	7	7	8	11	8	12	****	14	9						
17	10	7	5	6	14	13	7	11	12	8	8	4	4	4	6	10	3	11	27	12	5	****	2	9						
18	2	2	1	3	2	4	3	7	8	10	10	6	11	7	9	18	12	10	8	6	4	2	****	4	7					
19	4	4	5	5	14	7	14	16	21	25	31	19	11	5	5	6	7	7	7	8	10	8	****	8	11					
20	6	6	6	5	5	6	11	11	12	17	17	13	11	8	6	8	7	5	6	6	5	5	****	6	8					
21	6	6	6	5	6	7	8	9	10	15	9	7	8	7	6	7	6	7	8	19	13	6	****	4	8					
22	6	5	5	4	4	6	9	14	14	12	11	11	14	18	12	15	13	11	10	11	13	11	****	8	10					
23	6	7	8	10	12	13	13	13	14	12	11	10	11	13	9	9	11	9	10	12	12	16	****	18	11					
24	19	23	26	26	16	17	26	22	26	28	18	14	12	13	13	12	11	11	11	19	12	18	****	11	18					
25	18	20	15	11	12	15	11	13	16	18	16	17	15	10	12	11	13	<----->												
26	M	----->																			11	15	6	7	9	7	6	****	11	
27	9	11	12	11	18	15	20	20	24	20	17	14	7	6	5	5	4	6	6	6	7	7	****	9	11					
28	8	9	7	5	4	7	10	7	12	9	9	9	8	5	3	5	3	4	8	9	7	5	****	6	7					
29	5	6	5	4	4	4	10	14	17	9	12	7	4	6	4	4	4	4	4	6	8	9	****	7	7					
30	5	9	4	3	3	2	4	5	6	10	13	<----- M ----->				9	13	20	17	18	20	****	18	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		
8	9	10	9	17	20	24	26	1	- 38	2	- 18	2	92	0	0

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

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

STATION : CHEUNG CHAU
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: NOVEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN		
1	8	6	4	13	10	5	6	11	17	37	48	37	41	26	6	7	7	25	30	25	17	14	****	18	18		
2	13	9	6	10	8	19	33	41	42	40	41	49	50	49	35	14	23	18	13	11	18	14	****	12	25		
3	11	5	10	6	10	13	12	41	42	47	58	34	32	10	7	7	11	9	14	28	13	12	****	13	19		
4	10	13	26	25	25	28	19	20	17	15	14	13	8	10	11	15	13	11	11	37	68	57	****	89	24		
5	87	55	20	67	62	15	16	10	11	20	23	21	8	5	8	10	22	20	13	18	23	27	****	22	25		
6	19	26	23	23	49	46	28	21	17	19	31	18	18	12	9	6	7	24	14	24	24	14	****	11	21		
7	7	6	5	13	13	29	29	42	45	20	16	12	14	16	16	24	37	31	29	44	19	32	****	12	22		
8	15	14	10	12	26	19	17	21	29	29	26	31	30	31	30	28	33	41	44	44	38	40	****	26	28		
9	26	19	14	11	9	12	11	17	22	28	24	23	20	18	23	24	30	28	27	20	22	21	****	28	21		
10	25	16	12	10	10	13	13	16	22	30	23	27	33	37	36	34	35	40	39	42	53	57	****	28	28		
11	25	19	19	19	15	13	14	22	29	34	38	39	46	61	64	68	80	81	99	91	88	91	****	63	49		
12	78	65	78	62	54	45	39	36	38	35	43	38	35	38	34	25	21	31	29	22	23	56	****	49	42		
13	64	71	56	81	98	67	68	77	42	47	53	46	46	40	20	16	28	31	29	16	16	14	****	14	45		
14	12	7	9	13	9	9	12	18	58	73	62	49	13	13	12	11	10	12	12	13	13	14	****	14	20		
15	24	31	17	13	12	12	12	18	42	67	70	46	16	18	15	11	9	10	11	13	9	14	****	22	22		
16	14	10	10	8	10	10	27	34	52	34	36	46	49	30	9	16	11	11	15	14	20	49	****	65	25		
17	38	19	9	18	34	34	17	38	50	43	48	17	22	24	27	59	62	21	22	36	21	24	****	22	31		
18	13	15	12	23	19	28	19	38	44	38	22	18	18	16	17	29	27	26	31	50	44	30	****	33	26		
19	32	32	39	45	54	41	53	54	51	55	67	54	41	20	18	24	34	24	28	37	44	35	****	26	39		
20	20	17	12	10	11	14	31	39	37	54	45	39	36	24	11	13	11	10	17	19	14	16	****	20	23		
21	23	21	28	13	15	11	12	16	17	19	18	18	22	17	15	21	25	26	19	27	19	14	****	15	19		
22	24	16	24	10	7	15	29	38	44	53	39	44	58	68	56	56	74	94	77	71	92	98	****	44	49		
23	41	31	21	20	16	23	27	32	43	59	41	42	40	44	35	32	43	33	44	55	52	61	****	52	39		
24	46	50	56	42	28	28	49	44	56	64	45	37	26	13	13	13	13	12	13	22	17	20	****	15	31		
25	16	18	16	11	12	16	14	18	24	31	39	22	17	15	17	16	17	<----->									
26	M	<----->																									
27	20	24	16	17	39	45	59	53	57	61	51	46	17	12	11	12	10	13	9	13	12	17	****	56	29		
28	53	43	13	10	7	10	19	13	22	14	12	12	14	5	3	5	3	2	10	22	30	19	****	13	15		
29	8	9	9	5	4	6	12	15	20	15	17	9	4	5	4	3	3	3	4	9	35	63	****	11	12		
30	10	11	5	4	3	2	8	9	15	29	43	<----- M ----->					17	34	44	36	38	55	****	67	24		

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				
22	22	27	22	54	64	78	90	2	-	99	12	-	49	2	92	0	0

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

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

STATION : CHEUNG CHAU
POLLUTANT : SULPHUR DIOXIDE
MONTH: DECEMBER
YEAR : 2011
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	21	18	14	11	7	6	7	7	7	8	7	<--- D --->	9	10	10	11	12	10	10	11	11	****	9	10	
2	9	11	14	11	10	9	9	11	13	13	12	13	11	11	10	9	11	13	13	10	10	****	8	11	
3	7	6	6	7	7	7	8	10	11	9	9	10	10	11	9	6	4	6	6	9	8	12	****	11	8
4	16	17	19	18	15	15	14	14	19	25	20	14	13	8	8	9	8	9	12	11	10	12	****	7	14
5	7	7	10	9	10	12	12	11	14	13	9	11	17	16	12	8	7	9	6	8	7	6	****	5	10
6	6	5	4	4	3	5	9	13	9	8	7	M	6	8	7	6	7	6	8	11	12	12	****	7	7
7	8	7	7	14	20	14	13	11	12	12	13	17	14	22	23	16	16	20	20	17	16	17	****	22	15
8	23	25	20	17	16	17	19	19	18	17	14	13	13	13	13	11	10	10	8	7	5	5	****	6	14
9	6	8	10	11	13	12	13	14	12	10	11	12	12	12	12	12	14	14	13	13	14	****	13	12	
10	13	13	12	12	12	12	14	14	15	17	17	20	19	18	18	16	17	16	17	17	14	13	****	12	15
11	11	10	10	10	10	11	13	15	14	14	15	15	15	16	17	18	17	17	20	20	21	20	****	22	15
12	18	19	20	21	20	20	21	24	25	25	24	23	22	23	23	22	25	35	32	25	28	28	****	23	24
13	22	22	19	17	17	17	16	19	20	22	20	18	18	17	18	16	16	18	23	25	36	21	****	26	20
14	27	41	30	36	32	30	23	23	27	39	38	36	30	27	24	24	24	23	20	31	29	25	****	21	29
15	21	27	31	32	20	17	18	18	19	21	21	20	20	21	24	22	18	19	21	19	17	20	****	24	21
16	25	25	26	28	29	29	26	24	24	23	23	24	21	20	20	18	19	18	19	19	19	25	****	20	23
17	30	30	26	22	25	29	24	25	28	33	28	28	24	21	17	18	18	18	22	17	13	12	****	19	23
18	11	10	10	14	13	12	12	15	22	29	28	21	16	17	14	14	12	14	16	12	12	15	****	8	15
19	9	11	10	11	13	16	15	15	19	24	24	17	15	16	17	9	8	8	8	12	6	5	****	7	13
20	5	5	5	6	10	14	17	18	20	25	24	22	18	21	10	7	6	7	6	5	5	5	****	9	12
21	10	18	33	18	12	12	14	15	16	16	25	25	21	20	20	15	12	12	10	17	11	11	****	12	16
22	11	9	12	17	20	18	17	19	20	18	19	18	19	19	19	18	20	18	16	14	16	16	****	18	17
23	16	16	16	16	19	17	16	16	17	17	18	17	19	19	20	19	18	15	16	16	17	17	****	29	18
24	29	31	35	38	37	33	32	32	31	31	30	27	25	23	20	18	18	19	22	22	23	23	****	26	27
25	27	25	25	25	26	25	26	28	28	29	27	26	23	22	21	19	19	21	31	27	31	25	****	18	25
26	26	19	23	22	25	27	23	24	23	25	25	22	22	24	26	18	9	12	15	15	16	13	****	14	20
27	17	24	20	9	10	9	12	11	15	17	20	28	14	16	9	12	10	8	9	9	6	6	****	12	13
28	8	6	5	6	6	6	10	16	16	14	26	21	19	24	22	22	20	21	11	10	11	11	****	13	14
29	14	14	7	9	13	18	21	14	12	16	18	16	12	10	11	10	7	6	7	7	5	5	****	3	11
30	5	4	6	8	5	8	13	13	15	23	22	20	20	11	11	11	9	10	10	8	7	7	****	6	11
31	7	7	7	6	6	10	16	15	17	20	19	17	15	18	16	15	15	12	15	11	10	12	****	9	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	
14	16	16	25	29	32	36	3	-	41	2	95	0	0	

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

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

STATION : CHEUNG CHAU
 POLLUTANT : NITROGEN DIOXIDE
 MONTH: DECEMBER
 YEAR : 2011
 UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	79	59	46	22	13	16	23	26	25	31	31	<--- D --->	33	41	44	52	53	45	46	56	49	****	40	39	
2	39	41	33	21	23	21	23	24	26	29	34	39	41	37	36	37	47	54	48	34	41	****	38	34	
3	31	25	20	21	23	27	30	34	32	28	30	36	40	43	26	9	6	17	31	52	46	62	****	37	31
4	57	57	52	47	38	43	49	35	41	57	48	32	25	9	9	14	14	14	24	23	27	43	****	14	33
5	14	13	20	23	21	30	34	21	27	22	21	18	24	27	28	26	36	38	30	29	22	25	****	22	25
6	28	36	24	25	17	29	55	58	31	23	21	M	28	21	16	28	50	61	80	91	89	71	****	27	41
7	24	21	31	58	67	58	47	42	49	49	48	60	48	58	75	56	55	96	142	82	83	81	****	75	61
8	71	69	62	55	48	45	46	46	42	43	39	43	49	49	48	47	55	59	62	56	42	35	****	29	50
9	26	25	27	30	31	32	35	38	34	32	33	25	29	32	32	31	37	40	32	31	32	****	28	31	
10	24	19	14	14	16	16	17	20	23	25	30	37	35	33	33	32	38	40	45	35	28	28	****	24	27
11	21	17	16	14	13	13	17	23	20	25	22	25	29	35	40	43	53	57	66	63	65	60	****	50	34
12	36	28	24	20	19	19	26	36	34	42	45	50	49	57	63	64	79	122	127	117	101	91	****	70	57
13	57	57	46	52	49	44	46	49	49	49	48	48	52	55	48	36	55	94	95	101	152	94	****	138	66
14	129	143	125	117	96	96	90	87	84	99	98	101	101	98	97	101	104	114	117	159	139	121	****	115	110
15	113	118	98	97	82	34	36	44	53	53	52	53	52	58	77	45	31	43	88	68	53	54	****	47	63
16	37	29	26	26	22	25	21	32	38	43	38	39	36	38	38	48	46	47	43	60	56	77	****	53	40
17	67	63	44	30	39	44	38	43	49	67	59	58	54	26	15	16	17	22	35	29	21	20	****	20	38
18	16	14	19	22	24	26	27	26	44	48	50	53	34	34	24	19	17	23	29	26	32	35	****	25	29
19	34	65	44	33	34	45	44	54	54	60	68	47	42	46	57	20	12	16	16	20	21	17	****	17	38
20	14	21	23	23	37	42	43	42	48	81	79	69	38	35	14	14	19	32	37	34	19	23	****	81	38
21	81	94	99	75	62	55	63	60	49	61	63	69	74	50	34	26	24	41	30	52	44	63	****	69	58
22	41	23	40	42	36	21	23	33	36	43	42	46	53	54	53	63	76	67	69	48	67	61	****	54	47
23	41	36	29	25	26	22	26	30	35	40	48	48	58	65	68	66	68	69	71	68	48	41	****	26	46
24	25	23	23	22	21	21	21	25	28	39	31	30	32	36	29	29	35	35	43	42	33	32	****	31	30
25	30	28	29	25	24	26	26	32	29	38	36	37	37	35	33	34	43	60	116	109	86	58	****	28	44
26	65	46	50	36	39	46	43	45	48	60	53	48	50	58	60	48	16	18	27	24	25	30	****	24	42
27	23	28	28	14	16	15	18	20	25	23	26	29	16	19	10	15	14	17	24	24	21	21	****	25	20
28	18	17	17	18	19	28	63	71	56	47	44	34	26	27	25	29	28	42	27	26	36	23	****	101	36
29	98	64	16	39	56	78	85	40	18	29	52	33	22	17	15	15	12	12	21	26	14	15	****	19	35
30	21	17	31	41	35	44	43	34	45	61	65	74	76	28	21	21	33	32	30	29	23	25	****	19	37
31	25	21	21	18	25	44	55	50	45	50	50	59	60	61	39	21	27	30	37	26	23	24	****	23	36

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			
37	36	36	74	96	117	126	6	-	159	20	-	110	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

Appendix C Summary Results on Water Quality Monitoring

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

Period : October – December 2011

Week Ending	No. of Samples	Suspended Solids, mg/L			pH		
		Maximum	Minimum	Average	Maximum	Minimum	Average
01/10/11	4*	19	11	14	7.9	7.9	7.9
08/10/11	5*	18	12	15	7.9	7.8	7.9
15/10/11	6*	19	12	16	7.9	7.8	7.9
22/10/11	7	20	12	15	8.1	7.8	7.9
29/10/11	5*	20	14	16	8.0	7.9	7.9
05/11/11	6*	18	12	16	8.2	7.8	8.0
12/11/11	3*	14	12	13	8.1	7.9	8.0
19/11/11	7	16	12	14	8.1	7.8	7.9
26/11/11	7	16	10	13	8.2	7.9	8.1
03/12/11	4*	16	10	13	8.2	8.0	8.1
10/12/11	4*	13	11	12	8.1	8.0	8.1
17/12/11	3*	16	12	14	8.2	7.9	8.1
24/12/11	2*	18	15	17	8.0	7.9	8.0
31/12/11	3*	16	13	14	8.1	8.0	8.0

Remark :

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

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

Period : October – December 2011

Sampling date		11/10/2011	2/11/2011	5/12/2011
Barium,	ug/L	<150	<150	<150
Mercury,	ug/L	1.1	<0.5	<0.5
Cadmium,	ug/L	2	2	3.5
Iron,	ug/L	<400	<400	<400
Total Phosphorous,	mg/L	<0.8	<0.8	<0.8
Total Nitrogen,	mg/L	114	101	150
Cyanide,	mg/L	0.02	<0.01	0.01

Remark:

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

Appendix D Summary of EMIS

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