

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 2018

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**

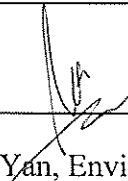
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EXECUTIVE SUMMARY

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 2018.

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	10/11/2018 05:03 to 10/11/2018 17:12	Defect rectification
L4	20/10/2018 00:48 to 21/10/2018 12:52	Defect rectification
L4	22/12/2018 22:43 to 31/12/2018 23:59	Unit overhaul
L5	08/11/2018 00:18 to 22/11/2018 09:57	Unit overhaul

Malfunction/Outage Records of Pollution Control Equipment

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

Equipment	Period	Cause	Actions Taken
L2 FGD	10:41 on 05/11/2018 to 21:40 on 24/11/2018	Defect rectification	EPD was informed on 03/12/2018
L4 FGD	07:00 on 20/12/2018 To 13:07 on 15/02/2019	FGD overhaul	EPD was informed on 19/02/2019
L5 FGD	22:50 on 1/11/2018 to 18:55 on 22/11/2018	Defect rectification	EPD was informed on 27/11/2018

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 Process Licence issued under APCO	L-7-002(11)	01/01/2017	31/12/2018	HK Electric	22/12/2016
WPCO discharge licence for Ash Lagoon	WT00027218-2017	24/02/2017	31/12/2021	HK Electric	24/02/2017

Implementation Status of Environmental Mitigation Measures

Environmental mitigation measures were implemented in the reporting period.

Environmental Complaints

There was no environmental complaint against the operation of Lamma Power Station 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 Desulphurization 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 Desulphurization 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 2018.

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	10/11/2018 05:03 to 10/11/2018 17:12	Defect rectification
L4	20/10/2018 00:48 to 21/10/2018 12:52	Defect rectification
L4	22/12/2018 22:43 to 31/12/2018 23:59	Unit overhaul
L5	8/11/2018 00:18 to 22/11/2018 09:57	Unit overhaul

1.4 Malfunction/Outage Records of Pollution Control Equipment

Equipment	Period	Cause	Actions Taken
L2 FGD	10:41 on 05/11/2018 to 21:40 on 24/11/2018	Defect rectification	EPD was informed on 03/12/2018
L4 FGD	07:00 on 20/12/2018 To 13:07 on 15/02/2019	FGD overhaul	EPD was informed on 19/02/2019
L5 FGD	02:53 on 06/10/2018 to 03:06 on 06/10/2018	Routine Dampers Exercise	EPD was informed on 14/11/2018
L5 FGD	22:50 on 1/11/2018 to 18:55 on 22/11/2018	Defect rectification	EPD was informed on 27/11/2018
L5 FGD	03:32 on 15/12/2018 to 03:40 on 15/12/2018	Routine Dampers Exercise	EPD was informed on 20/12/2018
L5 FGD	02:02 on 29/12/2018 to 02:08 on 29/12/2018	Routine Dampers Exercise	EPD was informed on 03/01/2019

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.

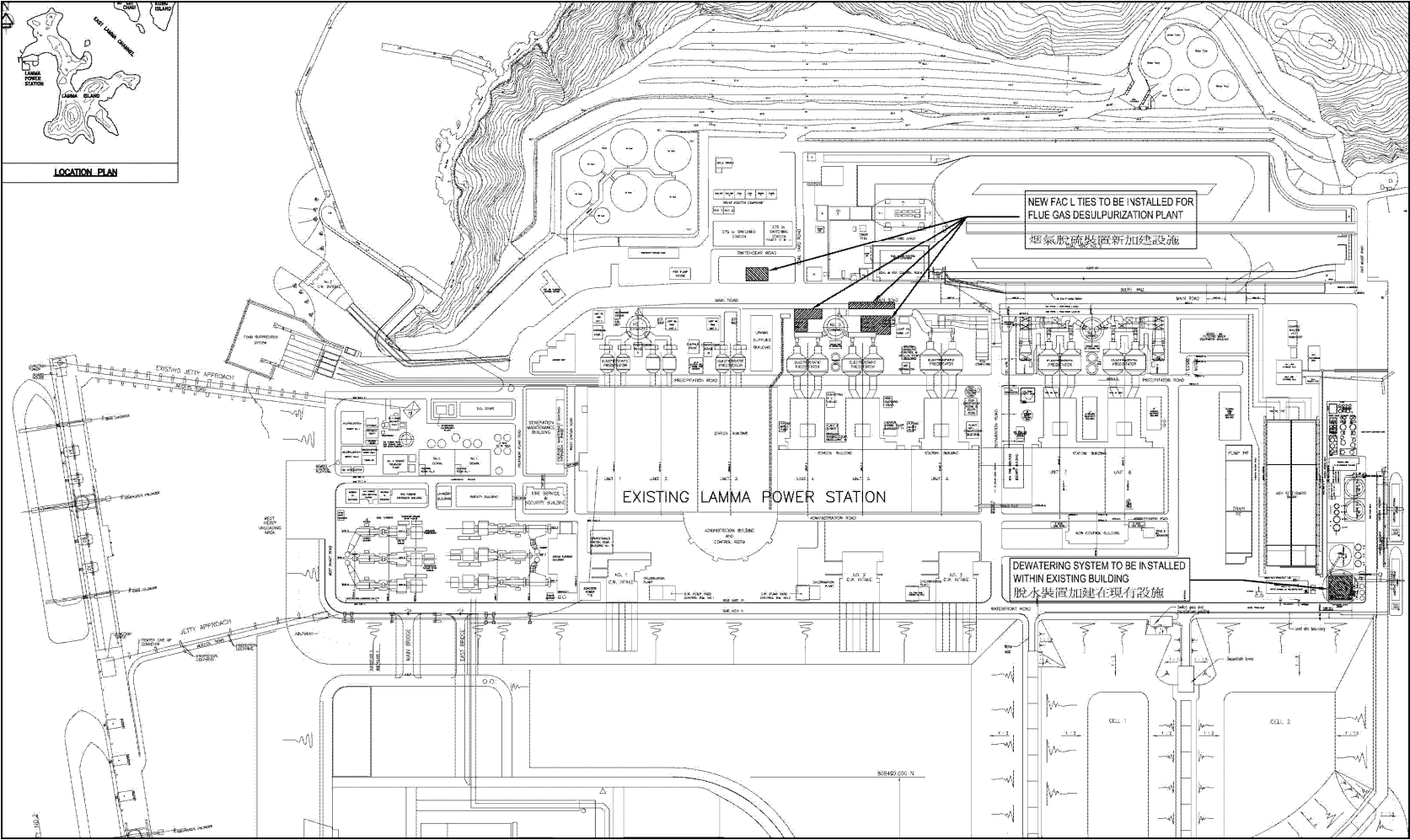


Figure 1.1a Location of New Facilities for L4 & L5 FGD Plants

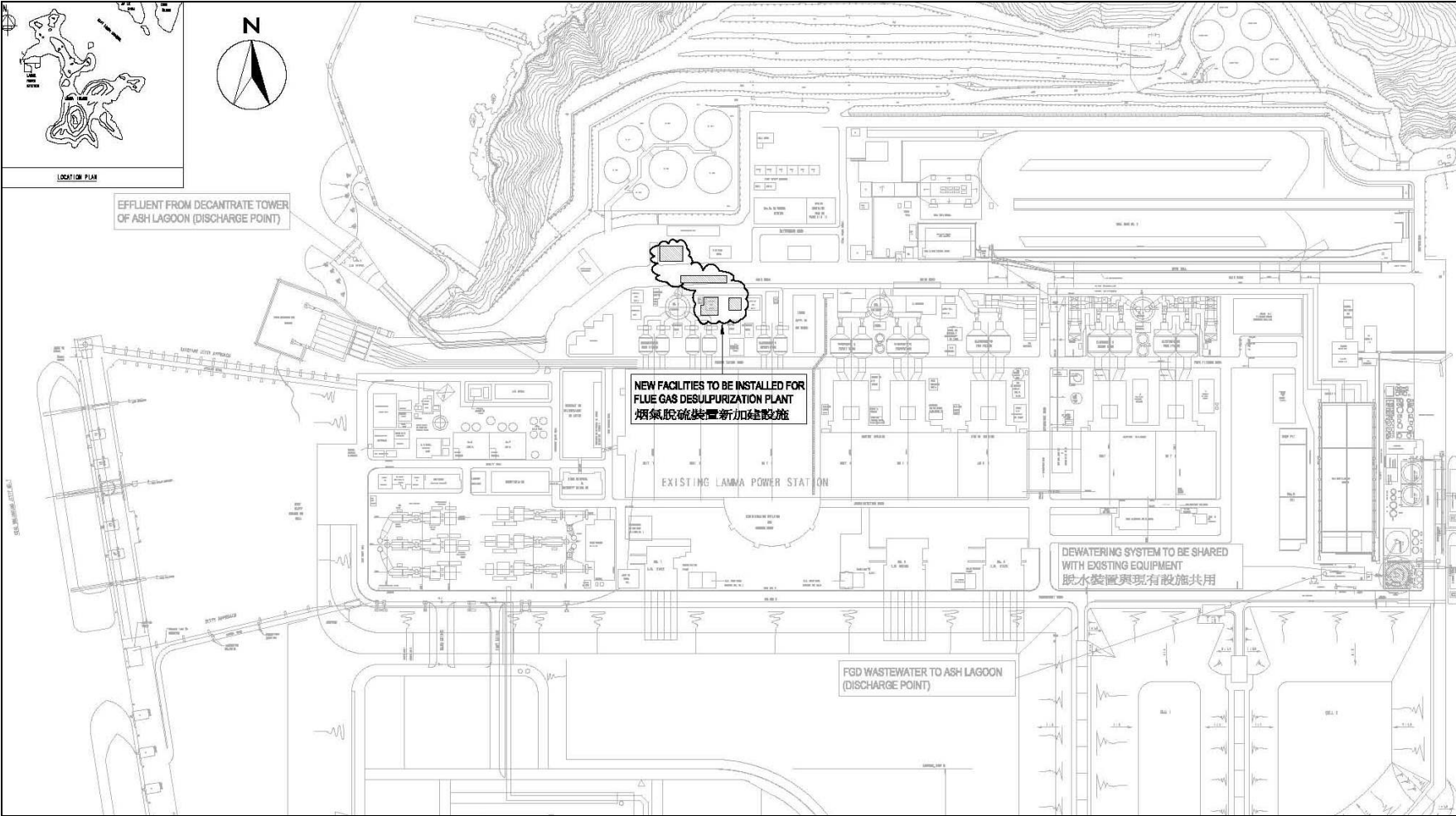


Figure 1.1b Location of New Facilities for L2 FGD Plant

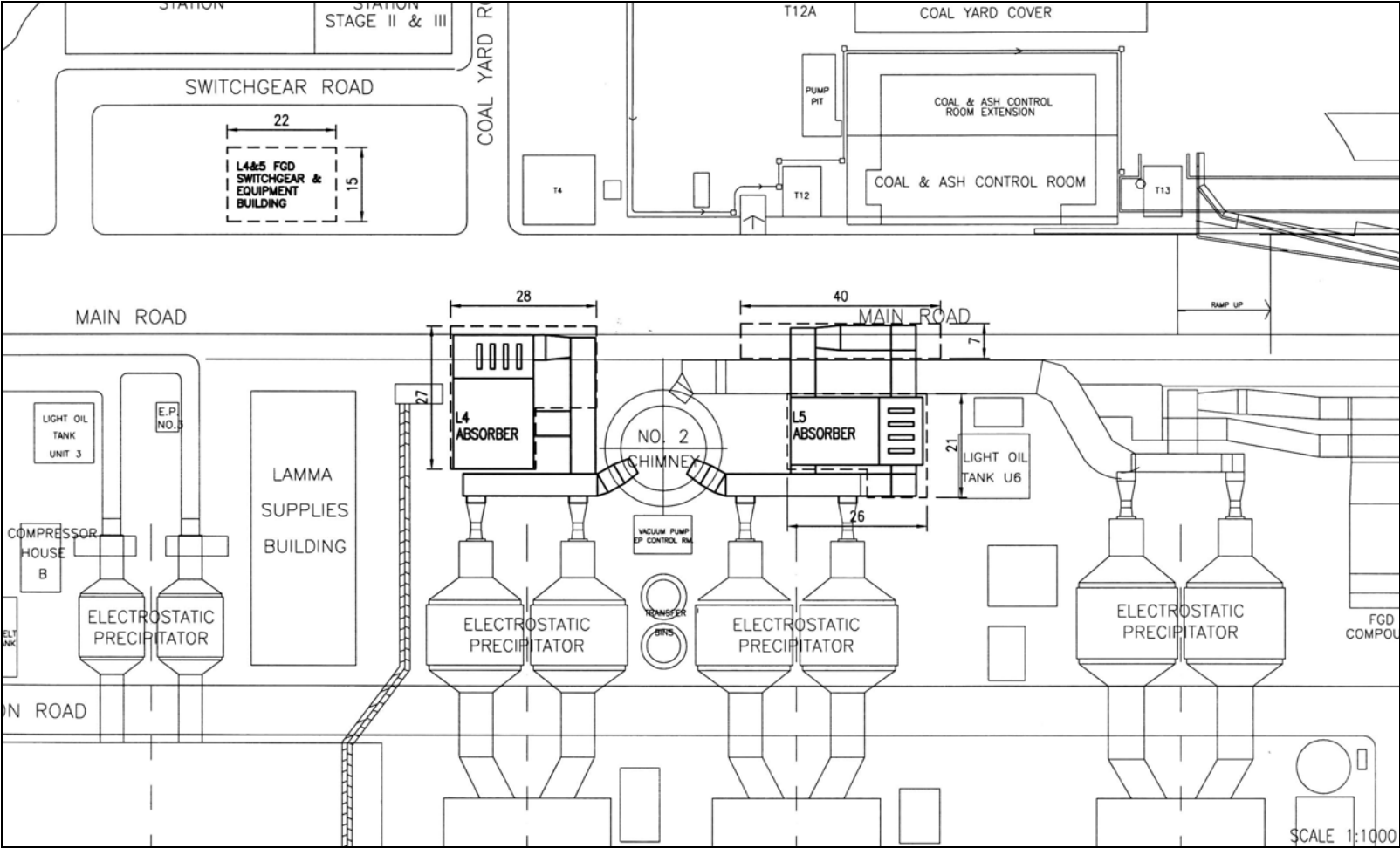


Figure 1.2a General Arrangement of L4 & L5 FGD Plants

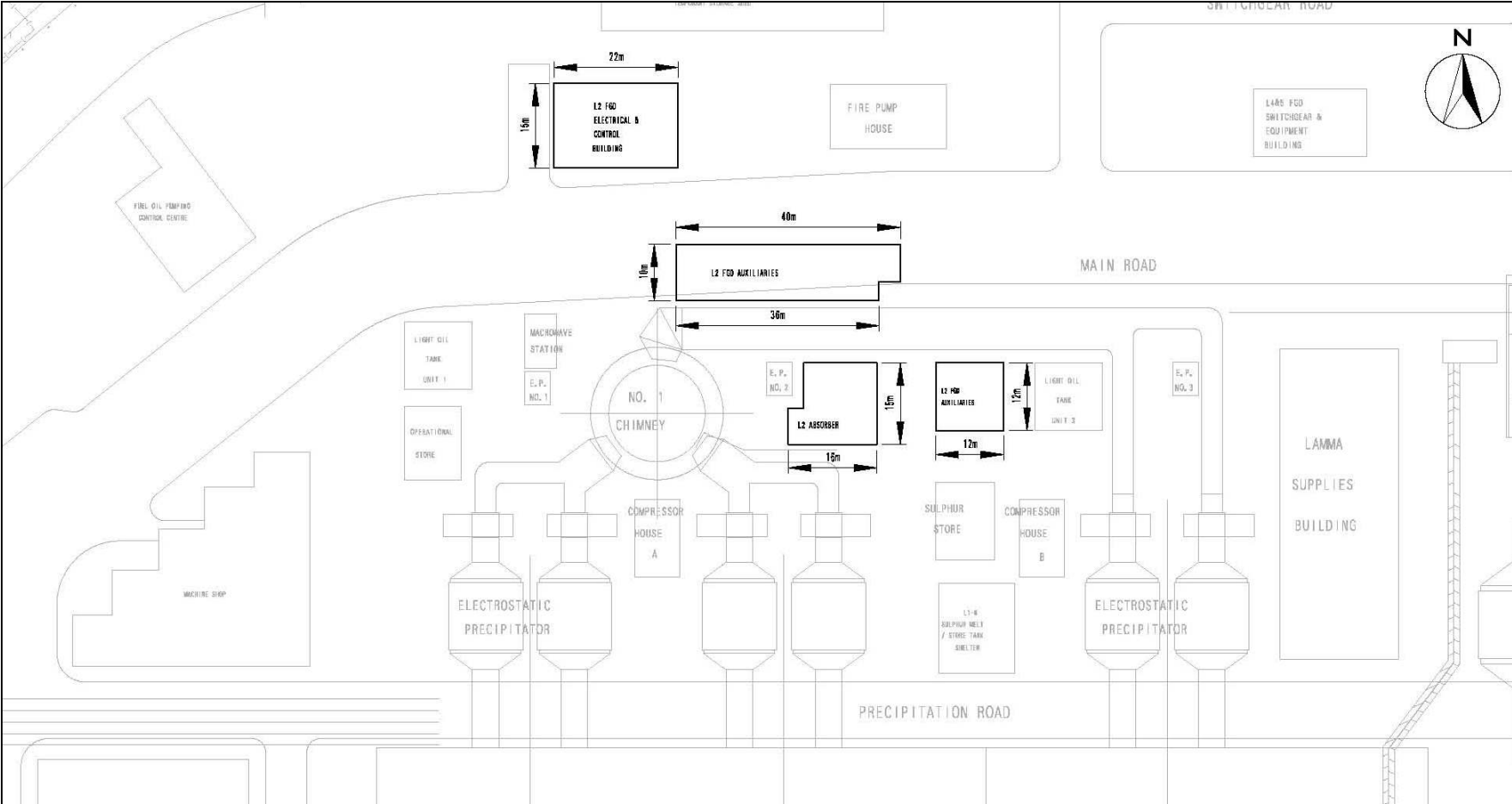


Figure 1.2b General Arrangement of L2 FGD Plant

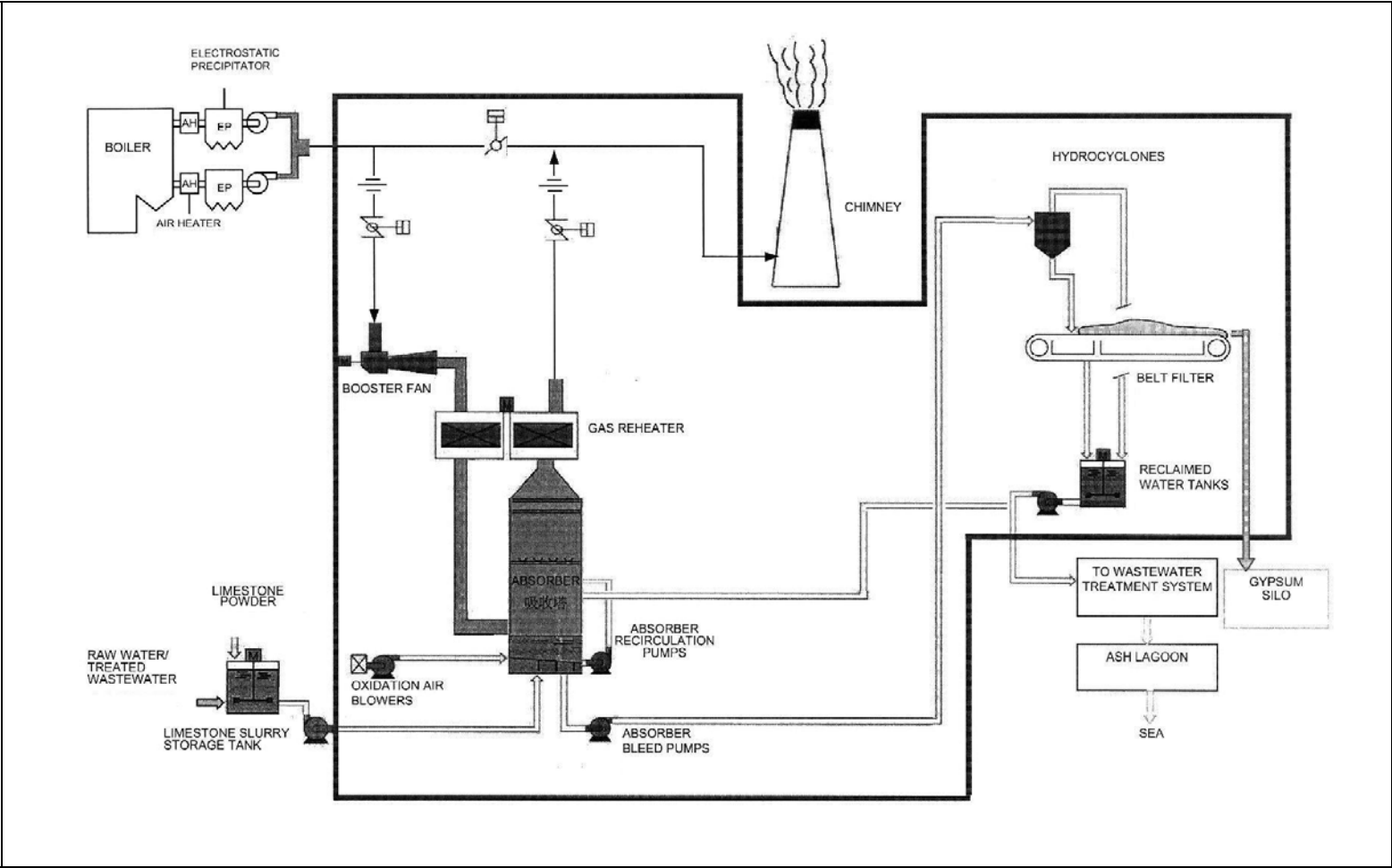


Figure 1.3 Schematic Diagram of the L2, L4 & L5 FGD Plant

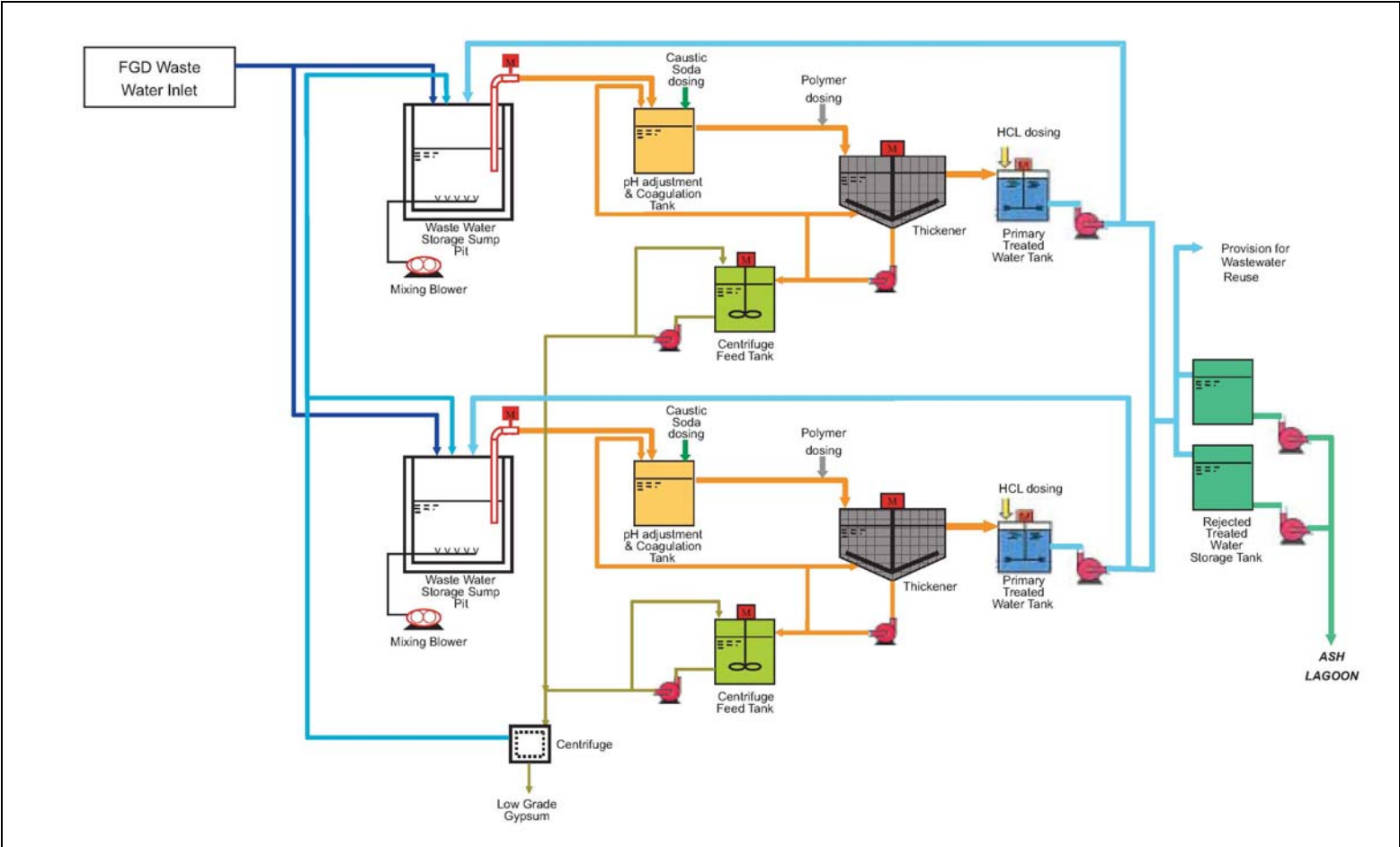


Figure 1.4 Simplified Schematic Diagram of FGD Wastewater Treatment Plant

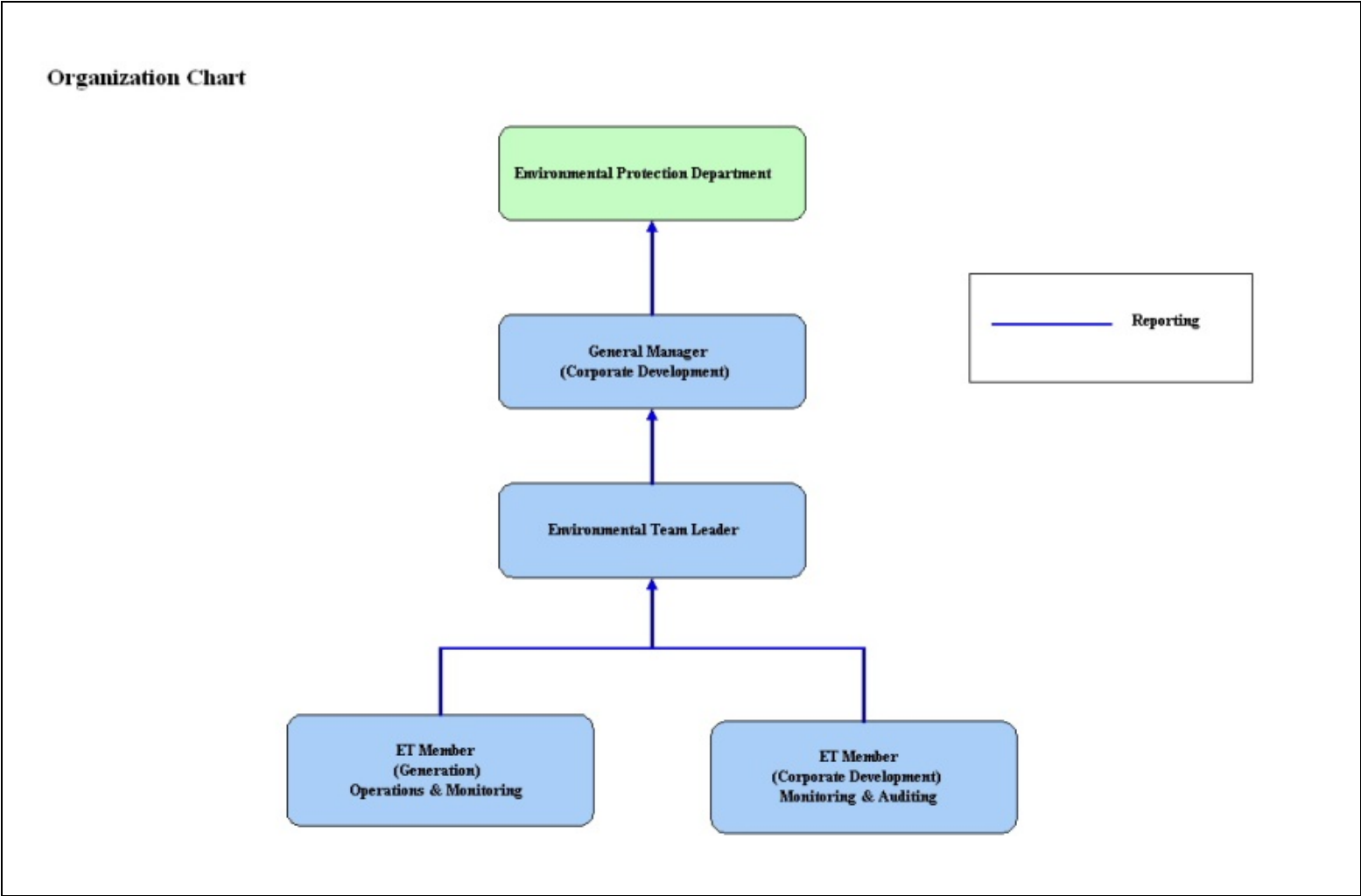


Figure 1.5 Organization Structure at Operational Phase of the Projects

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. Total Suspended Particulate (TSP) monitoring at East Gate and Reservoir area of Lamma Power Station is no longer required under the current SP Licence L-7-002(11) commencing from January 2017. It is agreed with EPD that the results of continuous Respirable Suspended Particulate (RSP) monitoring at Lamma Power Station would be reported. 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. Those parameters have to be checked against the Action/Limit Levels are 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)	Respirable Suspended Particulate	Continuous
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 and water quality are presented in [Sections 2](#) and [3](#) 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.	01/10/18-31/12/18	N.A.	0	L4, L5 PM stack sampling tests were conducted in the reporting period.
2	Continuous monitoring of opacity, NOx, SO2 and CO2 in the flue gas at the chimney stacks	01/10/18-31/12/18	0	0	
3	Ambient SO2 & NOx monitoring at the Peak, Queen Mary Hospital, Victoria Road, Chung Hom Kok, Ap Lei Chau and Cheung Chau.	01/10/18-31/12/18	0	0	
Water					
1	pH in WWTP Effluent	01/10/18-31/12/18	0	0	
2	Suspended Solids in WWTP Effluent	01/10/18-31/12/18	0	0	

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
3	Iron in WWTP Effluent	01/10/18-31/12/18	0	0	
4	Barium in WWTP Effluent	01/10/18-31/12/18	0	0	
5	Mercury in WWTP Effluent	01/10/18-31/12/18	0	0	
6	Cadmium in WWTP Effluent	01/10/18-31/12/18	0	0	
7	Cyanide in WWTP Effluent	01/10/18-31/12/18	0	0	
8	Total Phosphorus in WWTP Effluent	01/10/18-31/12/18	0	0	
9	Total Nitrogen in WWTP Effluent	01/10/18-31/12/18	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 2018	10,078.95 MT	121.59 MT
November 2018	4,540.11 MT	0 MT
December 2018	4,540.59 MT	0 MT

4.3 Status of Environmental Licensing and Permitting

All permits/licenses obtained as of September 2018 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 Process Licence issued under APCO	L-7-002(11)	01/01/2017	31/12/2018	Valid
WPCO discharge licence for Ash Lagoon	WT00027218-2017	24/02/2017	31/12/2021	Valid

4.4 Implementation Status of Environmental Mitigation Measures

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

4.5 Implementation Status of Event/Action Plan

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

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

4.6 Implementation Status of Environmental Complaint Handling Procedures

During the reporting period, there was no environmental complaint against the operation of Lamma Power Station.

Table 4.4 Environmental Complaint(s) Received

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

Table 4.5 Outstanding Environmental Complaint(s) 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
L2	15/10/2018 to 05/11/2018	Unit Overhaul
L5	08/11/2018 to 21/11/2018	Unit Overhaul
L4	17/12/2018 to 13/02/2019	Unit Overhaul

5.2 Key issues for the coming 3 months

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

Air Impact

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

Water Impact

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

6. CONCLUSION

Environmental monitoring was performed as required in the reporting period from October to December 2018. 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 operation of Lamma Power Station 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	50 mg/Nm3	-	50	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	
	SO2	continuous	200 mg/Nm3 (1h)	190	200	
	NOx expressed as NO2 (For L4 and L5 only)	continuous	615 mg/Nm3 (1h)	585	615	
Chimney emissions	Ambient air	Continuous at existing ambient air monitoring stations				ET to review data on post-hoc basis and check for possible power station contribution.
	SO2		800 (µg/m3) (1h)	-	800	
	NO2		300 (µg/m3) (1h)	-	300	

A.2 Water

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

Appendix B

Air Quality Monitoring Results

B.1 Ambient Respirable Suspended Particulate Monitoring at Lamma Power Station

Date: Fourth Quarter of 2018 (October - December)

Date	RSP concentration ($\mu\text{g}/\text{m}^3$)	
	Reservoir	East Gate
01/10/2018	36	43
02/10/2018	42	57
03/10/2018	41	48
04/10/2018	43	58
05/10/2018	44	64
06/10/2018	39	##
07/10/2018	31	##
08/10/2018	34	##
09/10/2018	34	47
10/10/2018	48	51
11/10/2018	33	38
12/10/2018	23	30
13/10/2018	23	29
14/10/2018	22	31
15/10/2018	19	25
16/10/2018	24	35
17/10/2018	15	25
18/10/2018	14	17
19/10/2018	26	43
20/10/2018	26	36
21/10/2018	23	31
22/10/2018	21	38
23/10/2018	27	35
24/10/2018	24	28
25/10/2018	36	41
26/10/2018	41	59
27/10/2018	17	23
28/10/2018	19	22
29/10/2018	14	43
30/10/2018	13	50
31/10/2018	25	52

Remark: ## - No valid daily average of RSP due to insufficient valid data

Date	RSP concentration ($\mu\text{g}/\text{m}^3$)	
	Reservoir	East Gate
01/11/2018	34	60
02/11/2018	35	53
03/11/2018	23	38
04/11/2018	18	##
05/11/2018	19	29
06/11/2018	17	24
07/11/2018	21	26
08/11/2018	46	61
09/11/2018	32	50
10/11/2018	24	32
11/11/2018	24	33
12/11/2018	32	42
13/11/2018	30	37
14/11/2018	21	29
15/11/2018	29	37
16/11/2018	31	31
17/11/2018	25	18
18/11/2018	18	14
19/11/2018	25	23
20/11/2018	17	23
21/11/2018	27	40
22/11/2018	25	31
23/11/2018	28	43
24/11/2018	27	39
25/11/2018	24	30
26/11/2018	11	11
27/11/2018	17	22
28/11/2018	16	17
29/11/2018	26	33
30/11/2018	27	40

Remark: ## - No valid daily average of RSP due to insufficient valid data

Date	RSP concentration ($\mu\text{g}/\text{m}^3$)	
	Reservoir	East Gate
01/12/2018	30	46
02/12/2018	28	41
03/12/2018	22	28
04/12/2018	19	42
05/12/2018	19	22
06/12/2018	23	32
07/12/2018	23	27
08/12/2018	20	32
09/12/2018	23	37
10/12/2018	25	40
11/12/2018	33	56
12/12/2018	25	39
13/12/2018	26	45
14/12/2018	28	47
15/12/2018	28	43
16/12/2018	35	51
17/12/2018	25	37
18/12/2018	29	51
19/12/2018	31	52
20/12/2018	34	51
21/12/2018	24	33
22/12/2018	32	47
23/12/2018	21	23
24/12/2018	13	19
25/12/2018	19	28
26/12/2018	28	40
27/12/2018	30	36
28/12/2018	26	32
29/12/2018	22	37
30/12/2018	34	63
31/12/2018	32	58

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 (%)
1/10/2018	26	362	11
2/10/2018	22	379	10
3/10/2018	17	365	11
4/10/2018	26	415	12
5/10/2018	38	412	13
6/10/2018	57	475	12
7/10/2018	87	420	11
8/10/2018	81	406	14
9/10/2018	70	373	13
10/10/2018	63	389	12
11/10/2018	63	342	7
12/10/2018	70	353	8
13/10/2018	*	*	*
14/10/2018	*	*	*
15/10/2018	57	373	8
16/10/2018	54	388	9
17/10/2018	59	388	7
18/10/2018	48	358	5
19/10/2018	27	348	6
20/10/2018	40	350	8
21/10/2018	45	388	7
22/10/2018	51	311	9
23/10/2018	89	402	11
24/10/2018	63	398	12
25/10/2018	105	366	13
26/10/2018	68	397	14
27/10/2018	63	400	12
28/10/2018	33	364	8
29/10/2018	100	325	14
30/10/2018	49	295	13
31/10/2018	39	410	13

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/11/2018	22	315	10
2/11/2018	*	440	4
3/11/2018	*	427	6
4/11/2018	*	*	*
5/11/2018	*	399	4
6/11/2018	*	410	4
7/11/2018	*	*	*
8/11/2018	*	*	*
9/11/2018	*	*	*
10/11/2018	*	*	*
11/11/2018	*	*	*
12/11/2018	*	*	*
13/11/2018	*	*	*
14/11/2018	*	*	*
15/11/2018	*	*	*
16/11/2018	*	*	*
17/11/2018	*	*	*
18/11/2018	*	*	*
19/11/2018	*	*	*
20/11/2018	*	*	*
21/11/2018	*	*	*
22/11/2018	67	371	7
23/11/2018	80	314	5
24/11/2018	53	441	6
25/11/2018	57	420	5
26/11/2018	57	441	6
27/11/2018	30	399	6
28/11/2018	30	410	6
29/11/2018	35	325	5
30/11/2018	62	355	7

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/12/2018	40	353	5
2/12/2018	37	386	7
3/12/2018	55	363	9
4/12/2018	47	406	10
5/12/2018	28	346	9
6/12/2018	23	311	8
7/12/2018	37	391	8
8/12/2018	58	339	8
9/12/2018	69	402	8
10/12/2018	69	397	8
11/12/2018	95	388	8
12/12/2018	95	388	7
13/12/2018	84	414	6
14/12/2018	79	425	10
15/12/2018	131	438	15
16/12/2018	92	462	11
17/12/2018	90	501	10
18/12/2018	80	338	11
19/12/2018	84	419	13
20/12/2018	106	397	13
21/12/2018	116	419	18
22/12/2018	82	469	14
23/12/2018	26	400	11
24/12/2018	52	433	9
25/12/2018	80	355	8
26/12/2018	79	380	10
27/12/2018	83	332	17
28/12/2018	66	447	12
29/12/2018	89	394	9
30/12/2018	80	367	9
31/12/2018	44	306	6

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 NOx and SO2 for Unit L4

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/10/2018	51	454	18
2/10/2018	39	355	21
3/10/2018	34	350	18
4/10/2018	46	422	20
5/10/2018	61	363	8
6/10/2018	59	421	9
7/10/2018	74	418	9
8/10/2018	107	377	7
9/10/2018	104	335	21
10/10/2018	109	369	20
11/10/2018	*	*	*
12/10/2018	107	340	8
13/10/2018	100	405	28
14/10/2018	82	325	15
15/10/2018	94	378	14
16/10/2018	102	331	15
17/10/2018	*	*	*
18/10/2018	47	294	12
19/10/2018	59	373	14
20/10/2018	*	*	*
21/10/2018	32	343	10
22/10/2018	55	358	15
23/10/2018	97	396	15
24/10/2018	76	359	17
25/10/2018	57	331	10
26/10/2018	103	376	15
27/10/2018	*	*	*
28/10/2018	*	*	*
29/10/2018	54	316	14
30/10/2018	61	313	12
31/10/2018	49	338	11

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/11/2018	38	399	14
2/11/2018	33	370	12
3/11/2018	34	399	13
4/11/2018	28	388	15
5/11/2018	32	375	15
6/11/2018	46	373	16
7/11/2018	40	354	16
8/11/2018	72	375	18
9/11/2018	153	319	17
10/11/2018	34	407	13
11/11/2018	36	316	13
12/11/2018	65	317	20
13/11/2018	63	378	21
14/11/2018	80	379	21
15/11/2018	100	331	9
16/11/2018	101	339	18
17/11/2018	112	360	21
18/11/2018	105	348	13
19/11/2018	79	379	20
20/11/2018	86	313	14
21/11/2018	89	394	18
22/11/2018	95	388	16
23/11/2018	*	*	*
24/11/2018	71	379	10
25/11/2018	*	*	*
26/11/2018	52	435	13
27/11/2018	57	427	13
28/11/2018	25	439	8
29/11/2018	93	430	17
30/11/2018	44	382	18

Date	Daily Maximum		
	SO2 concentration (mg/Nm3) [#]	NOx concentration (mg/Nm3) [#]	Opacity (%)
1/12/2018	31	339	10
2/12/2018	*	*	*
3/12/2018	41	317	9
4/12/2018	40	292	12
5/12/2018	*	*	*
6/12/2018	21	329	8
7/12/2018	66	350	18
8/12/2018	58	358	14
9/12/2018	44	421	11
10/12/2018	66	385	17
11/12/2018	89	383	14
12/12/2018	81	285	18
13/12/2018	131	424	14
14/12/2018	118	376	17
15/12/2018	109	422	13
16/12/2018	*	*	*
17/12/2018	104	373	17
18/12/2018	114	405	15
19/12/2018	117	326	21
20/12/2018	*	332	7
21/12/2018	*	390	13
22/12/2018	*	463	7
23/12/2018	*	*	*
24/12/2018	*	*	*
25/12/2018	*	*	*
26/12/2018	*	*	*
27/12/2018	*	*	*
28/12/2018	*	*	*
29/12/2018	*	*	*
30/12/2018	*	*	*
31/12/2018	*	*	*

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

* - Unit L4 was not on load.

B.2.3 Monthly Summary of Stack SO₂ for Unit L2

Date	Daily Maximum	
	SO ₂ concentration (mg/Nm ³) [#]	Opacity (%)
1/10/2018	*	*
2/10/2018	*	*
3/10/2018	54	11
4/10/2018	*	*
5/10/2018	*	*
6/10/2018	*	*
7/10/2018	*	*
8/10/2018	*	*
9/10/2018	*	*
10/10/2018	132	12
11/10/2018	107	11
12/10/2018	*	*
13/10/2018	*	*
14/10/2018	*	*
15/10/2018	*	*
16/10/2018	*	*
17/10/2018	*	*
18/10/2018	*	*
19/10/2018	*	*
20/10/2018	*	*
21/10/2018	*	*
22/10/2018	*	*
23/10/2018	*	*
24/10/2018	*	*
25/10/2018	*	*
26/10/2018	*	*
27/10/2018	*	*
28/10/2018	*	*
29/10/2018	*	*
30/10/2018	*	*
31/10/2018	*	*

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) [#]	Opacity (%)
1/11/2018	*	*
2/11/2018	*	*
3/11/2018	*	*
4/11/2018	*	*
5/11/2018	*	14
6/11/2018	*	*
7/11/2018	*	*
8/11/2018	*	*
9/11/2018	*	*
10/11/2018	*	*
11/11/2018	*	*
12/11/2018	*	11
13/11/2018	*	*
14/11/2018	*	*
15/11/2018	*	*
16/11/2018	*	*
17/11/2018	*	13
18/11/2018	*	*
19/11/2018	*	11
20/11/2018	*	*
21/11/2018	*	*
22/11/2018	*	*
23/11/2018	*	*
24/11/2018	*	*
25/11/2018	*	*
26/11/2018	83	11
27/11/2018	*	*
28/11/2018	*	*
29/11/2018	*	*
30/11/2018	*	*

Date	Daily Maximum	
	SO2 concentration (mg/Nm3) [#]	Opacity (%)
1/12/2018	*	*
2/12/2018	*	*
3/12/2018	90	13
4/12/2018	92	12
5/12/2018	83	11
6/12/2018	70	12
7/12/2018	61	11
8/12/2018	*	*
9/12/2018	*	*
10/12/2018	*	*
11/12/2018	*	*
12/12/2018	*	*
13/12/2018	*	*
14/12/2018	63	13
15/12/2018	*	*
16/12/2018	*	*
17/12/2018	*	*
18/12/2018	*	*
19/12/2018	*	*
20/12/2018	117	11
21/12/2018	*	*
22/12/2018	*	*
23/12/2018	*	*
24/12/2018	*	*
25/12/2018	*	*
26/12/2018	132	11
27/12/2018	*	*
28/12/2018	*	*
29/12/2018	*	*
30/12/2018	*	*
31/12/2018	*	*

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

* - Unit L2 was not on load.

B.2.4 Summary of Annual Stack Particulate Sampling

No annual stack particulate sampling was conducted in the reporting months.

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
MONTH:OCTOBER

STATION : CHUNG HOM KOK
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
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	4	3	1	2	1	1	2	2	3	3	3	2	3	3	3	3	4	6	4	4	3	4	3
2	4	3	3	3	2	3	3	3	3	3	4	4	4	3	3	4	4	2	2	2	2	2	2	1	3
3	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	3	4	4	4	3	4	3	2	2
4	2	2	2	2	2	2	4	6	7	6	6	5	4	12	7	7	16	20	21	16	20	10	6	6	8
5	5	5	6	6	5	6	6	6	6	5	5	5	4	3	7	11	11	16	13	20	7	7	7	5	7
6	5	6	6	6	6	6	5	5	5	5	7	15	8	2	2	4	3	4	3	3	3	3	2	4	5
7	3	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	1	1	2	2
8	2	2	2	2	2	2	2	2	2	2	2	3	3	3	4	2	3	6	3	3	2	3	3	1	3
9	1	1	2	1	1	1	1	1	0	0	1	0	1	1	0	0	1	1	3	2	1	2	2	3	1
10	2	2	2	2	2	2	1	1	2	2	1	2	2	1	0	0	1	1	1	2	2	1	1	1	1
11	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	1	0	1	1	0	0	0	0
12	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
13	1	1	1	1	2	2	2	2	2	3	4	3	2	2	2	1	1	1	1	1	2	1	2	1	2
14	1	1	1	1	0	0	1	1	0	0	1	0	0	1	0	0	0	0	0	0	2	1	1	2	1
15	2	3	3	3	1	2	1	2	4	2	2	1	1	1	1	1	1	1	2	2	4	2	2	1	2
16	1	1	1	1	1	1	1	1	2	2	1	1	10	8	2	1	0	0	0	0	0	1	1	0	2
17	0	2	2	2	3	2	1	1	0	0	0	1	3	4	5	18	5	1	0	0	0	0	0	0	2
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
19	1	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	1	1	1	0
21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	1	2	2	6	5	4	2	3	2	2	1	2	2	1	1	1	1	1	1	1	1	3	1	0	2
23	0	0	0	1	1	0	0	0	0	0	0	1	1	2	0	1	1	1	0	1	1	0	0	1	1
24	0	0	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	1
25	4	2	3	2	1	2	2	3	3	3	2	2	2	2	2	1	1	2	1	2	2	3	5	5	2
26	4	3	4	2	4	7	5	5	5	6	17	20	17	14	16	27	17	11	7	3	3	5	3	2	9
27	2	1	1	1	2	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3	4	3	2	2	2
28	1	1	2	2	3	3	3	3	4	3	4	3	3	3	5	4	3	2	2	2	3	7	11	33	5
29	27	8	9	6	5	3	3	3	3	4	4	3	M	2	2	3	6	20	14	8	4	4	4	7	7
30	5	4	4	5	5	5	4	3	3	3	3	2	2	2	3	3	2	2	3	3	4	5	5	6	4
31	6	7	8	7	7	6	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT LEVEL		
2	2	3	2	5	7	16	20	0	-	33	0	-	9	2	100	0

NOTES:

1. FLAGS FOR INVALID DATA :
 - D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : CHUNG HOM KOK
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	6	7	6	5	6	8	8	9	10	9	12	10	15	14	11	15	16	18	13	7	9	9	8	10
2	8	7	6	8	6	9	13	15	15	15	12	14	12	10	12	25	18	10	12	10	9	7	7	7	11
3	7	M	7	7	6	6	8	12	11	11	12	13	12	12	10	12	27	41	69	29	17	11	9	6	15
4	5	7	6	6	5	9	22	20	23	26	23	18	15	28	19	21	30	35	38	35	35	23	15	13	20
5	16	13	11	7	8	8	13	24	18	19	19	18	19	14	22	33	32	46	39	35	34	41	24	10	22
6	10	11	12	10	8	8	10	17	23	25	36	72	28	12	14	15	15	10	9	8	8	7	7	10	16
7	12	9	7	6	9	8	10	11	9	10	9	8	10	10	9	10	11	11	12	10	11	9	7	6	9
8	6	4	5	4	5	5	6	7	8	7	8	7	8	10	10	10	10	16	12	10	10	8	8	6	8
9	5	4	5	4	4	4	5	10	10	7	6	7	9	7	8	9	11	13	17	16	10	10	8	9	8
10	6	5	10	7	6	4	5	7	11	10	6	6	8	9	9	32	84	83	60	43	25	15	11	10	20
11	12	10	10	7	6	5	7	14	12	29	24	13	11	9	15	26	45	39	22	22	17	11	9	10	16
12	10	9	7	7	7	8	10	13	12	11	6	5	5	5	7	9	8	8	7	7	7	7	7	6	8
13	5	7	8	7	7	5	6	6	6	6	6	5	5	5	5	6	6	8	6	6	6	5	7	7	6
14	5	4	4	6	4	4	7	11	7	6	7	5	6	6	5	4	5	6	5	7	9	6	6	6	6
15	3	6	5	4	3	5	6	12	12	7	6	5	5	5	5	7	10	12	10	10	13	8	7	6	7
16	4	3	7	4	4	3	3	20	48	48	46	40	64	77	39	37	28	36	47	57	58	54	32	11	32
17	11	M	34	42	50	47	43	37	28	27	28	34	38	40	46	61	58	36	16	9	7	7	8	10	31
18	7	7	6	5	5	4	6	9	4	2	3	3	3	3	4	5	6	5	4	7	7	5	3	4	5
19	4	2	1	1	2	2	2	4	4	3	3	4	4	4	5	5	3	4	4	3	4	2	3	2	3
20	2	1	2	2	2	2	3	3	4	4	6	5	4	4	3	4	4	4	5	4	4	3	4	3	3
21	3	3	2	2	3	3	3	4	5	3	4	4	2	2	4	5	7	6	6	4	3	4	5	2	4
22	2	5	5	12	7	5	4	8	7	6	5	3	4	5	6	7	6	5	2	1	5	6	8	8	6
23	10	23	19	6	6	7	12	11	12	12	10	11	6	9	6	10	7	7	3	6	6	4	3	3	9
24	4	7	3	4	2	3	4	9	7	6	5	4	4	3	4	6	6	6	5	6	6	7	7	6	5
25	6	4	4	3	2	4	7	9	7	6	6	5	5	7	6	7	7	9	5	4	2	5	6	6	6
26	7	4	3	1	2	3	3	9	9	8	18	26	21	37	46	76	85	78	71	43	31	25	16	7	26
27	6	3	2	3	2	1	3	4	6	6	5	5	6	8	5	6	9	8	7	5	12	12	7	11	6
28	9	7	10	8	6	3	3	3	7	9	9	9	8	8	12	14	10	13	7	9	8	11	19	85	12
29	104	39	47	11	7	3	3	15	14	9	13	11	M	9	10	13	20	47	36	28	18	8	6	9	21
30	7	5	3	3	3	3	4	7	10	10	12	11	8	11	13	10	12	17	18	15	14	10	10	8	9
31	7	M	7	6	6	5	6	9	13	13	14	14	11	10	10	13	16	18	12	12	11	8	7	7	10

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----					STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
8	7	12	7	26	40	58	74	1	-	104	3	-	32	2	99	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : VICTORIA ROAD SUBSTATION
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	4	3	3	3	3	2	2	2	3	3	3	3	3	3	6	6	7	5	4	3	4	3	3	4	4
2	3	3	2	3	2	2	2	2	3	2	2	3	3	3	3	3	3	3	2	2	2	2	2	3	3
3	3	2	3	3	3	3	3	3	3	3	5	M	M	M	41	43	43	44	43	44	43	42	42	44	20
4	43	43	43	43	44	46	45	45	43	12	11	11	11	12	13	15	16	16	14	14	14	13	15	13	25
5	9	8	9	9	9	9	9	9	9	8	8	8	8	9	8	10	10	11	10	8	9	8	9	8	9
6	7	8	7	7	7	7	7	7	8	7	7	8	9	8	8	8	8	9	7	8	7	7	7	10	8
7	10	9	10	9	9	10	9	9	9	10	10	9	10	10	11	10	11	10	11	10	10	10	10	8	10
8	8	7	8	7	8	8	7	8	7	7	8	8	8	9	9	10	8	9	9	8	9	8	9	9	8
9	9	8	9	8	9	8	8	8	8	8	8	8	9	8	9	9	9	9	9	9	8	9	9	9	9
10	9	9	8	8	8	9	9	10	11	12	14	13	12	9	8	8	9	8	9	9	9	8	8	9	9
11	9	9	9	8	9	9	9	9	9	9	10	10	9	9	10	10	9	9	9	9	8	9	9	9	9
12	9	9	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	9	9	9
13	8	8	9	8	9	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
14	8	9	8	9	9	8	9	8	8	8	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9
15	8	9	9	9	9	9	9	9	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
16	9	9	9	9	10	10	9	10	11	11	12	12	13	13	12	13	12	10	11	11	11	11	12	13	11
17	12	11	10	11	11	11	10	10	10	10	10	12	12	12	11	11	10	10	10	10	10	10	10	9	11
18	8	8	9	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
19	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
20	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	8	8	8	8	8	8	8	8
21	8	9	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	9	10	9
22	10	10	10	10	10	10	11	10	10	10	10	10	10	10	10	10	10	14	12	10	10	10	10	10	10
23	11	11	11	11	11	10	10	10	10	10	9	9	10	10	9	9	9	9	9	9	9	9	9	8	10
24	8	8	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
25	8	8	9	8	8	8	8	8	8	8	8	8	8	8	8	M	2	3	2	2	2	2	2	10	6
26	9	9	10	9	8	8	8	9	9	12	16	14	12	11	11	15	11	11	12	11	10	9	9	9	11
27	9	9	9	9	9	9	9	9	9	8	8	8	9	9	9	8	8	8	8	9	9	9	8	9	9
28	9	8	9	9	9	9	9	9	9	11	14	13	13	12	13	15	18	13	9	9	10	11	13	12	11
29	11	11	10	10	10	10	9	10	10	9	9	9	9	9	9	10	11	13	11	11	10	9	10	10	10
30	10	10	9	10	10	10	9	9	9	9	9	9	9	8	8	9	9	9	9	9	9	9	8	11	9
31	11	12	12	11	12	11	12	11	11	12	12	12	11	12	11	11	12	11	11	12	12	11	11	10	11

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----								-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
9	9	10	9	12	13	43	43	2	-	46	3	-	25	2	99	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : VICTORIA ROAD SUBSTATION
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
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	7	5	5	9	10	11	10	12	10	12	14	20	21	31	19	21	15	12	11	10	10	12
2	9	8	7	7	6	7	11	19	17	19	14	14	16	16	15	20	18	16	14	11	10	10	10	9	13
3	8	M	7	6	6	7	14	17	16	15	17	21	14	15	18	15	15	16	17	13	14	11	10	10	13
4	12	9	7	8	27	28	17	20	27	23	23	16	16	27	20	31	26	31	26	35	37	41	32	44	24
5	15	14	11	9	12	9	18	21	21	18	17	14	16	18	25	19	24	34	31	28	19	17	22	16	19
6	15	12	13	9	8	7	8	13	20	21	23	36	32	19	14	14	20	21	15	18	13	11	13	18	16
7	15	11	7	6	8	8	10	9	11	11	10	11	9	11	13	12	12	10	11	9	8	8	7	7	10
8	7	6	5	6	6	6	8	12	13	12	13	11	15	13	16	20	18	17	15	12	10	9	8	8	11
9	7	6	5	4	4	6	15	14	12	12	11	12	11	13	12	15	16	16	14	11	10	8	8	8	10
10	7	7	8	7	7	9	16	24	24	26	24	27	19	17	14	23	34	32	24	27	26	20	17	15	19
11	12	10	9	7	6	6	12	22	23	22	21	24	22	20	24	26	27	24	23	24	22	16	15	16	18
12	19	12	9	8	7	7	8	11	12	13	11	10	10	10	10	10	11	15	14	12	10	8	9	8	11
13	7	6	7	7	6	6	7	10	8	9	9	11	11	10	10	9	9	9	9	9	9	7	6	6	8
14	6	6	5	5	5	5	6	7	7	7	7	7	7	8	8	8	8	7	7	8	8	10	7	7	7
15	5	4	4	4	4	5	7	10	10	10	10	8	9	8	9	10	12	11	10	9	9	8	6	6	8
16	5	5	5	4	4	4	9	18	18	20	21	24	33	34	33	39	37	34	35	34	33	35	36	29	23
17	30	M	20	20	19	18	18	16	15	15	17	16	22	19	23	20	24	20	19	19	18	16	12	9	18
18	8	7	6	6	5	6	7	10	11	11	11	11	10	9	9	11	12	13	14	13	11	10	8	8	9
19	6	5	5	5	6	6	7	9	10	11	10	9	9	9	11	10	10	10	9	8	7	7	7	6	8
20	6	5	4	4	4	5	5	8	7	6	7	7	6	7	7	8	7	6	7	7	6	6	5	6	6
21	6	5	5	4	4	4	6	6	6	7	6	7	7	7	8	8	11	12	11	9	9	8	10	7	7
22	7	7	6	6	6	9	17	19	15	11	9	9	11	10	13	13	17	26	22	23	25	24	26	27	15
23	30	26	28	31	29	13	18	20	15	22	20	15	14	12	15	16	17	25	27	22	15	12	10	9	19
24	7	7	5	5	5	5	9	10	11	10	10	8	9	11	11	12	13	14	13	11	10	8	7	7	9
25	7	6	6	6	5	5	8	11	12	13	11	10	10	11	13	M	18	16	16	19	21	16	16	17	12
26	15	13	15	8	6	5	6	16	23	32	45	47	32	22	26	45	42	49	59	62	42	32	22	12	28
27	11	8	7	8	8	7	10	13	15	20	19	17	11	11	11	11	12	13	17	21	23	25	18	15	14
28	11	9	11	10	8	7	8	11	14	20	34	27	24	28	23	29	36	28	18	21	20	20	27	30	20
29	21	11	14	11	7	6	7	12	16	16	16	16	15	14	21	20	19	25	20	24	21	16	12	15	16
30	12	8	7	6	6	6	8	14	14	14	15	16	15	11	12	15	17	21	23	20	15	14	13	10	13
31	9	7	6	5	6	5	8	13	18	16	17	15	13	13	15	14	17	17	15	12	12	10	10	9	12

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----										RANGE-----		STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
12	11	14	11	24	31	36	42	4	-	62	6	-	28	2	100	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : POK FU LAM
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	9	9	8	6	10	7	8	8	9	2	4	6	7	26	31	20	21	15	16	17	16	17	20	13
2	18	20	19	19	19	20	21	23	22	13	16	18	15	13	18	17	23	20	22	20	24	23	20	21	19
3	22	17	19	20	19	20	25	26	22	15	20	24	24	22	31	30	32	33	33	34	34	34	33	35	26
4	33	31	30	32	52	63	52	44	26	0	0	0	0	1	2	2	3	10	7	6	5	10	18	22	19
5	7	3	6	7	8	8	12	14	4	0	0	0	0	0	0	3	2	3	2	1	2	3	4	5	4
6	0	0	1	2	2	3	2	2	2	0	0	0	2	0	0	0	5	2	1	1	2	2	1	8	2
7	9	7	7	9	5	7	7	8	1	0	3	3	0	1	3	1	3	3	5	4	6	7	5	8	5
8	5	7	6	8	8	7	9	9	10	7	4	10	4	6	6	6	9	10	16	15	14	15	15	16	9
9	12	14	13	16	15	14	17	14	13	12	15	19	11	9	12	13	12	16	15	18	19	17	18	18	15
10	17	16	17	17	16	18	28	25	31	32	50	27	18	17	21	21	21	22	21	23	21	20	19	21	22
11	19	19	19	18	17	17	17	19	20	19	22	19	17	17	18	18	19	18	19	20	20	20	20	23	19
12	21	22	22	21	21	21	22	23	20	2	1	0	0	1	2	2	3	3	3	5	5	4	4	7	10
13	4	4	4	5	5	5	5	6	6	6	6	4	4	4	4	5	6	6	6	7	9	10	11	13	6
14	12	12	12	13	13	11	12	13	11	10	10	9	7	8	8	7	6	6	7	8	9	9	9	2	9
15	1	1	2	1	1	1	0	1	2	0	1	0	0	0	0	0	0	1	1	1	1	2	3	3	1
16	2	2	3	3	4	6	7	9	13	12	19	20	12	15	15	15	14	13	14	14	13	11	12	20	11
17	16	16	20	20	17	14	13	13	11	10	10	12	15	19	21	16	18	17	18	22	25	25	24	26	17
18	27	25	25	26	26	27	26	27	18	0	0	0	0	0	0	0	1	1	1	1	2	1	1	3	10
19	1	1	1	1	1	1	1	2	3	2	4	4	3	2	4	4	3	3	6	6	6	5	8	10	3
20	8	8	8	7	7	8	8	11	11	10	7	10	11	10	11	12	14	12	13	14	12	12	12	15	10
21	14	16	13	13	14	14	14	14	15	13	11	10	6	11	12	12	13	15	17	17	17	16	19	19	14
22	19	21	20	22	24	22	21	22	14	17	M	M	M	M	M	0	3	6	0	0	0	2	0	7	12
23	14	25	27	20	8	5	4	3	4	3	4	3	7	6	11	10	3	3	3	4	4	3	3	1	7
24	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	1	2	1	3	1
25	3	2	2	2	2	2	2	3	2	2	2	1	1	0	2	2	2	2	1	1	2	6	10	12	3
26	12	10	13	8	4	3	3	5	8	20	44	26	17	17	19	33	14	14	22	13	10	6	4	3	14
27	3	2	2	2	2	3	3	3	2	3	4	4	3	3	3	3	2	2	3	5	7	4	4	5	3
28	4	7	6	7	7	6	6	6	6	6	22	18	25	13	15	20	31	21	7	7	11	18	25	25	13
29	19	11	20	8	6	5	5	5	6	5	4	4	3	3	4	11	10	23	14	13	6	4	5	8	8
30	8	7	6	6	6	7	6	5	4	3	4	4	3	3	4	3	4	4	4	4	4	5	6	6	5
31	7	8	9	8	7	6	5	5	6	6	6	6	6	5	5	5	6	5	4	5	5	5	5	5	6

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----					STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR			DEVIATION	VALID DATA	ABOVE LIMIT LEVEL	
7	7	10	7	22	26	32	34	0	-	63	1	-	26	3	99	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : POK FU LAM
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
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	8	8	8	5	7	8	10	14	13	12	12	14	24	35	39	38	35	28	16	12	14	12	11	16
2	11	12	9	8	8	13	19	22	26	25	26	25	20	20	19	21	17	18	13	11	10	12	14	14	16
3	9	11	7	7	7	6	13	25	45	33	38	31	21	19	22	19	21	22	20	20	18	15	14	18	19
4	18	14	20	38	115	98	91	91	91	63	49	36	28	43	37	37	30	46	34	64	75	112	141	121	62
5	45	38	31	25	31	22	40	44	53	45	42	35	34	32	35	35	41	57	62	53	81	58	64	34	43
6	39	30	38	22	18	18	23	37	46	65	62	59	52	23	15	15	35	43	39	46	22	15	18	26	34
7	17	M	9	9	8	9	11	14	17	18	16	13	10	10	12	10	9	8	13	11	8	8	8	7	11
8	8	7	7	7	6	5	9	16	24	21	18	17	18	18	22	28	20	17	22	20	18	15	13	10	15
9	7	5	6	5	4	6	12	25	27	28	22	28	14	20	18	21	21	17	14	12	10	10	9	8	15
10	11	14	14	13	13	17	47	52	40	45	65	39	17	33	26	76	80	91	68	75	43	45	27	33	41
11	32	20	22	14	10	13	34	64	62	57	52	46	44	47	63	70	71	66	63	68	49	47	45	46	46
12	52	30	18	19	17	18	22	29	20	26	21	17	15	15	16	19	20	37	34	26	23	15	16	22	23
13	17	12	10	10	9	9	12	14	18	18	16	15	12	15	18	13	10	10	13	19	13	10	9	9	13
14	8	7	6	6	6	6	8	9	9	8	8	8	7	7	8	8	10	12	10	12	15	15	10	8	9
15	7	5	6	4	5	5	7	12	14	17	9	10	9	10	10	8	10	12	10	10	9	8	7	6	9
16	4	5	6	4	4	4	23	52	52	50	52	55	72	80	87	103	89	97	102	101	91	86	93	80	58
17	68	50	56	56	51	51	47	43	41	39	43	40	49	48	54	46	62	47	51	40	19	17	19	13	44
18	12	10	7	7	9	14	14	15	16	22	16	15	19	18	19	22	27	25	18	21	18	14	13	12	16
19	11	8	6	6	5	5	8	12	16	17	17	14	12	14	16	14	18	17	12	10	12	9	9	10	12
20	9	7	6	6	6	6	8	12	15	11	12	14	11	12	16	15	12	11	17	17	13	9	7	7	11
21	7	9	9	6	6	6	8	11	13	10	10	8	7	12	9	11	11	15	13	14	19	17	17	13	11
22	16	14	13	17	16	13	26	26	33	35	23	13	17	19	24	26	47	64	67	68	75	75	82	92	38
23	84	90	95	98	63	25	31	43	44	46	39	33	27	23	35	43	36	49	49	40	25	19	21	19	45
24	9	11	8	8	8	9	13	24	23	16	13	11	11	17	13	10	17	22	22	19	17	11	11	11	14
25	9	9	7	7	7	6	11	22	19	22	17	15	12	12	18	22	26	40	40	53	58	54	58	62	25
26	50	50	51	37	24	18	49	69	54	83	91	65	42	38	61	102	79	95	154	167	116	86	53	25	69
27	23	16	19	14	12	13	22	39	46	53	49	44	25	16	20	20	18	33	53	63	70	59	32	22	33
28	17	51	46	35	22	16	19	36	45	42	56	54	50	43	31	35	50	49	27	45	68	84	122	127	49
29	114	71	103	43	19	13	15	28	41	35	37	37	32	21	34	40	31	53	47	73	78	48	37	35	45
30	26	21	15	11	11	10	16	36	45	40	35	37	31	26	32	36	42	59	66	54	43	32	33	22	32
31	18	13	10	9	9	10	17	47	55	53	46	35	28	29	32	40	47	46	41	29	30	29	28	24	30

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----										RANGE-----		STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
21	19	29	19	63	81	98	115	4	-	167	9	-	69	2	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : AP LEI CHAU
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	6	6	6	5	2	5	6	6	11	7	6	5	7	9	6	10	30	8	10	7	7	12	10	9	8
2	10	7	5	4	3	9	16	25	16	9	7	5	3	1	0	1	1	2	0	0	1	1	0	5	
3	0	0	0	0	0	2	11	12	21	12	10	7	2	0	2	3	2	7	5	5	5	3	5	10	5
4	8	10	4	3	17	78	38	41	44	40	32	19	20	52	45	38	29	26	22	14	16	16	38	74	30
5	52	18	14	9	9	9	16	24	27	31	37	23	34	40	57	47	40	35	41	28	50	63	60	30	33
6	21	17	17	14	13	8	13	21	36	52	75	85	50	18	3	4	6	5	17	25	14	10	14	19	23
7	22	14	3	2	3	6	7	10	7	4	2	2	1	1	1	0	0	1	0	0	0	0	0	1	4
8	0	0	0	0	0	0	1	7	8	9	5	2	1	0	0	1	0	2	3	0	0	0	0	1	2
9	0	M	0	0	0	0	8	6	3	10	6	1	0	0	0	0	1	0	1	3	1	1	2	5	2
10	8	7	8	7	14	3	26	39	11	13	16	13	17	11	20	40	88	73	66	60	55	25	20	27	28
11	32	19	13	10	8	8	13	34	44	45	54	52	36	25	38	56	55	61	52	54	47	35	26	23	35
12	19	15	11	8	9	12	13	16	17	11	5	5	4	2	0	3	3	5	3	6	5	4	9	4	8
13	2	4	2	2	1	0	1	1	1	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
16	0	0	0	0	0	0	1	36	42	43	44	48	61	83	95	92	91	80	87	94	89	84	77	69	51
17	46	60	51	53	49	45	44	38	34	35	38	31	43	39	46	48	54	52	44	27	15	12	9	9	38
18	9	4	1	0	0	2	8	14	13	5	4	5	5	4	4	6	7	8	10	12	9	4	0	1	6
19	0	0	0	0	0	0	0	2	4	4	1	1	1	0	1	0	0	0	0	0	0	0	0	0	1
20	0	0	0	0	0	0	0	0	1	2	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	1	1	2	0	1	1	1	0	0	0	0	2	1	1	2	0	1	1	1
22	1	4	6	9	12	8	12	7	3	0	0	0	0	0	1	0	3	4	8	22	15	34	52	48	10
23	64	M	87	81	44	21	18	25	28	24	20	10	10	4	5	9	6	12	21	16	8	8	4	3	23
24	6	5	0	1	0	0	2	4	4	2	1	2	0	1	2	1	1	3	0	0	0	0	0	1	2
25	0	2	0	0	0	0	1	2	4	4	1	0	0	0	0	0	0	1	1	3	7	8	12	17	3
26	15	15	12	7	5	4	14	29	55	66	67	40	49	36	55	95	81	93	108	119	46	36	32	28	46
27	19	11	9	12	9	8	12	21	28	40	35	27	12	6	8	8	8	8	16	27	31	18	17	24	17
28	23	18	11	16	16	14	17	19	21	31	50	10	19	27	17	22	32	15	7	5	7	36	68	112	26
29	97	105	45	32	21	11	14	24	32	34	39	33	20	10	15	16	35	69	37	52	70	41	25	27	38
30	23	15	9	9	8	8	16	28	30	31	29	40	21	25	27	26	35	43	52	49	40	27	24	21	27
31	15	10	9	7	8	9	16	32	49	40	31	30	27	26	26	35	41	36	33	28	25	21	18	14	24

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE LIMIT LEVEL		
11	7	16	7	46	60	85	94	0	-	119	0	-	51	4	100	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : AP LEI CHAU
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
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	5	5	2	1	2	2	2	3	4	3	3	3	3	4	13	3	4	6	4	4	3	5	4
2	5	5	5	4	4	4	4	5	5	4	5	5	5	5	4	5	6	4	3	3	3	3	3	2	4
3	3	2	2	3	3	2	2	3	4	4	5	5	5	5	5	4	4	6	7	7	7	7	5	5	4
4	5	5	4	4	8	25	12	11	11	10	8	7	8	20	13	18	23	22	17	18	15	23	26	21	14
5	18	7	8	8	8	8	10	10	8	7	7	6	10	10	12	9	12	20	25	21	20	20	18	7	12
6	6	6	6	8	11	8	8	7	8	8	13	10	12	10	3	4	5	3	3	4	4	5	4	7	7
7	6	5	5	4	5	5	4	5	5	5	4	4	4	4	5	5	4	4	4	5	5	4	3	5	5
8	3	3	3	3	3	3	3	3	3	3	3	4	4	4	5	5	3	6	7	4	4	4	4	4	4
9	4	4	5	4	4	3	4	4	4	2	3	3	3	4	3	2	3	3	4	7	5	5	5	3	4
10	4	5	4	4	6	3	19	14	4	4	4	9	10	2	0	1	4	3	3	6	7	3	2	2	5
11	2	2	2	1	1	1	1	1	2	2	3	7	1	1	1	2	2	2	2	4	3	1	0	1	2
12	1	1	1	1	1	1	2	2	2	1	2	1	1	1	1	1	1	2	2	3	2	1	1	2	1
13	2	2	3	3	3	4	4	4	4	4	5	5	4	3	3	3	3	2	2	2	3	3	3	4	3
14	3	3	2	3	3	2	4	3	2	2	2	2	2	3	2	1	1	1	1	2	3	4	3	3	2
15	3	3	4	4	4	3	2	3	4	3	2	2	2	2	2	1	1	3	2	4	5	5	3	2	3
16	3	1	3	3	3	3	2	6	9	9	7	13	12	8	16	8	11	3	3	5	5	4	3	7	6
17	7	8	5	8	7	5	3	2	2	2	4	10	11	8	10	4	2	1	0	1	0	0	0	1	4
18	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	2	1
19	2	1	1	1	1	1	1	1	3	3	2	3	2	2	1	1	1	0	0	1	1	0	1	2	1
20	1	0	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2	2	2	2	2	3	1
21	3	4	3	3	3	2	2	2	3	3	4	3	3	3	3	3	1	3	3	3	3	3	4	3	3
22	2	4	4	5	9	6	6	5	5	4	3	3	3	3	3	2	2	2	2	2	3	2	2	4	4
23	33	45	54	31	8	5	4	4	4	3	4	4	4	4	4	4	3	4	3	3	3	4	3	2	10
24	1	1	2	3	3	3	2	3	2	2	1	2	2	1	1	1	1	1	1	1	2	3	3	5	2
25	5	5	4	4	3	3	3	4	4	4	3	3	2	2	3	2	2	1	2	2	2	2	2	5	3
26	6	4	4	3	3	4	7	8	25	19	45	29	30	16	18	37	20	18	15	19	5	5	5	3	15
27	3	2	2	4	2	3	2	2	3	2	3	4	2	3	3	3	2	2	2	3	3	4	4	4	3
28	4	3	4	5	6	6	6	6	5	10	30	7	15	22	11	18	27	11	5	5	5	17	33	38	12
29	31	42	14	14	10	7	6	6	6	5	6	4	3	2	3	3	14	31	14	14	10	5	6	10	11
30	9	8	7	7	7	7	6	6	6	5	5	5	4	4	4	4	4	4	5	4	6	6	7	7	6
31	6	8	8	8	7	7	6	5	7	7	7	7	6	6	6	5	6	5	5	5	6	5	5	6	6

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----										RANGE-----		STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
4	4	5	4	10	18	26	32	0	-	54	1	-	15	2	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : CHEUNG CHAU
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
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	3	0	0	0	0	2	2	0	0	0	2	0
2	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	2	1	2	3	5	1	3	1
4	0	0	0	0	0	0	0	0	1	2	2	0	0	0	2	3	5	3	1	2	1	0	0	4	1
5	2	2	2	2	3	3	1	1	0	1	0	0	0	0	0	0	2	3	3	7	9	2	1	4	2
6	1	1	2	1	1	2	2	3	2	2	1	0	0	4	2	0	2	0	1	0	2	1	4	4	2
7	1	2	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0
9	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	6	0	0	1	4	6	6	1
10	0	0	0	0	0	0	0	1	2	0	1	3	1	0	0	0	0	0	0	0	0	0	0	1	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
13	0	0	0	0	0	0	0	0	2	3	4	4	1	0	0	0	0	0	0	2	0	0	0	1	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0
16	0	0	0	0	0	0	1	3	4	4	9	14	14	7	4	1	1	0	0	0	0	0	0	1	3
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
19	0	0	0	0	0	0	0	0	0	0	4	1	1	0	0	0	1	0	0	0	0	0	0	1	0
20	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
22	1	0	0	0	0	0	0	1	3	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0
23	0	0	0	1	0	5	4	1	1	2	2	2	1	0	0	0	0	0	0	0	0	0	0	2	1
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
25	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
26	1	2	0	0	0	1	0	3	5	6	6	7	8	9	6	8	17	16	17	5	3	0	0	2	5
27	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
28	1	1	3	1	1	1	1	1	2	4	3	4	2	1	3	6	13	11	8	11	5	6	4	6	4
29	4	4	4	7	6	3	1	1	1	3	2	2	1	1	3	7	7	6	6	3	2	1	1	6	3
30	5	4	4	6	5	4	3	3	1	1	1	1	0	2	2	1	2	2	1	1	0	1	3	6	2
31	4	5	5	5	5	4	3	3	4	4	4	3	2	2	2	1	2	1	2	2	1	1	2	1	3

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE LIMIT LEVEL		
2	0	1	0	4	5	7	10	0	-	17	0	-	5	2	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : CHEUNG CHAU
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	9	9	42	28	37	41	13	20	35	19	13	24	42	20	13	14	13	24	20	11	30	55	34	24
2	66	20	36	34	32	26	43	62	45	53	57	35	36	5	5	5	6	5	5	6	6	8	15	21	26
3	14	M	14	10	15	47	47	49	43	35	43	34	10	8	13	15	14	16	20	18	20	19	10	12	23
4	10	12	18	31	47	52	57	48	44	55	45	40	33	24	20	24	24	19	22	26	21	95	112	107	41
5	84	64	37	29	25	29	28	32	32	34	39	35	34	38	38	28	37	57	68	142	202	160	166	153	66
6	65	29	23	25	23	29	32	46	45	52	36	48	45	45	17	10	11	10	24	31	17	15	39	17	31
7	98	101	51	10	34	38	56	57	33	66	24	28	6	6	6	6	7	9	8	7	6	6	6	6	28
8	8	7	7	6	8	8	7	20	24	56	18	6	7	6	6	7	7	11	12	8	6	6	6	6	11
9	6	6	6	7	8	7	7	12	20	20	16	12	6	6	6	7	12	27	15	9	13	19	23	15	12
10	7	14	36	20	19	25	46	60	28	7	9	9	7	57	55	44	45	70	52	71	63	55	44	32	36
11	28	23	19	14	16	19	26	35	34	49	43	48	40	44	56	76	68	63	51	43	49	42	42	29	40
12	36	24	34	21	18	26	29	30	41	47	20	24	18	11	6	7	7	10	15	22	22	26	11	32	22
13	50	43	21	28	10	10	9	12	12	18	19	17	13	4	5	4	4	4	4	17	12	7	5	6	14
14	5	4	4	5	7	4	6	4	4	5	4	3	4	4	4	5	4	4	4	5	9	7	4	4	5
15	4	4	4	4	6	6	7	4	9	4	4	4	4	4	4	5	6	9	9	12	9	6	10	4	6
16	7	4	4	4	5	5	41	66	62	62	71	68	73	80	112	105	108	90	82	73	75	62	72	65	58
17	65	67	77	79	75	72	58	39	38	46	44	44	51	51	70	66	51	45	51	61	62	64	62	49	58
18	46	45	33	23	20	23	29	38	45	70	68	30	15	16	15	16	16	21	39	53	62	18	25	9	32
19	13	16	13	10	9	4	12	13	13	12	32	18	26	25	38	31	40	28	16	17	28	24	10	6	19
20	11	10	16	10	20	7	9	22	23	24	22	25	17	15	20	23	14	6	12	15	12	8	5	8	15
21	4	10	10	10	10	10	5	24	22	11	5	5	21	4	3	4	5	7	8	4	12	6	4	6	9
22	9	10	18	18	28	44	41	48	17	6	4	5	6	5	5	6	6	13	5	11	7	7	13	22	15
23	58	53	59	75	82	94	81	63	64	79	72	59	32	7	9	7	6	7	7	14	15	10	9	7	40
24	29	31	22	7	13	12	9	10	13	3	2	1	0	0	0	0	0	1	0	1	2	3	1	4	7
25	3	3	4	3	3	2	3	8	15	15	7	3	3	2	3	2	2	3	4	3	7	3	5	8	5
26	5	14	2	11	29	65	44	49	44	50	40	23	26	46	64	71	112	146	210	172	174	110	50	31	66
27	20	13	12	9	8	14	21	30	30	30	46	31	39	42	32	4	1	5	6	14	45	93	127	100	32
28	89	49	46	34	22	22	28	41	35	49	45	37	19	7	8	13	21	23	20	42	129	81	142	112	46
29	70	57	43	38	37	44	33	27	35	43	47	39	52	43	15	12	15	13	45	96	118	72	43	38	45
30	45	34	24	30	15	13	14	18	20	31	35	38	43	41	39	51	67	70	69	59	65	50	46	34	40
31	23	M	14	13	12	13	16	33	31	44	30	28	26	26	23	26	29	36	55	52	34	25	28	20	28

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----								RANGE-----					STN GEOM	PERCENT	NO. OF TIMES
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
19	20	29	20	64	79	112	144	0	-	210	5	-	66	3	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : CHUNG HOM KOK ZONE SUBSTATION
POLLUTANT : SULPHUR DIOXIDE

MONTH: NOVEMBER

YEAR : 2018

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

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----										RANGE-----		STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL
2	1	2	1	3	5	8	12	0	-	23	0	-	5	2	100	0

NOTES:

1. FLAGS FOR INVALID DATA :
 - D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : CHUNG HOM KOK ZONE SUBSTATION
POLLUTANT : NITROGEN DIOXIDE

MONTH: NOVEMBER

YEAR : 2018

UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	6	6	6	6	6	5	7	10	11	11	12	12	15	17	16	17	19	20	23	18	13	11	12	10	12
2	8	9	9	7	6	7	10	17	25	28	32	22	24	16	30	34	36	43	43	45	47	38	31	23	25
3	21	27	25	28	23	17	14	21	17	17	21	18	18	24	30	52	44	36	34	24	22	19	15	5	24
4	4	7	9	7	5	3	4	3	4	2	3	4	5	4	3	3	4	7	6	5	3	3	3	1	4
5	2	0	1	1	2	1	1	3	3	2	2	1	2	2	1	3	2	3	2	4	6	7	2	0	2
6	0	0	0	1	1	0	0	1	1	0	0	0	0	0	0	1	2	2	4	5	2	1	0	3	1
7	2	0	1	0	0	0	0	5	3	1	2	0	0	0	0	1	4	4	5	1	6	5	3	3	2
8	2	2	2	0	0	3	6	24	35	36	44	22	11	82	90	67	31	25	22	14	21	27	46	29	27
9	27	20	10	8	9	8	9	15	26	46	42	4	1	2	2	2	3	6	3	1	5	2	3	0	11
10	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	1	4	2	3	2	3	2	1	1	1
11	0	0	0	0	2	1	2	3	2	0	1	0	0	0	1	1	8	3	5	4	11	9	16	6	3
12	5	9	6	3	1	1	7	12	14	29	26	53	44	30	14	13	21	14	15	1	0	0	4	6	14
13	5	3	4	1	7	6	7	7	7	7	3	1	3	1	3	3	5	5	6	4	2	1	2	4	4
14	0	M	0	0	0	0	0	1	0	0	0	0	0	1	0	2	2	2	2	2	2	2	0	1	1
15	0	0	1	0	0	0	0	2	1	1	1	1	1	1	3	2	2	2	1	1	1	1	2	3	1
16	1	0	0	0	0	0	2	2	1	2	1	1	3	2	1	4	2	4	4	3	4	4	6	3	2
17	1	2	1	2	2	0	2	1	2	1	3	2	2	1	M	2	4	3	2	3	5	2	2	3	2
18	1	1	1	1	0	0	1	3	3	2	3	3	3	3	7	7	12	13	20	15	11	8	8	12	6
19	14	15	19	18	12	13	19	22	18	27	37	37	44	38	22	4	6	5	5	5	5	5	5	2	17
20	3	2	2	1	2	1	1	3	3	4	2	3	2	2	3	2	4	5	3	2	3	3	2	2	3
21	3	1	1	3	3	3	4	3	3	2	4	4	4	4	3	5	10	15	10	16	14	14	22	18	7
22	21	15	10	7	4	6	9	16	15	13	17	20	20	22	13	8	8	12	16	16	14	12	10	11	13
23	9	7	10	9	5	2	3	8	15	11	23	31	20	12	16	19	15	14	8	8	7	7	5	6	11
24	4	3	3	3	2	2	2	3	3	6	6	5	3	4	6	6	7	7	6	12	6	6	5	7	5
25	6	7	5	5	7	9	9	9	13	8	8	10	15	17	7	10	15	9	6	4	0	1	5	1	8
26	0	0	0	0	0	0	0	8	7	6	5	6	3	7	12	13	12	14	17	16	18	17	13	14	8
27	12	13	12	9	8	7	6	12	9	7	5	3	4	2	5	7	15	24	23	7	10	10	9	10	10
28	4	M	0	1	0	1	1	3	1	1	6	3	5	4	3	3	9	4	9	5	5	6	5	11	4
29	9	13	11	8	6	5	9	10	10	8	5	5	4	4	8	7	10	8	6	6	6	4	5	4	7
30	3	3	2	3	3	2	2	4	4	4	3	2	3	2	3	5	7	5	4	5	6	4	6	5	4

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							RANGE-----					STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR			DEVIATION	VALID DATA	ABOVE LIMIT LEVEL	
5	4	8	4	20	28	43	46	0	-	90	1	-	27	3	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : VICTORIA ROAD SUBSTATION
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
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	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	9	9	10
2	9	9	9	9	9	9	9	9	9	9	9	10	10	10	10	10	10	9	9	9	9	9	9	9	9
3	9	9	9	9	9	9	9	9	10	11	11	11	12	12	11	11	12	10	10	10	10	10	10	9	10
4	8	8	8	9	9	8	8	8	8	8	9	8	8	9	9	9	9	8	9	8	8	8	8	9	8
5	8	8	8	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
6	8	9	9	10	9	9	9	9	9	9	10	9	9	9	9	9	10	9	9	9	9	9	9	9	9
7	8	8	9	9	9	9	8	9	9	9	9	9	8	9	9	9	8	8	9	9	10	12	12	11	9
8	10	10	9	10	10	10	12	13	14	13	14	12	12	13	15	14	13	13	13	12	12	12	11	10	12
9	10	10	10	10	10	10	10	11	12	12	13	17	15	10	10	10	10	10	10	9	10	9	9	9	11
10	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	9
11	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	11	10	10	10	12	9
12	12	13	13	12	11	10	10	12	12	12	13	14	14	21	17	25	19	16	13	11	11	10	11	10	13
13	9	9	9	9	9	9	9	8	9	9	9	9	9	8	9	8	8	8	8	8	8	8	8	9	9
14	8	9	8	9	9	9	8	9	9	9	9	9	9	9	8	9	8	8	9	8	9	9	9	9	9
15	9	9	9	9	9	9	9	9	9	9	9	9	M	7	8	8	8	8	8	7	7	8	8	7	8
16	7	7	7	8	7	8	7	7	7	7	8	7	8	8	8	8	8	7	8	8	6	7	7	9	7
17	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	9
18	9	10	9	9	10	9	9	9	9	9	9	9	9	9	10	12	12	12	15	14	15	13	12	14	11
19	12	11	13	12	12	10	10	10	10	11	11	11	11	10	10	13	10	9	9	9	9	9	9	8	10
20	8	8	8	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	8	8	8	8	9	8
21	9	9	9	9	9	9	9	9	11	13	13	12	10	15	12	12	13	14	11	12	14	10	10	9	11
22	9	9	9	9	9	9	9	9	8	9	8	9	9	9	9	9	9	8	8	8	9	8	8	9	9
23	9	9	9	9	9	9	10	9	10	11	11	10	11	11	10	11	10	10	10	10	10	10	10	9	10
24	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	9	9	9	9	8	8	9	9
25	9	9	9	9	9	10	9	10	10	10	9	9	9	10	9	9	9	9	10	9	9	9	10	8	9
26	8	8	8	8	8	8	8	8	8	8	8	8	8	9	9	9	10	9	8	9	9	9	9	9	9
27	8	9	9	9	8	8	8	8	8	8	8	8	8	8	9	9	9	8	9	8	8	8	8	9	8
28	9	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	8	9	9	8	9
29	8	8	9	9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	9	8	8	8	8	9	8
30	8	8	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	8	9	9	9	9	9	9

MONTHLY STATISTICS:

GEOM	ARITH ----- PERCENTILES -----							----- RANGE -----					STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR			DEVIATION	VALID DATA	ABOVE LIMIT LEVEL	
9	9	9	9	11	13	14	15	6	-	25	7	-	13	1	100	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : VICTORIA ROAD SUBSTATION
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
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	6	5	6	6	9	12	14	14	15	16	17	15	17	20	19	23	20	17	15	14	12	10	13
2	10	8	6	6	6	6	10	13	18	20	18	17	21	23	24	25	26	27	26	23	19	17	15	13	17
3	10	11	12	14	14	15	17	17	19	19	18	19	21	22	24	29	32	27	26	29	27	21	19	15	20
4	12	8	6	6	5	5	6	7	8	7	7	7	7	7	7	8	8	9	10	10	8	6	7	5	7
5	4	4	4	4	4	4	5	7	9	10	10	10	11	11	11	10	11	12	11	10	8	7	7	5	8
6	5	4	4	4	4	4	6	9	10	11	10	9	9	8	7	9	14	12	12	12	10	8	6	7	8
7	6	5	5	4	4	4	6	8	7	8	8	7	7	8	10	12	15	21	31	23	30	39	39	27	14
8	14	10	7	5	7	7	22	27	32	36	41	38	50	54	61	61	57	58	50	46	47	42	38	27	35
9	25	19	24	18	21	21	22	24	26	27	29	38	52	24	17	18	19	14	19	15	12	10	9	8	21
10	7	6	6	5	5	5	6	7	8	8	8	10	10	9	11	14	14	15	14	12	11	10	8	8	9
11	7	8	6	6	5	5	7	8	8	8	9	9	9	9	9	10	11	11	10	31	17	19	23	21	11
12	24	26	24	19	12	9	12	26	26	31	36	42	57	81	64	79	67	70	55	43	50	47	42	20	40
13	17	11	9	9	8	8	11	15	17	16	15	14	13	13	14	13	12	14	13	10	10	8	7	8	12
14	8	M	6	5	4	5	7	13	13	13	13	15	13	11	13	M	M	M	M	M	M	M	M	M	
15	M	M	M	M	M	M	M	M	M	M	M	M	M	4	5	6	9	6	5	4	2	1	1	1	
16	1	0	0	0	0	0	3	5	5	5	5	5	4	5	7	6	7	5	4	2	1	2	1	3	3
17	3	1	1	1	1	1	3	4	3	4	4	4	4	4	4	4	5	4	5	4	6	4	3	4	3
18	4	4	3	3	2	3	4	4	5	5	5	7	6	7	11	18	20	26	38	31	32	26	25	30	13
19	27	20	23	21	16	12	13	15	17	17	17	19	19	21	23	32	14	12	10	8	9	9	7	7	16
20	7	6	5	5	6	6	7	9	9	9	9	9	10	10	12	11	11	13	11	9	9	8	8	7	9
21	7	6	6	5	5	5	9	15	19	23	22	17	13	26	24	23	25	30	25	31	36	21	17	16	18
22	16	12	12	9	7	8	10	13	12	14	15	15	16	16	20	20	15	15	15	16	15	15	14	14	14
23	13	13	11	10	9	9	12	16	17	20	24	22	22	23	24	21	17	18	17	12	12	10	9	7	15
24	6	6	6	6	5	5	6	7	9	10	9	10	10	9	9	11	15	15	17	18	15	13	12	11	10
25	10	9	7	8	7	8	10	17	17	13	11	14	17	13	12	15	16	18	20	18	14	12	9	9	13
26	8	7	5	4	5	6	11	12	14	17	17	21	19	22	19	21	25	22	23	27	25	20	21	14	16
27	14	11	9	7	7	7	9	12	15	15	15	14	12	14	15	18	24	27	28	22	19	18	16	12	15
28	11	M	14	11	7	7	9	11	13	12	15	12	12	13	15	17	19	21	22	16	18	19	15	14	14
29	11	9	8	8	6	7	8	11	12	15	14	15	15	15	13	12	13	18	19	14	13	12	11	9	12
30	8	7	7	7	6	7	10	13	14	13	11	12	13	14	12	12	15	15	16	17	13	9	9	7	11

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR		DEVIATION	VALID DATA	ABOVE	LIMIT LEVEL		
11	11	14	11	25	32	50	58	0	-	81	3	-	40	2	97	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : POK FU LAM
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
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	7	6	5	6	5	5	5	5	6	6	6	5	6	5	5	4	3	3	2	2	2	5
2	3	3	3	2	2	2	2	2	2	2	4	3	4	7	4	8	4	3	2	2	1	1	1	0	3
3	0	0	0	0	0	0	0	0	3	7	9	9	12	10	6	5	4	1	1	2	1	2	1	2	3
4	1	0	1	0	0	0	1	1	2	3	2	2	2	2	1	0	0	1	1	1	1	0	1	0	1
5	0	0	0	0	1	1	1	1	0	0	0	1	1	2	1	1	1	1	1	0	0	1	0	3	1
6	2	2	2	3	3	3	2	3	3	3	4	4	3	4	3	4	4	4	3	3	3	2	3	2	3
7	1	1	1	0	1	0	1	0	1	1	1	1	1	2	1	1	1	1	2	2	8	24	20	6	3
8	3	2	2	2	4	11	22	26	19	12	15	14	14	15	21	16	13	25	20	17	13	11	18	4	13
9	4	3	3	3	3	3	2	6	16	12	12	22	6	4	4	4	4	4	3	2	2	2	1	5	
10	1	1	1	1	1	1	2	1	1	1	2	1	1	2	2	2	2	2	2	3	3	2	2	2	2
11	2	2	2	2	2	3	3	3	3	3	2	3	2	2	4	3	2	3	4	3	22	15	14	12	5
12	24	23	22	25	13	4	4	14	14	17	17	14	16	39	24	37	37	25	14	11	11	10	8	6	18
13	6	5	4	3	4	3	3	3	3	3	3	3	3	2	1	1	1	3	2	1	2	0	1	1	3
14	1	1	1	1	1	0	0	1	0	0	2	1	1	1	2	1	2	2	3	2	2	2	3	0	1
15	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	0	1
16	0	0	0	0	0	1	0	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0
17	0	0	0	1	1	0	1	0	1	0	1	0	1	1	0	1	1	0	0	0	0	0	0	1	0
18	1	3	1	1	1	1	1	1	1	1	1	8	4	3	6	13	11	21	35	31	25	33	25	27	11
19	19	15	8	6	14	4	3	3	4	8	9	10	7	8	7	13	13	3	2	2	2	2	1	1	7
20	1	1	1	1	0	0	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
21	0	0	0	0	0	0	0	0	13	22	18	22	6	32	8	11	11	18	9	18	29	4	2	2	9
22	2	1	3	1	1	0	1	1	1	2	2	2	2	2	2	2	1	2	3	3	2	3	3	3	2
23	3	3	3	3	3	3	2	3	4	12	8	6	10	9	4	11	6	4	4	4	4	4	3	3	5
24	2	2	2	2	1	2	1	2	2	3	3	2	2	2	2	2	2	1	2	3	3	3	3	4	2
25	3	3	3	3	4	5	4	5	5	5	3	5	3	2	2	1	2	2	3	2	2	2	2	0	3
26	0	1	0	0	0	1	0	0	1	1	2	3	3	4	7	4	3	2	2	4	6	4	3	2	2
27	2	2	2	3	3	2	3	3	3	2	2	2	1	2	2	3	2	3	2	0	0	0	0	4	2
28	5	6	2	1	1	1	1	0	0	0	0	1	1	0	0	0	2	2	1	1	1	1	0	2	1
29	2	2	3	3	3	2	3	3	4	4	M	M	1	1	1	1	1	1	1	1	1	1	1	2	2
30	2	2	4	2	2	3	3	4	5	5	4	3	3	3	3	2	2	1	4	11	6	3	3	4	4

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
3	2	4	2	11	17	25	29	0	-	39	0	-	18	3	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : POK FU LAM
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
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	13	10	11	14	14	23	45	41	43	40	43	37	39	40	53	49	68	46	43	41	39	29	25	34
2	25	19	12	12	12	13	25	49	60	56	40	33	44	48	50	59	58	63	63	62	50	45	46	27	40
3	21	33	31	38	47	47	49	51	52	49	44	46	52	55	61	72	79	88	107	110	54	51	50	36	55
4	21	18	15	14	13	11	11	14	14	9	10	14	15	12	8	10	13	16	18	21	14	11	10	8	13
5	7	7	6	6	7	7	9	13	20	17	15	14	16	13	15	14	15	26	24	23	18	13	18	9	14
6	6	6	5	6	6	7	9	16	21	20	15	13	14	16	9	19	25	23	31	26	23	13	13	10	15
7	9	7	7	5	5	5	8	13	20	23	17	16	12	18	21	22	26	40	70	50	65	90	84	27	28
8	16	12	6	3	11	25	61	81	75	77	67	64	86	90	99	94	94	137	150	151	134	121	97	64	76
9	81	48	33	45	67	56	54	68	72	76	72	58	32	19	24	29	25	28	34	20	14	11	15	9	41
10	8	7	8	6	7	7	9	10	10	12	14	12	12	13	15	15	23	19	22	15	17	16	13	11	13
11	9	7	7	7	8	8	10	11	10	12	13	10	10	13	16	12	12	21	26	21	58	52	47	41	18
12	56	65	57	58	29	16	18	62	66	65	70	84	87	108	92	98	98	112	127	135	141	121	94	30	79
13	21	14	11	10	10	12	17	24	34	28	21	20	15	17	11	12	15	23	15	12	9	7	7	8	16
14	9	9	6	7	5	5	9	14	18	17	20	18	18	12	15	25	17	36	33	21	11	10	12	11	15
15	10	6	6	4	4	5	7	13	12	14	10	11	12	11	13	11	12	13	12	10	8	8	8	9	10
16	9	7	5	4	4	7	7	12	14	13	12	15	10	11	17	14	19	23	19	12	12	10	8	7	11
17	6	4	4	7	6	6	6	12	16	16	14	15	20	20	13	22	22	21	15	12	13	12	11	11	13
18	11	M	8	7	5	5	8	11	15	12	10	27	20	21	28	43	42	60	84	76	71	81	75	73	34
19	64	54	43	39	44	33	30	45	45	45	39	41	43	47	54	65	54	29	30	21	19	19	11	10	39
20	9	7	7	7	7	6	9	13	15	16	14	16	17	14	17	17	20	23	22	19	17	11	8	12	13
21	11	8	8	8	7	8	16	27	51	56	53	43	25	64	38	42	48	75	49	66	97	49	46	42	39
22	40	26	27	18	14	14	23	36	37	32	38	39	45	48	57	49	26	27	41	52	49	40	38	38	36
23	33	34	27	24	20	17	23	39	45	57	48	45	44	54	57	47	32	31	37	25	21	18	18	11	34
24	9	10	8	9	7	7	9	13	17	22	20	18	21	19	14	26	33	39	44	49	33	22	17	19	20
25	19	19	30	27	20	21	34	38	47	27	25	41	44	25	26	36	35	55	61	41	37	21	12	9	31
26	11	14	5	4	5	16	19	30	39	44	47	60	46	54	54	41	55	43	69	74	53	39	35	19	37
27	18	12	9	12	12	10	14	22	25	16	14	16	16	16	37	47	64	80	71	64	45	47	39	54	32
28	59	52	45	25	14	13	16	27	30	35	44	25	28	29	34	37	44	61	59	30	49	39	21	33	35
29	37	21	19	10	9	11	15	23	21	18	M	M	27	29	24	20	21	36	53	52	40	32	24	18	25
30	13	10	12	8	9	8	12	24	34	29	21	22	22	29	25	20	27	38	52	69	42	22	22	18	25

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE LIMIT LEVEL		
22	21	30	21	61	76	98	121	3	-	151	10	-	79	2	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : AP LEI CHAU
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
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	7	7	6	6	6	8	6	7	7	7	7	7	6	6	6	5	5	4	3	3	3	6
2	2	3	4	3	3	2	2	2	4	4	5	5	5	8	6	6	5	6	3	3	3	2	2	2	4
3	1	1	3	2	3	2	2	3	15	16	15	11	15	12	11	8	12	15	6	4	3	3	3	2	7
4	1	1	1	1	2	2	2	2	3	2	2	2	2	3	3	2	1	1	1	1	1	1	1	2	2
5	2	1	1	2	3	3	3	3	2	2	3	3	4	4	5	3	3	2	2	3	3	3	3	2	3
6	2	2	2	2	3	2	2	2	2	3	3	3	4	3	2	4	4	3	3	3	3	2	1	2	3
7	2	1	2	2	1	1	1	1	1	1	2	1	2	2	2	2	3	3	2	3	3	3	3	3	2
8	2	3	3	3	2	3	12	36	24	21	38	16	12	16	26	21	16	21	17	15	17	M	M	M	15
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	2	1	1	1	0
11	1	0	0	0	1	2	1	2	2	1	0	0	0	0	1	1	0	1	0	0	1	1	1	2	1
12	3	11	10	6	4	2	2	3	15	14	15	22	36	58	27	27	31	22	17	8	6	5	4	4	15
13	6	5	4	3	3	3	3	3	3	3	3	4	3	3	2	2	1	1	3	1	2	0	1	2	3
14	1	0	0	1	1	0	0	0	0	0	1	1	1	2	1	1	1	2	3	1	2	2	1	1	1
15	0	0	1	0	0	0	0	0	1	0	0	0	1	1	1	0	1	0	0	0	1	1	0	1	0
16	1	0	0	0	0	1	1	2	0	0	1	1	1	1	1	1	0	1	0	1	1	0	1	1	1
17	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	11	12	2	3	26	44	13	4	2	5
19	2	7	31	24	14	8	6	5	8	21	13	12	17	16	12	13	2	2	2	1	2	2	1	1	9
20	0	1	0	0	1	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1
21	1	1	1	1	1	0	0	0	1	0	0	2	1	30	26	3	14	11	4	20	16	4	1	2	6
22	2	1	2	0	0	0	0	0	3	4	2	2	3	2	2	1	0	1	2	2	2	1	1	2	1
23	1	1	2	2	2	2	1	1	4	3	10	7	15	8	5	4	3	2	3	2	2	3	2	2	4
24	1	1	0	1	0	0	0	0	0	1	2	2	1	1	1	1	0	0	0	1	1	2	1	2	1
25	1	1	1	2	2	4	3	3	2	1	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1
26	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	2	2	1	1	0	0
27	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	0	8	0	0	0	0	0	0	1
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	1	2	1	0	1	1	1	2	2	2	3	2	2	3	3	3	2	2	2	3	2	2	2	2
30	1	1	1	2	2	1	1	2	3	4	3	2	2	2	2	2	2	0	0	2	3	2	3	3	2

MONTHLY STATISTICS:

GEOM	ARITH ----- PERCENTILES -----										RANGE -----		STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL
3	1	3	1	7	15	24	30	0	-	58	0	-	15	3	98	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : AP LEI CHAU
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
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	8	5	7	6	7	15	31	35	30	31	35	28	30	29	23	33	33	39	26	21	16	17	17	22
2	14	13	13	7	6	8	15	27	40	39	45	41	36	52	62	68	69	78	68	59	49	42	41	43	39
3	27	21	24	33	27	37	40	44	51	48	45	46	50	57	64	78	88	77	58	54	59	38	32	17	46
4	14	8	8	6	4	5	9	7	6	3	2	6	6	4	2	2	0	1	3	3	1	0	0	2	4
5	0	0	0	0	0	0	3	5	6	6	6	5	5	4	5	0	3	1	2	2	2	2	2	1	3
6	0	M	0	1	1	0	1	4	4	3	2	3	3	0	0	2	9	15	18	15	9	4	1	2	4
7	2	0	0	0	0	0	0	0	3	0	0	0	0	0	0	2	1	9	17	30	24	7	8	14	5
8	11	5	0	0	0	0	22	72	69	78	73	65	76	93	96	109	104	137	101	48	48	M	M	M	57
9	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	18	16	15	15	14	14	11	12	7	
10	4	4	4	4	4	4	5	6	5	7	8	9	6	7	10	12	17	19	12	14	10	6	6	9	8
11	8	8	6	7	6	7	9	7	6	7	6	5	6	6	7	8	5	16	15	14	13	26	18	22	10
12	29	30	21	16	8	5	20	36	38	66	72	86	94	75	43	43	59	62	36	34	38	36	29	21	42
13	16	11	12	7	11	14	16	16	20	18	12	12	13	10	9	10	10	10	9	6	5	4	5	7	11
14	6	M	5	5	4	4	8	13	12	12	11	11	6	9	8	9	11	13	13	6	7	6	5	1	8
15	0	0	0	0	0	0	0	0	1	2	3	4	2	3	6	5	6	5	4	1	2	2	3	3	2
16	2	2	1	0	0	1	2	7	5	2	4	5	2	3	9	9	7	9	5	2	5	3	2	1	4
17	0	1	0	2	1	3	0	3	4	9	6	7	7	5	2	5	4	5	1	0	1	0	1	1	3
18	3	1	0	0	0	0	0	0	1	0	0	0	0	0	1	22	34	15	34	43	63	27	33	42	13
19	30	39	49	57	39	29	27	30	35	45	45	46	43	53	58	34	8	11	8	3	4	3	0	1	29
20	0	0	0	0	0	0	0	1	1	4	2	4	3	0	2	1	3	2	1	1	2	1	0	1	1
21	0	0	0	2	0	0	6	10	10	5	0	0	7	32	34	7	16	17	6	31	49	45	37	38	15
22	32	22	17	8	6	8	12	23	29	11	27	26	34	41	47	35	19	24	30	32	34	34	28	31	25
23	23	21	20	16	16	16	15	24	33	39	57	53	45	24	25	15	7	7	13	14	14	11	7	3	22
24	0	0	0	0	0	0	0	4	4	2	4	3	4	3	1	6	9	13	21	14	9	6	10	14	5
25	11	7	6	5	4	10	22	23	24	9	13	21	26	16	13	22	26	26	20	11	3	8	3	2	14
26	1	0	0	0	0	0	2	9	16	26	30	41	19	21	18	26	30	35	51	34	28	20	12	15	18
27	14	9	4	3	5	6	12	17	17	14	7	5	5	6	12	22	47	72	37	15	10	10	8	6	15
28	5	M	3	7	1	3	6	11	10	10	11	10	12	8	10	10	14	23	17	12	21	24	6	22	11
29	13	12	9	2	0	4	10	14	15	11	9	6	4	6	7	6	7	7	11	11	8	3	2	4	8
30	3	2	0	0	0	1	5	8	4	3	2	3	3	4	3	5	5	6	14	13	10	4	1	5	4

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----					STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR			DEVIATION	VALID DATA	ABOVE LIMIT LEVEL	
10	8	15	8	41	57	75	88	0	-	137	1	-	57	3	97	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : CHEUNG CHAU
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

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

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
3	0	1	0	1	4	9	13	0	-	39	0	-	6	3	100	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : CHEUNG CHAU
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	19	19	19	12	15	16	18	25	29	37	35	38	36	41	36	32	39	43	53	37	36	35	30	18	30
2	25	31	38	35	32	36	42	50	54	70	73	70	60	65	79	76	84	75	59	56	59	53	51	47	55
3	34	25	32	35	36	36	42	42	43	46	45	45	63	68	68	74	70	74	98	83	84	98	83	54	57
4	72	54	61	53	21	39	43	46	46	22	18	13	10	10	13	7	4	1	6	13	10	9	13	2	24
5	6	6	8	22	16	8	1	13	8	7	13	8	3	7	0	0	0	0	19	16	7	11	11	4	8
6	12	23	15	9	17	9	4	5	10	18	14	11	15	4	9	19	14	11	20	31	23	27	18	6	14
7	5	6	1	1	0	1	1	7	8	11	14	8	44	11	8	0	5	5	12	5	16	23	83	112	16
8	111	93	71	79	29	87	114	101	95	95	95	92	49	37	121	117	130	171	158	113	107	85	57	29	93
9	27	24	20	20	28	26	35	35	48	49	49	62	70	52	12	21	10	9	13	12	4	5	26	7	28
10	18	1	4	5	5	8	11	13	3	12	2	8	14	13	7	8	20	16	10	9	9	13	14	10	10
11	10	9	9	6	7	8	16	6	10	16	21	17	8	8	14	6	5	13	14	13	31	24	22	59	15
12	55	90	83	48	14	7	22	73	65	58	74	81	69	67	59	52	56	56	66	69	42	112	110	70	62
13	73	19	5	4	36	50	46	11	50	60	27	6	2	3	1	2	1	2	5	4	4	5	2	1	17
14	6	M	4	12	8	4	5	13	7	9	8	5	0	0	0	2	0	13	14	13	25	19	14	18	9
15	14	15	6	1	0	12	13	9	10	7	11	6	5	6	12	9	7	8	18	18	15	6	6	30	10
16	28	16	16	14	9	9	11	18	23	17	11	19	9	6	8	9	12	7	7	3	10	1	1	3	11
17	3	1	1	6	7	3	6	2	15	9	14	9	11	14	17	16	23	13	13	17	16	2	7	8	10
18	4	6	13	14	13	10	10	8	17	12	7	4	0	0	2	8	42	20	30	32	36	29	18	26	15
19	32	43	66	54	50	37	27	27	25	36	41	32	34	46	44	41	4	24	19	16	13	8	4	1	30
20	1	2	7	10	3	11	11	14	13	16	17	15	18	8	1	2	1	7	11	11	8	21	12	16	10
21	16	13	8	3	4	35	31	9	19	16	2	3	17	51	5	10	13	51	61	41	75	84	61	23	27
22	29	28	28	23	20	24	23	23	20	21	20	19	20	26	29	33	56	49	72	61	59	38	37	42	33
23	27	28	20	14	14	22	33	31	39	35	56	45	52	41	20	18	9	10	14	10	7	11	16	8	24
24	4	3	6	11	9	11	11	7	10	18	8	1	10	3	1	4	3	3	11	27	29	18	34	84	14
25	61	57	43	33	29	43	39	50	64	72	34	57	60	44	49	40	36	38	45	50	32	12	44	17	44
26	9	8	2	4	0	8	28	13	35	59	40	41	46	49	52	61	64	63	71	92	78	84	59	77	43
27	69	56	50	50	42	39	37	52	47	58	35	15	16	11	28	68	81	78	89	102	63	25	17	18	48
28	51	M	61	26	25	42	59	47	38	19	39	16	34	M	M	21	30	33	58	52	72	65	44	16	40
29	47	79	64	38	35	29	45	43	48	52	23	23	13	11	9	11	10	11	18	25	22	22	15	15	30
30	20	15	14	20	20	22	22	13	20	12	24	25	12	8	7	8	7	17	20	24	9	19	13	27	17

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----					STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
18	18	28	18	66	81	98	112	0	-	171	8	-	93	3	99	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : CHUNG HOM KOK ZONE SUBSTATION
POLLUTANT : SULPHUR DIOXIDE

MONTH: DECEMBER

YEAR : 2018

UNIT : MICROGRAMS/CUBIC METER

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

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE LIMIT LEVEL		
1	1	1	1	2	3	4	5	0	-	20	0	-	4	2	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : CHUNG HOM KOK ZONE SUBSTATION
POLLUTANT : NITROGEN DIOXIDE

MONTH: DECEMBER

YEAR : 2018

UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	4	2	2	2	3	2	4	5	4	4	8	7	5	4	3	4	6	6	7	5	6	5	5	4
2	3	4	4	6	6	3	2	5	6	3	6	3	4	3	4	4	2	5	1	2	2	3	5	2	4
3	2	1	1	2	2	2	2	3	3	1	1	1	1	1	2	3	2	2	1	0	3	0	0	0	2
4	1	0	0	0	0	0	1	1	4	7	M	M	0	1	1	2	7	5	5	4	3	1	0	34	4
5	19	10	3	0	0	0	0	2	3	1	3	2	1	0	2	0	0	1	0	2	1	1	0	3	2
6	0	0	0	0	2	0	1	2	1	2	2	2	2	2	7	11	5	4	2	2	5	5	3	3	3
7	1	3	2	2	4	6	3	4	5	5	4	1	2	3	6	7	14	14	10	9	11	11	10	12	6
8	11	13	13	8	8	7	7	7	6	5	4	5	7	8	9	11	14	13	32	28	35	23	18	12	13
9	12	9	4	6	7	8	9	9	9	6	6	6	6	9	22	36	36	39	23	12	5	5	6	9	12
10	10	8	9	10	10	10	13	15	13	13	19	12	9	15	34	36	53	58	65	63	62	58	53	48	29
11	31	17	15	11	5	4	16	24	30	29	32	32	24	33	36	41	48	60	52	49	31	30	30	32	30
12	27	16	14	9	7	8	15	23	20	15	14	8	12	30	34	36	36	44	36	42	17	13	11	17	21
13	16	14	13	10	9	10	10	13	11	8	8	9	9	34	36	44	46	45	35	36	25	11	9	10	20
14	10	11	14	10	10	10	10	11	12	13	9	10	10	10	11	12	13	12	44	35	59	25	19	13	16
15	12	13	12	10	8	9	9	13	11	10	9	9	4	1	4	8	6	10	13	12	12	7	7	6	9
16	10	6	4	10	58	72	69	63	53	39	34	37	24	33	34	44	48	60	67	47	35	24	21	24	38
17	18	10	4	1	1	3	6	19	20	19	24	8	0	3	2	3	7	6	7	13	11	6	6	7	9
18	6	3	5	9	10	13	16	20	18	17	8	6	4	5	7	6	6	6	5	4	4	4	4	3	8
19	3	2	1	1	2	2	3	7	4	4	3	2	4	2	3	5	5	7	4	4	3	3	1	1	3
20	1	1	1	1	1	2	3	3	2	3	3	3	9	5	4	3	8	14	7	2	0	1	0	3	3
21	1	0	1	0	0	0	1	4	3	10	2	3	0	0	0	0	0	8	3	3	1	0	0	0	2
22	0	1	0	0	0	1	0	3	2	4	7	6	1	0	1	6	5	2	5	2	7	4	3	4	3
23	5	2	2	2	2	2	2	2	1	1	1	2	2	5	7	8	6	4	3	6	21	14	6	5	5
24	4	0	0	0	0	0	2	2	2	3	3	4	4	4	6	8	9	9	9	8	5	8	6	4	4
25	0	0	1	0	0	0	0	0	0	1	2	1	0	1	3	8	11	15	11	13	19	28	29	20	7
26	25	M	25	28	45	54	42	37	32	19	18	19	27	23	26	4	6	13	17	23	25	49	38	39	28
27	33	26	5	1	5	9	9	9	8	10	5	4	3	2	4	6	6	7	4	1	3	2	1	0	7
28	0	0	1	7	7	5	5	8	7	6	4	2	3	4	4	5	7	14	11	8	10	6	4	6	6
29	5	3	3	3	2	3	3	3	2	2	2	3	4	4	5	7	18	25	24	11	7	4	4	9	7
30	9	8	6	7	6	6	10	12	12	14	8	3	2	6	19	18	18	29	28	25	20	19	23	19	14
31	22	13	20	12	10	11	17	16	24	30	30	24	15	14	16	21	27	41	42	32	35	46	48	33	25

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----										RANGE-----		STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL
7	6	11	6	31	41	53	60	0	-	72	2	-	38	3	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : VICTORIA ROAD SUBSTATION
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
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	8	8	8	8	8	8	8	8	8	8	9	8	8	9	9	8	8	9	8	8	8	9	9	8
2	8	8	9	8	8	9	8	9	9	9	9	10	9	9	9	9	9	9	8	8	8	8	8	8	9
3	8	8	8	8	8	8	8	8	8	9	13	15	12	10	11	9	9	9	9	9	9	15	13	11	10
4	11	12	11	11	12	15	13	13	14	19	21	15	16	17	15	18	15	12	11	15	15	11	11	16	14
5	14	14	24	19	19	19	15	14	11	10	9	9	9	9	9	9	9	9	8	9	8	8	8	9	12
6	8	8	8	8	8	9	8	8	8	9	9	10	10	11	13	12	9	9	9	9	8	9	9	10	9
7	12	11	10	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	9	9	9
8	9	9	9	9	9	9	9	9	9	9	9	9	9	10	9	9	9	9	9	9	9	9	9	9	9
9	8	8	9	9	10	11	10	9	9	10	9	9	12	11	11	10	10	10	10	9	10	10	10	9	10
10	8	9	9	9	9	9	9	9	9	9	9	10	10	11	11	11	11	11	11	11	11	11	11	10	10
11	10	11	10	10	10	9	10	10	10	9	10	10	10	10	10	9	9	9	9	9	8	9	9	9	10
12	9	10	9	9	9	9	9	9	9	8	9	9	10	10	10	10	10	9	9	9	9	9	9	9	9
13	9	9	9	8	9	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
14	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	11	10	9	9	10	9	9	9
15	10	9	9	9	8	9	9	9	9	10	11	10	9	9	11	11	11	11	10	10	10	10	10	10	10
16	9	9	10	10	10	11	11	11	11	11	13	12	11	10	10	11	11	11	11	10	10	10	10	10	11
17	10	10	10	10	10	10	10	10	9	9	9	9	12	9	9	9	10	9	9	9	8	8	8	8	10
18	9	9	9	9	9	9	9	9	9	8	9	9	9	9	9	9	9	9	9	9	8	8	8	8	9
19	8	8	8	8	9	8	8	8	9	8	9	9	9	9	9	10	10	9	9	9	9	9	9	9	9
20	9	9	9	9	9	9	9	9	10	11	14	15	14	16	11	10	10	10	10	10	10	10	9	9	10
21	10	10	9	9	9	10	10	9	10	15	12	15	17	11	10	9	9	9	8	8	8	8	8	8	10
22	8	8	8	8	8	9	8	9	9	11	14	16	20	14	17	18	10	10	10	11	10	14	16	13	12
23	12	10	10	10	10	10	10	10	10	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	10
24	8	8	8	9	9	8	8	9	9	9	9	9	9	9	9	9	9	9	9	8	8	8	8	9	9
25	9	9	9	9	9	9	9	9	9	9	9	9	9	11	13	15	14	11	12	12	11	11	12	12	10
26	11	11	12	11	11	11	10	10	12	18	36	16	22	22	21	18	15	16	12	11	11	10	10	9	14
27	8	10	10	11	10	10	10	9	9	9	9	9	9	9	12	12	9	9	8	8	8	8	8	9	9
28	8	7	8	8	8	8	8	9	8	8	8	8	8	9	9	9	8	8	8	8	8	8	8	8	8
29	10	9	9	9	9	9	9	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
30	9	9	10	9	10	9	9	9	9	9	9	9	10	10	10	11	11	10	9	9	9	10	9	9	9
31	9	9	10	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----										RANGE-----		STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE	LIMIT LEVEL	
10	9	10	9	12	15	17	19	7	-	36	8	-	14	1	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : VICTORIA ROAD SUBSTATION
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	6	6	5	5	6	7	7	7	8	9	13	12	11	10	14	14	12	14	13	12	12	10	9	10
2	7	5	5	5	6	7	8	8	8	9	9	7	11	9	9	10	11	8	7	9	6	5	6	5	8
3	6	5	7	4	3	5	10	14	17	22	22	20	19	18	14	12	14	19	19	22	23	32	28	22	16
4	23	23	14	18	22	24	22	24	24	33	35	31	27	23	21	24	24	25	25	26	26	20	20	30	24
5	25	22	26	22	25	22	20	24	14	12	13	10	10	8	8	10	9	8	9	8	6	5	4	6	14
6	6	6	5	5	5	6	8	11	12	13	18	17	19	25	32	31	21	17	21	22	19	18	19	15	15
7	22	17	7	6	5	7	8	9	9	8	8	8	8	8	9	12	14	14	17	16	15	13	10	12	11
8	9	9	8	8	8	8	8	9	10	10	9	11	12	11	12	17	21	19	19	17	16	14	15	14	12
9	14	14	13	12	12	12	11	11	12	11	13	13	13	13	13	13	14	16	15	15	16	17	16	15	14
10	17	16	13	13	13	12	12	12	12	14	14	15	16	17	19	20	23	25	25	24	23	22	22	20	17
11	20	19	19	16	12	16	16	16	16	17	17	19	20	23	22	23	24	23	21	18	17	18	14	18	
12	15	M	15	9	9	9	10	13	13	13	14	15	16	15	16	18	21	22	22	21	19	19	18	17	16
13	17	15	12	14	13	12	13	13	14	14	14	15	17	19	21	21	24	26	26	24	24	22	21	20	18
14	19	18	15	14	11	14	13	16	16	17	22	20	21	22	21	22	26	29	29	30	31	29	27	27	21
15	24	22	19	12	10	9	12	17	17	17	18	20	19	14	21	22	26	35	37	39	37	35	23	18	22
16	15	16	27	28	28	26	25	22	19	18	22	23	21	21	23	24	26	27	27	23	22	19	18	20	23
17	15	15	13	12	11	12	14	15	15	18	19	21	22	29	17	16	29	25	26	28	26	21	24	25	20
18	21	20	13	9	11	10	13	18	18	17	16	16	12	10	11	13	15	16	14	11	10	9	9	9	13
19	9	8	8	7	7	8	10	15	14	12	11	11	11	10	11	11	14	12	11	10	10	9	8	7	10
20	7	6	5	5	5	6	13	20	26	23	26	29	27	33	14	11	14	24	28	15	10	12	12	14	16
21	21	23	19	8	12	21	23	23	23	27	25	27	31	20	14	12	11	13	12	9	8	7	7	6	17
22	6	5	4	4	4	6	8	15	18	19	29	32	44	32	31	31	20	22	23	30	24	39	45	36	22
23	33	12	12	10	6	8	10	13	22	15	10	12	10	10	12	12	13	12	13	14	12	12	10	12	13
24	10	10	11	10	9	8	11	13	14	15	16	16	15	13	14	16	15	15	15	14	13	10	9	9	13
25	7	6	6	6	5	6	7	7	8	8	9	10	10	15	20	29	29	18	29	27	22	23	27	28	15
26	29	M	27	25	22	21	19	18	21	34	44	33	39	37	40	38	31	40	31	31	33	33	30	33	31
27	30	34	35	35	33	14	14	15	15	15	14	16	13	16	20	18	18	17	11	10	12	8	8	7	18
28	7	6	6	7	7	7	10	11	10	11	11	12	12	13	13	14	14	16	17	17	14	14	15	14	12
29	13	10	10	9	9	9	9	10	11	11	11	12	11	12	12	14	15	16	16	17	18	17	16	13	13
30	11	9	10	10	10	9	8	9	10	11	11	12	11	11	13	15	19	22	21	19	17	18	15	14	13
31	13	13	16	16	14	14	14	15	16	15	15	17	17	19	20	21	22	24	24	22	22	22	19	18	18

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----										RANGE-----		STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR		DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL
14	15	16	15	27	31	35	39	3	-	45	8	-	31	2	100	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : POK FU LAM
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	2	2	3	2	3	2	2	2	2	2	2	2	2	3	3	2	4	2	4	6	6	7	6	8	3
2	4	4	3	3	3	4	3	4	4	4	13	9	10	6	4	3	3	1	1	1	1	1	1	1	4
3	0	0	0	0	0	0	1	3	19	33	39	20	21	22	11	20	5	16	10	5	10	29	39	18	13
4	13	9	6	5	14	14	13	7	17	23	49	27	34	29	30	68	33	16	19	28	14	12	16	18	21
5	18	24	84	62	31	29	8	5	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	1	11
6	0	1	0	0	0	1	1	1	2	3	4	11	7	5	24	16	7	3	1	2	1	3	11	9	5
7	11	12	5	4	5	4	12	4	3	2	2	1	1	0	1	1	1	1	2	2	2	2	2	0	3
8	0	0	1	0	0	0	0	1	2	2	2	3	1	1	0	1	1	1	1	2	1	1	1	2	1
9	1	1	1	2	2	10	6	4	4	5	3	7	15	9	10	3	4	4	4	4	3	6	8	8	5
10	9	7	6	7	5	3	5	4	3	4	5	4	7	8	11	8	7	6	7	8	10	8	8	7	7
11	8	9	8	6	6	8	9	6	7	7	6	6	7	5	4	3	3	3	4	5	3	3	3	3	6
12	5	3	4	2	1	1	1	2	2	3	2	2	4	3	3	4	5	3	2	2	2	3	3	1	3
13	0	0	0	0	0	0	1	2	3	3	2	2	3	4	2	1	1	1	2	2	2	1	1	3	2
14	3	3	2	2	2	2	2	2	3	4	3	3	3	3	5	4	11	12	10	4	4	4	3	2	4
15	3	3	2	2	1	1	2	3	4	9	11	7	3	3	12	17	11	8	14	15	9	7	3	2	6
16	2	2	7	5	8	11	12	14	11	M	17	9	5	6	6	6	8	5	7	3	3	2	2	7	7
17	3	2	3	3	3	4	2	1	2	2	2	2	1	3	2	2	2	2	3	4	3	2	2	4	2
18	4	4	4	4	4	4	5	5	7	6	6	5	4	4	5	5	5	5	4	4	3	3	3	3	4
19	3	2	2	2	2	2	2	2	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	2	2
20	2	2	1	4	3	3	6	5	21	17	27	18	21	19	4	2	4	6	5	3	2	2	3	3	8
21	7	12	16	14	14	10	10	7	31	39	29	29	29	17	3	2	2	3	1	0	1	0	1	1	12
22	1	1	0	0	1	0	0	1	6	17	34	36	38	24	47	40	11	9	16	16	12	25	42	31	17
23	27	32	27	16	11	7	3	2	1	1	1	1	1	0	2	1	1	1	1	1	1	1	0	0	6
24	0	1	1	0	0	0	1	1	1	2	1	1	2	1	1	1	1	1	0	0	0	0	1	1	1
25	0	0	0	1	1	1	1	1	0	0	1	1	1	9	10	20	27	8	14	25	13	13	17	15	7
26	19	18	14	14	10	7	5	9	14	43	75	32	43	51	35	23	24	24	22	23	15	12	16	12	23
27	14	14	31	18	9	5	4	3	3	2	3	3	1	6	10	17	8	3	2	1	1	1	0	1	7
28	1	1	1	1	1	2	1	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1
29	1	1	1	1	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
31	M	M	M	M	M	M	M	M	M	M	M	M	52	0	0	1	3	3	2	3	5	3	2	5	

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							RANGE-----			STN GEOM	PERCENT	NO. OF TIMES			
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT LEVEL			
4	3	7	3	17	29	39	47	0	-	84	1	-	23	3	92	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : POK FU LAM
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
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	14	11	10	9	9	8	11	18	18	26	24	18	19	22	26	28	34	28	31	49	60	46	43	41	25
2	18	M	13	11	10	10	14	19	18	18	23	24	29	20	14	12	14	10	16	14	9	5	7	8	15
3	11	9	9	3	2	4	14	41	53	60	58	47	47	49	46	58	39	67	63	57	74	77	82	78	44
4	68	47	53	26	59	44	46	35	64	57	66	60	63	52	42	60	50	57	77	78	64	57	65	70	57
5	64	56	73	66	54	52	34	33	17	19	18	14	13	14	14	16	15	16	18	14	10	8	8	9	27
6	7	7	7	7	7	9	13	25	29	39	34	43	37	35	60	56	60	52	53	51	37	46	74	55	35
7	50	53	13	10	11	14	54	23	33	21	19	19	19	23	26	31	39	45	54	51	47	43	38	34	32
8	29	22	25	27	25	25	27	30	32	34	33	34	23	26	35	59	66	62	59	53	47	45	43	42	38
9	44	42	41	39	38	36	28	34	33	32	37	36	37	36	38	36	41	47	46	47	49	51	43	50	40
10	44	43	40	46	32	33	34	33	35	38	41	46	46	48	56	56	68	74	72	71	67	62	60	58	50
11	57	56	57	53	48	50	44	46	44	46	38	33	37	36	51	41	53	58	53	60	48	45	46	38	47
12	40	41	39	27	24	27	33	43	42	41	35	36	38	39	46	54	64	70	61	60	59	52	50	47	45
13	38	37	34	37	32	31	36	38	38	36	35	35	40	48	53	57	61	76	75	67	65	63	60	60	48
14	58	56	40	35	30	39	41	45	48	48	47	47	47	50	54	48	65	77	82	89	90	87	82	78	58
15	74	78	47	19	20	25	34	49	49	45	45	48	33	26	43	48	61	105	134	148	152	116	47	34	62
16	48	M	99	92	84	79	71	59	43	M	48	47	42	37	50	59	70	69	71	58	59	48	47	54	61
17	40	38	30	30	25	30	27	42	45	48	49	48	42	33	30	29	31	44	60	69	63	65	72	71	44
18	62	24	12	18	23	20	23	30	44	43	34	29	18	19	20	28	37	41	22	17	16	12	10	12	26
19	17	13	11	10	11	12	17	30	35	29	21	15	16	15	14	18	28	21	24	21	27	24	13	15	19
20	15	12	8	24	13	13	32	48	76	69	67	58	53	43	19	15	28	52	64	18	10	15	32	29	34
21	51	49	64	43	53	34	55	37	64	67	56	60	60	43	17	15	13	18	18	14	13	10	10	12	37
22	12	11	9	8	8	9	16	30	40	54	71	64	78	69	79	65	46	57	86	81	69	103	120	103	54
23	100	104	69	59	44	15	16	17	19	18	15	18	25	32	36	36	37	45	44	53	42	42	28	35	40
24	26	26	30	24	22	21	32	40	42	45	45	43	42	28	27	30	31	31	32	28	31	27	27	19	31
25	15	11	9	9	9	10	12	14	16	21	18	20	20	29	32	60	78	48	69	89	83	82	89	98	39
26	99	91	82	77	62	58	55	54	49	65	74	67	67	65	66	55	54	73	94	85	81	94	119	104	75
27	118	118	130	113	60	22	39	48	34	34	36	35	25	34	39	42	39	32	27	24	30	26	19	10	47
28	9	8	11	13	23	21	26	34	33	23	21	19	27	30	31	40	37	46	45	43	38	38	37	39	29
29	38	30	27	22	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
30	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
31	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							RANGE-----					STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR		24-HR			DEVIATION	VALID DATA	ABOVE LIMIT LEVEL	
34	38	41	38	71	82	103	118	2	-	152	15	-	75	2	90	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : AP LEI CHAU
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	1	2	2	2	2	2	1	1	1	2	3	3	2	2	2	2	2	1	0	1	2	2	1	3	2
2	2	2	3	4	5	4	3	3	4	4	5	4	4	4	3	3	2	0	0	0	0	1	1	1	3
3	1	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	1	0	0	1	0	3	1
4	1	1	1	2	1	5	2	2	6	37	50	14	51	63	44	6	3	2	13	76	67	26	17	35	22
5	43	23	20	20	4	3	3	19	5	3	2	2	1	2	2	1	1	1	1	1	1	1	1	1	7
6	1	1	1	1	2	2	2	2	2	3	3	3	4	4	14	4	3	2	1	2	2	2	2	3	3
7	2	3	3	4	4	4	3	3	2	1	1	1	1	1	1	1	2	1	2	3	2	1	2	1	2
8	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	1	2	3	3	2	2	1	2	1
9	1	1	1	2	2	2	2	2	2	3	3	1	2	11	9	4	4	4	3	5	6	4	7	4	4
10	4	12	6	5	5	4	5	3	6	7	8	5	7	10	11	11	9	9	9	7	9	10	8	9	7
11	6	6	4	3	3	3	3	3	5	7	7	7	7	6	6	5	4	4	5	5	3	3	3	3	5
12	4	2	3	1	1	1	1	2	2	2	2	3	4	3	4	4	3	4	2	2	3	2	2	2	2
13	1	1	1	1	1	1	1	2	2	2	2	2	5	6	4	3	4	5	4	3	4	2	2	3	3
14	3	3	3	2	2	2	2	2	2	1	1	2	2	2	2	2	2	2	4	4	4	3	3	5	3
15	4	4	3	2	2	2	3	2	3	6	8	4	3	3	3	4	5	9	19	8	4	3	3	4	5
16	3	3	4	7	7	12	12	15	13	11	19	13	9	10	5	9	9	6	6	4	3	2	2	9	8
17	4	4	3	4	4	4	2	2	3	3	6	7	24	9	4	4	3	3	4	4	4	4	3	4	5
18	4	4	4	4	4	5	5	5	6	7	6	6	5	6	7	6	5	5	4	4	3	3	3	4	5
19	4	4	3	3	3	3	3	3	3	4	4	4	4	3	3	2	2	2	2	2	2	2	2	1	3
20	1	2	2	2	1	1	2	2	2	9	38	30	41	30	3	3	2	2	2	2	1	1	1	2	8
21	2	2	2	2	1	1	1	1	2	3	2	1	2	2	2	3	3	4	3	2	2	1	2	1	2
22	1	1	1	1	1	1	1	2	3	8	40	32	20	25	20	4	4	3	3	3	3	3	4	4	8
23	4	4	4	3	3	3	2	2	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	2	2
24	1	1	1	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	2	2	2	2
25	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	9	3	7	4	3	5	16	36	40	6
26	49	28	29	26	23	59	51	18	22	33	65	47	42	41	36	44	20	23	10	28	20	15	21	24	32
27	31	137	100	15	7	5	5	4	3	3	4	4	3	4	5	10	5	3	3	2	2	2	1	1	15
28	1	1	1	1	1	1	1	2	2	2	2	2	3	3	2	2	1	1	1	1	1	1	1	2	2
29	2	2	2	2	2	2	2	1	2	2	3	2	M	3	2	2	2	2	2	1	2	1	2	3	2
30	3	2	3	3	2	2	2	2	2	2	3	3	3	4	4	5	7	3	3	3	3	3	3	3	3
31	2	2	3	3	3	5	4	2	3	4	4	4	5	4	7	4	6	4	3	3	5	4	3	3	4

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
3	3	6	3	10	24	42	51	0	-	137	1	-	32	3	100	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : AP LEI CHAU
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	3	4	1	1	1	1	5	5	7	12	11	10	7	8	5	8	13	14	9	13	15	11	6	2	7
2	0	0	1	3	0	1	0	2	5	1	1	0	0	0	0	2	0	2	7	6	0	0	5	2	2
3	6	1	0	0	0	0	1	4	5	4	1	0	0	0	0	0	6	11	8	7	17	10	4	40	5
4	12	11	6	13	3	15	11	23	32	54	52	27	49	50	50	8	3	14	47	66	63	53	52	60	32
5	58	52	46	39	1	1	6	18	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9
6	0	0	1	0	2	3	5	12	9	12	9	10	10	27	36	20	17	11	13	11	7	8	12	8	10
7	11	13	6	4	4	4	3	3	6	8	6	5	5	6	10	11	28	37	43	43	27	22	24	19	15
8	16	12	12	12	12	10	11	14	17	13	16	17	10	17	21	29	36	43	55	52	46	39	37	36	24
9	35	28	19	12	7	9	11	12	13	19	19	7	14	28	30	29	31	41	43	43	48	34	23	21	24
10	19	41	40	31	26	27	28	27	26	31	35	37	40	43	52	58	62	67	66	63	62	58	55	56	44
11	52	49	39	12	18	17	32	36	41	42	35	31	29	36	41	40	45	50	51	44	32	27	29	30	36
12	31	M	29	20	15	14	21	31	36	36	33	33	33	36	37	39	49	61	59	54	53	49	45	44	37
13	34	30	24	19	18	19	21	26	23	21	19	22	38	47	47	57	64	79	75	63	58	55	49	34	39
14	21	16	14	13	12	15	23	28	27	22	23	29	28	31	20	16	19	40	75	82	82	79	71	69	36
15	56	19	13	12	11	12	18	19	21	30	46	13	10	8	7	11	20	73	119	69	82	61	24	26	33
16	28	29	50	84	79	73	67	56	41	39	46	40	37	34	42	50	59	63	68	58	50	46	39	51	51
17	34	33	18	22	19	17	20	33	28	37	52	44	54	21	10	16	16	17	19	34	29	51	56	66	31
18	54	48	31	17	12	16	24	32	25	18	15	10	4	4	8	8	10	9	4	2	0	0	0	2	15
19	3	3	0	0	2	5	6	10	12	8	6	5	3	1	2	1	6	5	4	6	8	6	3	2	4
20	0	1	0	0	0	1	9	17	10	34	63	73	57	22	0	0	0	1	0	0	0	0	0	0	12
21	0	2	1	0	0	3	9	9	17	13	8	1	2	0	0	0	0	1	1	0	0	0	1	3	
22	0	1	0	0	0	0	2	11	15	34	62	41	21	31	35	1	2	10	11	5	5	18	16	17	14
23	15	2	1	0	1	4	10	14	19	23	16	16	17	19	21	23	34	32	30	30	26	24	18	20	17
24	19	14	11	9	3	11	21	23	27	20	16	29	23	14	19	18	14	18	19	20	16	9	7	4	16
25	0	0	0	0	0	0	0	1	1	4	9	4	1	5	7	19	12	23	25	21	38	41	71	77	15
26	76	M	70	67	64	62	57	48	46	46	49	55	40	43	42	44	21	32	29	54	84	99	78	114	57
27	114	110	111	84	24	10	20	23	22	23	20	10	5	10	13	15	11	12	13	10	11	9	6	1	29
28	0	0	1	6	9	9	16	18	14	9	7	6	8	12	19	26	17	25	36	39	36	26	24	28	16
29	31	22	18	19	16	14	19	19	19	20	16	17	M	16	20	33	40	45	42	41	37	37	31	18	26
30	15	15	16	20	17	18	20	22	23	25	21	20	23	22	27	36	47	49	57	54	43	51	49	38	30
31	33	29	32	28	28	30	33	35	40	38	32	36	33	32	41	40	54	61	60	57	53	50	47	40	40

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----								-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
17	18	23	18	54	63	78	84	0	-	119	2	-	57	3	100	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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

STATION : CHEUNG CHAU
POLLUTANT : SULPHUR DIOXIDE

YEAR : 2018
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	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	4	0
2	1	0	0	0	0	1	0	0	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	3	1
3	0	0	0	0	0	0	1	2	1	5	2	0	0	0	3	0	0	0	0	0	0	0	0	3	1
4	2	1	2	2	3	3	1	0	2	7	5	8	10	4	2	11	16	7	2	1	1	2	2	5	4
5	2	2	3	5	7	4	6	7	6	1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	2
6	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7	0	1	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	1	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3	1	2	2	3	5	1
11	4	2	0	0	1	1	0	0	0	1	1	1	2	3	2	3	2	0	0	0	0	0	0	1	1
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	2	1	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0
15	0	0	0	1	0	0	0	0	0	1	1	1	3	3	3	2	5	1	0	0	1	4	5	5	2
16	5	5	5	6	4	3	3	3	3	4	4	2	1	1	0	0	0	0	0	0	0	0	0	1	2
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1	0	1	0	0	1	5	1	
18	3	2	3	2	2	2	1	2	3	4	4	4	3	2	2	4	5	6	3	1	0	0	1	2	3
19	1	2	1	1	1	0	0	2	2	3	5	5	5	4	1	2	4	2	4	3	3	2	2	3	2
20	1	6	2	0	0	0	0	0	1	2	4	2	7	10	4	4	1	0	1	0	1	0	0	1	2
21	0	0	0	0	0	0	0	0	2	7	3	2	1	1	0	0	0	2	0	0	0	0	0	4	1
22	2	0	0	2	0	0	0	0	1	2	4	5	6	6	6	5	1	0	0	0	0	4	2	4	2
23	4	3	4	2	0	2	5	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5	7	1
25	1	4	4	3	4	7	6	5	5	4	2	3	5	2	1	3	1	0	0	1	0	0	0	4	3
26	7	5	5	3	2	1	1	1	1	2	10	17	15	11	13	11	22	10	3	1	2	3	1	3	6
27	2	1	4	9	7	7	3	3	3	2	3	1	1	2	2	3	4	0	8	1	0	0	0	3	3
28	2	0	0	0	0	0	0	0	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	1	0	8	0	0	0	0	0	0	0	0	0	0	0	1	0
30	2	1	0	0	0	0	0	0	0	1	1	2	1	1	5	2	2	1	1	2	2	2	2	2	1
31	1	0	2	1	1	1	1	0	1	1	3	2	M	M	M	8	5	3	0	1	0	0	0	1	2

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----							-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES		
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
2	0	1	0	4	5	8	11	0	-	22	0	-	6	2	100	0

- NOTES: 1. FLAGS FOR INVALID DATA :
- D: DYNAMIC CALIBRATION
 - T: TELEMETRY/DATALOGGR FAULT
 - M: MAINTENANCE OR ANALYZER FAULT
 - P: POWER FAILURE

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

STATION : CHEUNG CHAU
POLLUTANT : NITROGEN DIOXIDE

YEAR : 2018
UNIT : MICROGRAMS/CUBIC METER

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	17	22	21	15	14	19	30	25	23	24	23	26	35	32	12	11	9	9	9	11	17	80	24	27	22
2	13	11	30	16	15	24	17	21	26	22	13	10	6	8	7	8	7	6	14	14	8	9	32	82	17
3	42	52	54	42	39	45	50	67	73	73	24	15	14	7	19	6	9	10	7	18	29	65	75	81	38
4	73	64	82	90	85	82	75	61	61	60	53	42	34	19	16	29	51	57	73	102	82	102	95	64	65
5	80	80	79	81	76	79	73	63	49	20	20	26	24	23	9	9	23	13	16	28	46	34	14	22	41
6	24	16	20	19	28	18	19	20	31	40	27	44	41	48	68	34	20	19	12	17	16	14	17	12	26
7	13	43	49	48	58	99	83	72	68	42	27	21	31	25	34	29	45	61	59	57	56	51	47	43	48
8	45	43	40	32	29	29	32	29	31	38	34	34	40	53	62	66	63	65	70	64	60	50	38	34	45
9	35	27	31	33	30	34	37	36	30	34	36	40	40	51	59	60	54	51	51	52	57	60	54	64	44
10	64	56	57	52	45	38	38	35	34	43	40	39	43	52	68	77	97	97	92	88	87	83	81	76	62
11	74	72	66	68	68	64	61	53	44	43	36	46	52	54	59	60	58	48	51	44	40	45	50	57	55
12	53	M	47	41	40	37	33	36	39	42	40	36	43	51	61	68	73	78	79	73	60	55	61	52	52
13	49	43	37	42	39	35	36	36	34	38	36	40	51	67	86	82	82	86	88	77	54	55	65	52	55
14	50	50	43	42	42	40	39	43	42	48	43	47	44	47	56	60	76	92	111	113	124	116	112	70	65
15	48	55	54	50	40	44	54	55	51	53	56	56	51	56	42	23	25	57	44	60	138	157	185	153	67
16	163	164	136	106	99	95	88	73	56	56	52	60	61	62	73	79	88	96	82	43	38	49	43	48	80
17	51	39	36	31	35	36	36	41	33	46	35	37	45	59	51	41	27	20	20	24	52	116	111	133	48
18	95	53	70	75	72	74	24	63	76	85	51	49	35	12	12	22	32	37	24	15	12	17	19	14	43
19	14	18	17	13	21	46	16	27	37	30	37	25	23	21	11	22	40	27	39	48	76	69	41	28	31
20	28	29	23	21	20	53	63	71	96	106	70	28	59	43	27	24	18	36	36	50	37	32	82	42	46
21	54	50	75	55	14	11	17	48	60	76	27	14	14	16	7	7	9	12	26	13	16	12	11	28	28
22	22	23	12	21	13	38	44	52	55	93	91	81	56	36	33	19	16	17	21	14	13	60	114	113	44
23	133	76	41	38	13	42	95	69	64	76	57	35	34	36	30	29	35	35	35	32	31	27	26	31	47
24	29	22	21	18	18	22	20	25	33	32	34	41	38	45	53	54	62	75	28	57	62	32	32	28	37
25	21	23	17	21	23	32	23	25	25	26	26	28	37	23	53	76	78	62	41	33	47	86	82	104	42
26	114	M	102	97	90	86	83	76	60	56	67	60	58	45	59	38	56	51	44	32	26	39	132	52	66
27	88	79	123	133	135	107	73	63	62	54	54	44	48	51	30	22	26	17	31	29	25	24	20	17	56
28	16	12	21	41	39	51	40	39	47	45	43	37	51	42	35	40	66	56	58	55	51	51	50	45	43
29	43	40	36	32	30	26	29	31	29	31	32	35	40	41	44	45	53	58	47	43	44	40	40	42	39
30	53	41	37	30	24	28	32	38	33	33	24	28	32	36	45	60	59	60	59	55	52	63	63	51	43
31	47	45	51	53	55	54	54	47	41	45	50	47	M	M	M	68	69	75	79	77	73	70	69	65	59

MONTHLY STATISTICS:

GEOM	ARITH-----PERCENTILES-----								-----RANGE-----				STN GEOM	PERCENT	NO. OF TIMES	
MEAN	MEDIAN	MEAN	50	90	95	98	99	1-HR	24-HR	DEVIATION	VALID DATA	ABOVE	LIMIT	LEVEL		
39	43	47	43	81	95	116	134	6	-	185	17	-	80	2	99	0

NOTES: 1. FLAGS FOR INVALID DATA :
D: DYNAMIC CALIBRATION
T: TELEMETRY/DATALOGGR FAULT
M: MAINTENANCE OR ANALYZER FAULT
P: POWER FAILURE

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 2018

Week Ending	No. of Samples	Suspended Solids, mg/L			pH		
		Maximum	Minimum	Average	Maximum	Minimum	Average
06/10/18	6*	22	16	19	8.2	8.0	8.1
13/10/18	7	23	12	18	8.3	7.5	7.8
20/10/18	7	22	12	17	8.4	7.5	8.1
27/10/18	7	23	12	17	8.4	7.4	8.0
03/11/18	5*	22	12	17	8.1	7.8	8.0
10/11/18	7	18	11	15	8.2	7.3	7.8
17/11/18	6*	21	12	17	8.3	7.3	7.8
24/11/18	7	21	14	17	8.0	7.4	7.8
01/12/18	2*	14	12	13	8.0	7.7	7.9
08/12/18	6*	21	16	18	8.1	7.5	7.8
15/12/18	7	22	13	16	8.3	7.8	8.0
22/12/18	6*	23	12	18	8.2	7.5	7.8
29/12/18	7	21	12	16	8.1	7.5	7.9

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 2018

Sampling date		4/10/2018	8/11/2018	6/12/2018
Barium,	ug/L	<150	<150	<150
Mercury,	ug/L	<0.5	<0.5	<0.5
Cadmium,	ug/L	3.1	3.8	3.9
Iron,	ug/L	<400	<400	<400
Total Phosphorous,	mg/L	<0.8	<0.8	<0.8
Total Nitrogen,	mg/L	60	68	74
Cyanide,	mg/L	<0.01	0.02	<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	Equipment 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