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

Lamma Power Station Extension
Construction Phase
Monthly Environmental Monitoring & Audit Report

December 2020

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

港燈
HK Electric

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499

ENVIRONMENTAL PERMIT NO. EP-071/2000/D

LAMMA POWER STATION EXTENSION ENVIRONMENTAL MONITORING & AUDIT PROGRAMME AT CONSTRUCTION PHASE

Report Title	Lamma Power Station Extension – Unit L11 & L12 Monthly EM&A Report (December 2020)
Date	14 January 2021
Certified by	(Mr. IP Tat-Yan, Environmental Team Leader)
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EXECUTIVE SUMMARY

This is the 128rth monthly Environmental Monitoring and Audit (EM&A) report for the Project "Construction of Lamma Power Station Extension" prepared by the Environmental Team (ET). This report presents the results of impact monitoring on air quality and noise for the said project in December 2020.

The reclamation and submarine pipeline works were completed with the first gas-fired combined cycle unit (viz. Unit L9) commissioned in October 2006, working currently on base load operation. To cope with the scheduled retirement of the existing units at Lamma Power Station, the second gas-fired combined cycle unit (viz. Unit L10) L10 was commissioned for reliable operation in February 2020. The operational EM&A work for L9 and L10 is recorded in the separate monthly EM&A report for the Project "Operation of Lamma Power Station Extension".

In September 2016, the Government approved HK Electric to construct the third combined cycle gas-fired generating unit (L11) to implement the 2020 Fuel Mix Target. L11 is planned for commercial operation in 2022 and the associated construction work commenced in November 2016.

With the Government's approval to build the fourth combined cycle gas-fired generating unit (L12) in July 2018, the associated construction work commenced in April 2019. When L12 is commissioned in 2023, the total gas-fired electricity generation will further rise to reach about 70% of our total output.

Air and noise monitoring were performed. The results were checked against the established Action/Limit (AL) levels. An on-site audit was conducted once per week. The implementation status of the environmental mitigation measures, Event/Action Plan and environmental complaint handling procedures were also checked.

Construction Activities Undertaken

Construction activities for Lamma Extension during the reporting month are tabulated as follows:

Item	Construction Activities
Unit L11 Civil and Building Works	275kV Station Building Extension works, Main Station Building external works, CW pipe installation, construction of link bridge, site formation works and pipe jacking works (grouting works)
Unit L11 Mechanical Erection	Condenser installation, HRSG installation and turbine block installation
Unit L11 Electrical, Instrumentation & Control Erection	Cable installation
Unit L12 Civil and Building Works	Main Station Building Excavation works (construction of tower crane and pipe cap), Preparation works (site formation) for ACB, Site set up and pipe piling for No. 5 C.W. Intake and Pipe Cap Construction Preparation for Cable Bridge

Environmental Monitoring Works

All monitoring work at designated stations was performed as scheduled satisfactorily.

Air Quality

No exceedance of Action/Limit levels on 1-hour TSP and 24-hour TSP for air quality was recorded in the month.

Noise

No exceedance of Action and Limit levels for noise arising from the construction of Lamma Extension was recorded in the month.

Site Environmental Audit

Site audits were carried out on a weekly basis to monitor environmental issues on the construction site. The site conditions were generally satisfactory.

Environmental Licensing and Permitting

Description	Permit No.	Valid Period		Issued To	Date of Issuance
		From	To		
Varied Environmental Permit	EP-071/2000/D	28/09/20	-	HK Electric	28/09/20
Construction Noise Permit	GW-RS0668-20	17/09/20	13/03/21	Contractor	15/09/20
Construction Noise Permit	GW-RS0391-20	01/07/20	31/12/20	Contractor	16/06/20
WPCO Discharge Licence	WT00034006-2019	08/08/19	31/08/24	Contractor	22/08/19
Registration of Chemical Waste Producer	WPN5213-912-P2781-22	22/02/16	-	Contractor	22/02/16
Registration of Chemical Waste Producer	WPN5517-912-T2007-02	17/03/05	-	Contractor	17/03/05
Waste Disposal Billing Account	Account No.: 7031135	21/06/18	-	Contractor	21/06/18
Waste Disposal Billing Account	Account No.: 7027672	24/04/17	-	Contractor	24/04/17
Waste Disposal Billing Account	Account No.: 7038672	27/10/20	-	Contractor	27/10/20

Implementation Status of Environmental Mitigation Measures

Environmental mitigation measures for the construction activities as recommended in the EM&A manual were implemented in the reporting month.

Environmental Complaints

No complaint against the construction activities was received in the reporting month.

Future Key Issues

The future key issues to be considered in the coming month are as follows:

<u>Unit L11 Civil and Building Works</u>

- to continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained;

- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;
- to treat wastewater in sedimentation pit and tanks before discharge and to ensure compliance with the WPCO discharge licence already obtained.

Unit L11 Mechanical Erection

- to continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained;
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L11 Electrical, Instrumentation & Control Erection

- to continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained;
- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L12 Civil and Building Works

- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;
- to treat wastewater in desilting pits and tanks for reuse on water spraying.

Concluding Remarks

The environmental performance of the project was generally satisfactory.

1. INTRODUCTION

1.1 Background

The Environmental Team (hereinafter called the "ET") was formed within the Hongkong Electric Co. Ltd (HEC) to undertake Environmental Monitoring and Audit for "Construction of Lamma Power Station Extension" (hereinafter called the "Project"). Under the requirements of Section 6 of Environmental Permit EP-071/2000/D, an EM&A programme for impact environmental monitoring set out in the EM&A Manual (Construction Phase) is required to be implemented. In accordance with the EM&A Manual, environmental monitoring of air quality, noise and water quality and regular environmental audits are required for the Project. With the completion of reclamation and submarine pipeline works, no further marine water quality monitoring would be required.

The Project involves the construction of a gas-fired power station employing combined cycled gas turbine technology, forming an extension to the existing Lamma Power Station. The key elements of the Project including the construction activities associated with the transmission system and submarine gas pipeline are outlined as follows.

- dredging and reclamation to form approximately 22 hectares of usable area;
- construction of six 300MW class gas-fired combined cycle units;
- construction of a gas receiving station;
- construction of a transmission system linking the Lamma Extension to load centres on Hong Kong Island;
- laying of a gas pipeline for the supply of natural gas to the new power station

This report summarizes the environmental monitoring and audit work for the Project for the month of December 2020.

1.2 Project Organisation

An Environmental Management Committee (EMC) has been set up in HEC to oversee the Project. The management structure includes the following:

- Environmental Protection Department (The Authority);
- Environmental Manager (The Chairman of the Environmental Management Committee);
- Engineer;
- Independent Environmental Checker (IEC);
- Environmental Team (ET);
- Contractor.

The project organisation chart for the construction EM&A programme is shown in Appendix A.

1.3 Construction Works undertaken during the Reporting Month

Construction activities for Unit L11 civil and building works were, 275kV Station Building Extension works, Main Station Building external works, CW pipe installation, construction of link bridge, site formation works and pipe jacking works (grouting works). Construction activities for Unit L11 mechanical erection were condenser installation, HRSG installation and turbine block installation. Construction activity for Unit L11 electrical, instrumentation & control erection was cable installation. Construction activities for Unit L12 civil and building

works were, Main Station Building excavation works (construction of tower crane and pipe cap), preparation works (site information) for ACB, site set up and pipe piling for No. 5 C.W. Intake and pipe cap construction preparation for cable bridge. Layout plan for construction site is shown in Figure 1.1.

The main construction activities carried out during the reporting month and the corresponding environmental mitigation measures are summarized in Table 1.1. The implementation of major mitigation measures in the month is provided in Appendix I.

Table 1.1 Construction Activities and Their Corresponding Environmental Mitigation Measures

Item	Construction Activities	Environmental Mitigation Measures
Unit L11 Civil and Building Works		
1.	275kV Station Building Extension Works	**Air** – All regulated machine attached with valid exception/approval NRMM labels. – Wheel washing facility was provided. **Noise** – Works conducted during holiday should comply with the valid CNP. **Wastewater** – Wastewater should be treated in desilting pit and tanks for reuse on water spraying. **Waste Management** – Scrape metal will be recycled. – Timber will be reused as much as possible. – Chemical waste should be collected by licensed collector
2.	Main Station Building external works, CW Pipe Installation, Construction of Link bridge, Site Formation Works and Pipe Jacking Works (Grouting works)	**Air** – All regulated machine attached with valid exception/approval NRMM labels. – Water truck and water sprinkler system was used. – Water spraying for concrete breaking of pile head. – Excavated slope and soil stock covered with cement or tarpaulin. – Backfilled surface was compacted. – Wheel washing facility was provided. **Noise** – Works conducted during holiday should comply with the valid CNP.

Item	Construction Activities	Environmental Mitigation Measures
		Wastewater – Wastewater should be treated in desilting pit and tanks before discharge. Solution should be added to speed up the sedimentation process. Sediment in pit and tanks must be removed regularly. **Waste Management** – Excavated soil was temporary stored for backfilling. – Scrape metal will be recycled. – Timber will be reused as much as possible.
Unit L11 Mechanical Erection		
3.	Condenser installation HRSG installation Turbine block installation	**Air** – Dust suppression measures implemented according to the EMP. **Noise** – General noise mitigation measures employed at all work sites throughout the construction phase. **Waste Management** – Waste Management Plan submitted and implemented
Unit L11 Electrical, Instrumentation & Control Erection		
4.	Cable installation	**Air** – Dust suppression measures implemented according to the EMP. **Noise** – General noise mitigation measures employed at all work sites throughout the construction phase. **Waste Management** – Waste Management Plan submitted and implemented.
Unit L12 Civil and Building Works		
5.	Unit L12 Main Station Building Excavation Works (construction of tower crane and	**Air** – All regulated machine attached with valid exception/approval NRMM labels. – Noise emission label was provided for air compressor. – Water truck, misting cannon and water sprinkler

Item	Construction Activities	Environmental Mitigation Measures
	pipe cap) ACB Preparation works (site formation) No.5 C.W. Intake Site set up and pipe piling	system will be used. – Water spraying for concrete breaking works. – Soil stock will be covered with cement or tarpaulin or keep the entire surface wet. – Wheel washing facility will be relocated. – Used tarpaulin screening cover for drill rig. **Noise** – General noise mitigation measure employed at all work sites throughout the construction phase. **Wastewater** – Wastewater will be treated in desilting pits and tanks for reuse on water spraying. – Additional desilting tanks will be provided. **Waste Management** – Excavated soil was temporary stored for backfilling. – Scrape metal will be recycled. – Chemical waste should be collected by licensed collector.
6.	Cable Bridge: Pipe Cap Construction	**Air** – All regulated machine attached with valid exception/approval NRMM labels. – Soil stockpile covered with tarpaulin. – Water spraying on haul road. **Waste Management** – Excavated soil will be stored for backfilling.

1.4 Summary of EM&A Requirements

The detailed EM&A monitoring work for air quality and noise are described in Sections 2 and 3 respectively. Regular environmental site audits for air quality, noise, water quality and waste management were carried out.

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

- Environmental monitoring results;
- Waste Management Records;
- Weekly site audit results;
- The status of environmental licensing and permits for the Project;
- The implementation status of environmental protection and pollution control/ mitigation measures.

Future key issues will be reported in Section 5 of this report.

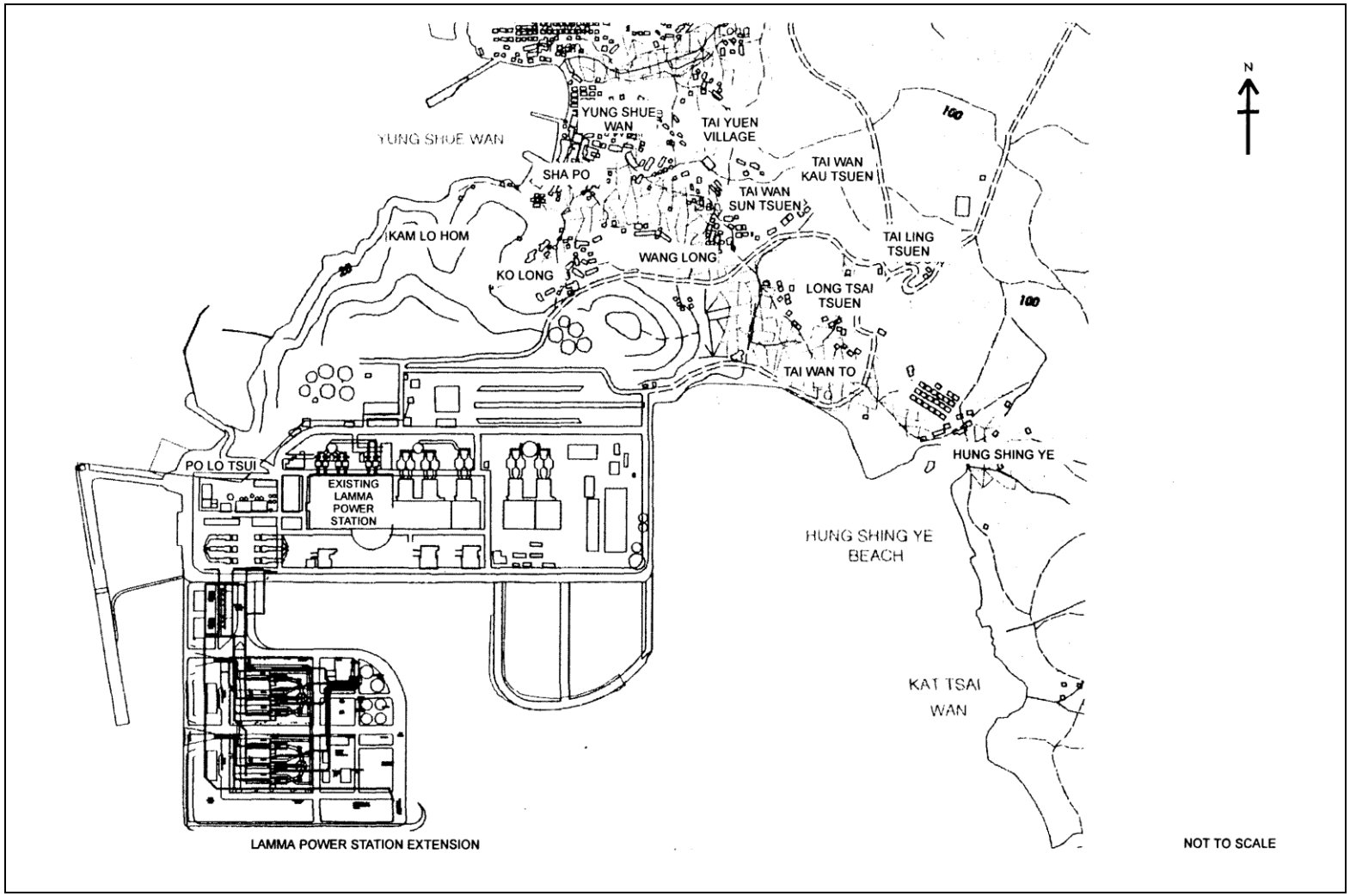


Figure 1.1 Layout of Work Site

2. AIR QUALITY

2.1 Monitoring Requirements

1-hour and 24-hour TSP monitoring at agreed frequencies were conducted to monitor air quality. The impact monitoring data were checked against the Action/Limit Levels as determined in the Baseline Monitoring Report (Construction Phase). Appendix B shows the established Action/Limit Levels for Air Quality.

2.2 Monitoring Locations

Three dust monitoring locations were selected for 1-hour TSP sampling (AM1, AM2 & AM3) while four monitoring locations were selected for 24-hour TSP sampling (AM1, AM2, AM3 and AM4). Table 2.1 tabulates the monitoring stations. The locations of the monitoring stations are shown in Figure 2.1.

Table 2.1 Air Quality Monitoring Locations

Location I.D.	Description
AM1	Reservoir
AM2	East Gate
AM3	Ash Lagoon
AM4	Tai Yuen Village

2.3 Monitoring Equipment

It is agreed with EPD that continuous 24-hour TSP air quality monitoring would be performed using TEOM continuous dust monitor and the MINIVOL Portable Sampler at AM1,2&3 and AM4 respectively. TEOM continuous dust monitors were used to carry out 1-hour TSP monitoring at AM1, AM2 and AM3. Table 2.2 summarises the equipment used in dust monitoring.

Table 2.2 Air Quality Monitoring Equipment

Equipment	Model and Make
24-hour sampling:	
Continuous TSP Dust Meter	TEOM continuous dust monitor Thermo Scientific
MINIVOL Portable Sampler	AIRMETRICS
1-hour sampling: Continuous TSP Dust Meter	TEOM continuous dust monitor Thermo Scientific

2.4 Monitoring Parameters, Frequency and Duration

Table 2.3 summarises the monitoring parameters, duration and frequency of air quality monitoring. The monitoring schedule for the reporting month is shown in Appendix C.

Table 2.3 Air Quality Monitoring Parameter, Duration and Frequency

Monitoring Stations	Parameter	Duration	Frequency
AM1	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM2	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM3	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM4	24-hour TSP	24	Once every 6 days

2.5 Monitoring Procedures and Calibration Details

MINIVOL (24- hour TSP Monitoring):

Preparation of Filter Papers

- Visual inspection of filter papers was carried out to ensure that there were no pinholes, tears and creases;
- The filter papers were then labeled before sampling.
- The filter papers were equilibrated at room temperature and relative humidity < 50% for at least 24 hours before weighing.

Field Monitoring

- During collection of the sampled filter paper, the information on the elapse timer was logged. Site observations around the monitoring stations, which might have affected the monitoring results, were also recorded. Major pollution sources, if any, would be identified and reported.
- The post-sampling filter papers were removed carefully from the filter holder and folded to avoid loss of fibres or dust particles from the filter papers;
- The filter holder and its surrounding were cleaned;
- A pre-weighed blank filter paper for the next sampling was put in place and aligned carefully. The filter holder was then tightened firmly to avoid leakage;
- The programmable timer was set for the next 24 hrs sampling period;
- The post-sampling filter papers were equilibrated at room temperature and relative humidity < 50% for at least 24 hours before weighing.

TEOM continuous dust monitor (24- hour TSP and 1- hour TSP Monitoring):

- The following parameters of the TEOM model dust meters are regularly checked to ensure proper functionality:
    - Operation Mode;
    - Frequency of the tapered element;
    - Main flow;
    - Bypass flow.

Maintenance & Calibration

- The monitoring equipment and their accessories are maintained in good working conditions.

- Monitoring equipment is calibrated at monthly intervals. Calibration details are shown in Appendix F.

2.6 Results and Observations

All dust monitoring works were conducted on schedule. All monitoring data and graphical presentation of the monitoring results are provided in Appendix D. Key findings and observations are provided below:

1-hour TSP

No exceedance of 1-hour TSP Action/Limit Level was recorded in the month.

24-hour TSP

No exceedance of 24-hour TSP Action/Limit Level was recorded in the month.

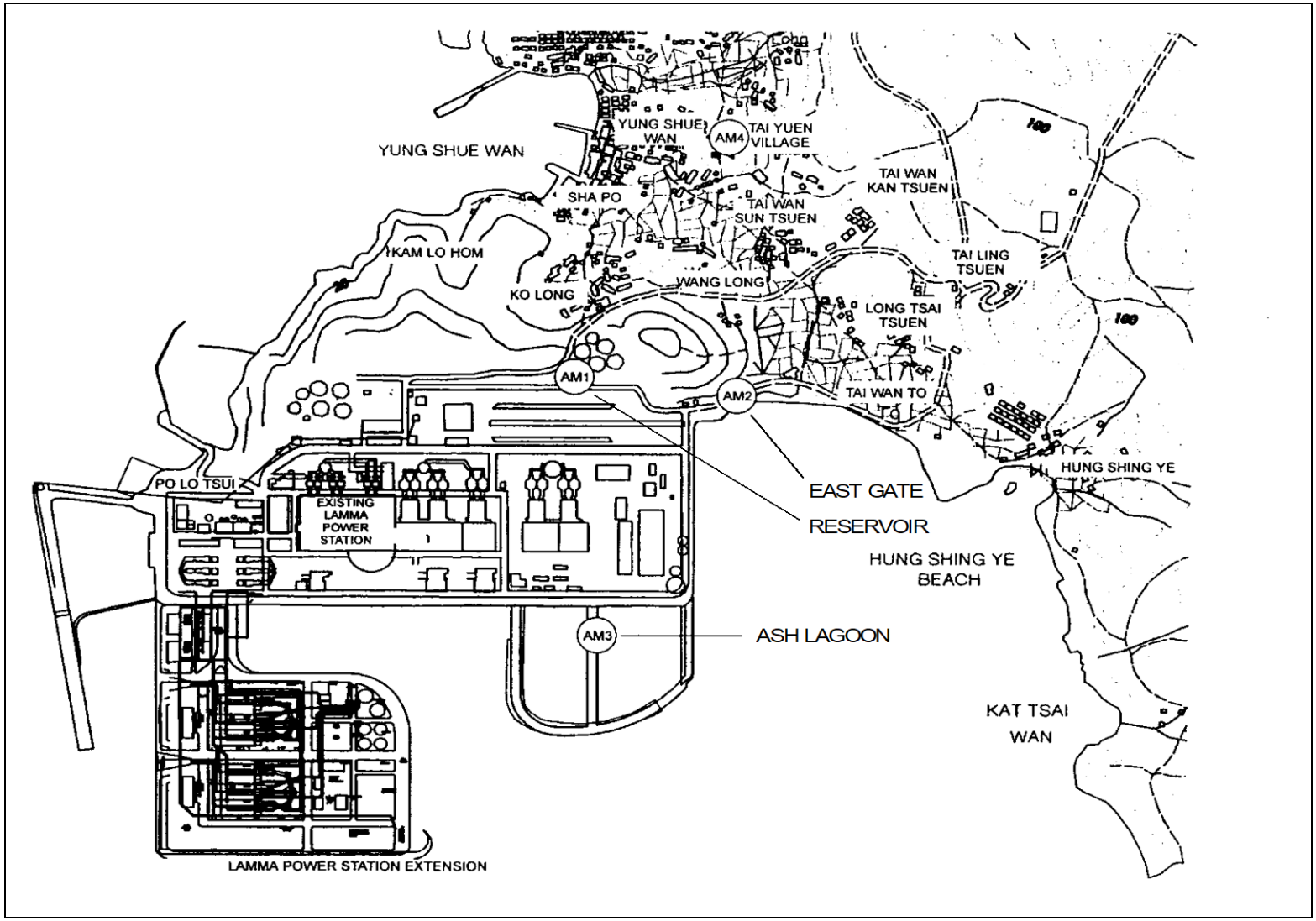


Figure 2.1 Location of Air Quality Monitoring Stations

3. NOISE

3.1 Monitoring Requirements

Continuous noise alarm monitoring at Ash Lagoon/Ching Lam were carried out to calculate the noise contributed by the construction activities at the two critical NSR's, viz. Long Tsai Tsuen/Hung Shing Ye and the school within the village of Tai Wan San Tsuen. The impact monitoring data for construction noise were checked against the limit levels specified in the EM&A Manual. With the availability of the construction noise permits, impact monitoring for the construction work during the restricted hours was also carried out. Section 3 presents the details of the construction noise permits.

The impact noise monitoring data were checked against the limit levels specified in the EM&A Manual. Appendix B shows the established Action/Limit Levels for noise.

3.2 Monitoring Locations

In accordance with the EM&A manual, the identified noise monitoring locations of Ash Lagoon and Ching Lam are shown in Figure 3.1.

3.3 Monitoring Equipment

The sound level meters used for noise monitoring complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). The noise monitoring equipment used is shown in Table 3.1.

Table 3.1 Noise Monitoring Equipment

Equipment	Model
Sound level meters	B&K 2250
Sound level calibrator	B&K 4231

3.4 Monitoring Parameters, Frequency and Duration

Continuous alarm monitoring was carried out at Ash Lagoon and Ching Lam. The measurement duration and parameter of noise monitoring were presented in Table 3.2 as follows:

Table 3.2 Noise Monitoring Duration and Parameter

Location	Time Period	Frequency	Parameter

Ash Lagoon Ching Lam	Day-time: 0700-1900 hrs on normal weekdays Evening-time & holidays: 0700-2300 hrs on holidays; and 1900-2300 hrs on all other days Night-time: 2300-0700 hrs of next day	Day-time: 30 minutes Evening-time & holidays: 5 minutes Night-time: 5 minutes	30-min L_{Aeq} 5-min L_{Aeq} 5-min L_{Aeq}

3.5 Monitoring Procedures and Calibration Details

Monitoring Procedures

Continuous Noise Monitoring for Lamma Extension Construction

The measured noise levels (MNL's) were collected at the noise alarm monitoring stations at Ash Lagoon and Ching Lam. The notional background noise levels (viz. baseline noise data at Ash Lagoon and Ching Lam) were applied to correct the corresponding MNL's in 30-min/5-min L_{Aeq}.

A wind speed sensor was installed at Station Building Rooftop. The wind speed signal was used to determine whether the data from Ash Lagoon and Ching Lam noise alarm monitoring stations were affected. The instantaneous data was discarded in case the instantaneous wind speed exceeded 10 m/s. The 30-min/5-min L_{Aeq} was considered valid only if the amount of valid data was equal to or above 70%.

Equipment Calibration

The sound level meters and calibrators were verified by the manufacturer or accredited laboratory. With the endorsement of the Independent Environmental Checker, the enhancement of calibration of sound level meter at the noise monitoring stations was implemented. The monthly manual on-site calibration using sound level calibrator was replaced by the daily auto charge injection calibration function of the sound level meter. For additional quality assurance, manual on-site calibration would still be conducted for the noise monitoring stations once every 6 months. The manual on-site calibrations for Ash Lagoon and Ching Lam noise monitoring stations were carried out in September and October 2020 respectively. The next calibrations for the two noise monitoring stations were scheduled in March and April 2021.

3.6 Results and Observations

Continuous noise monitoring was conducted at the two monitoring stations at Ash Lagoon and Ching Lam.

All monitoring results and their graphical presentations are provided in Appendix E. No exceedance of noise Action/Limit Level was recorded in the month.

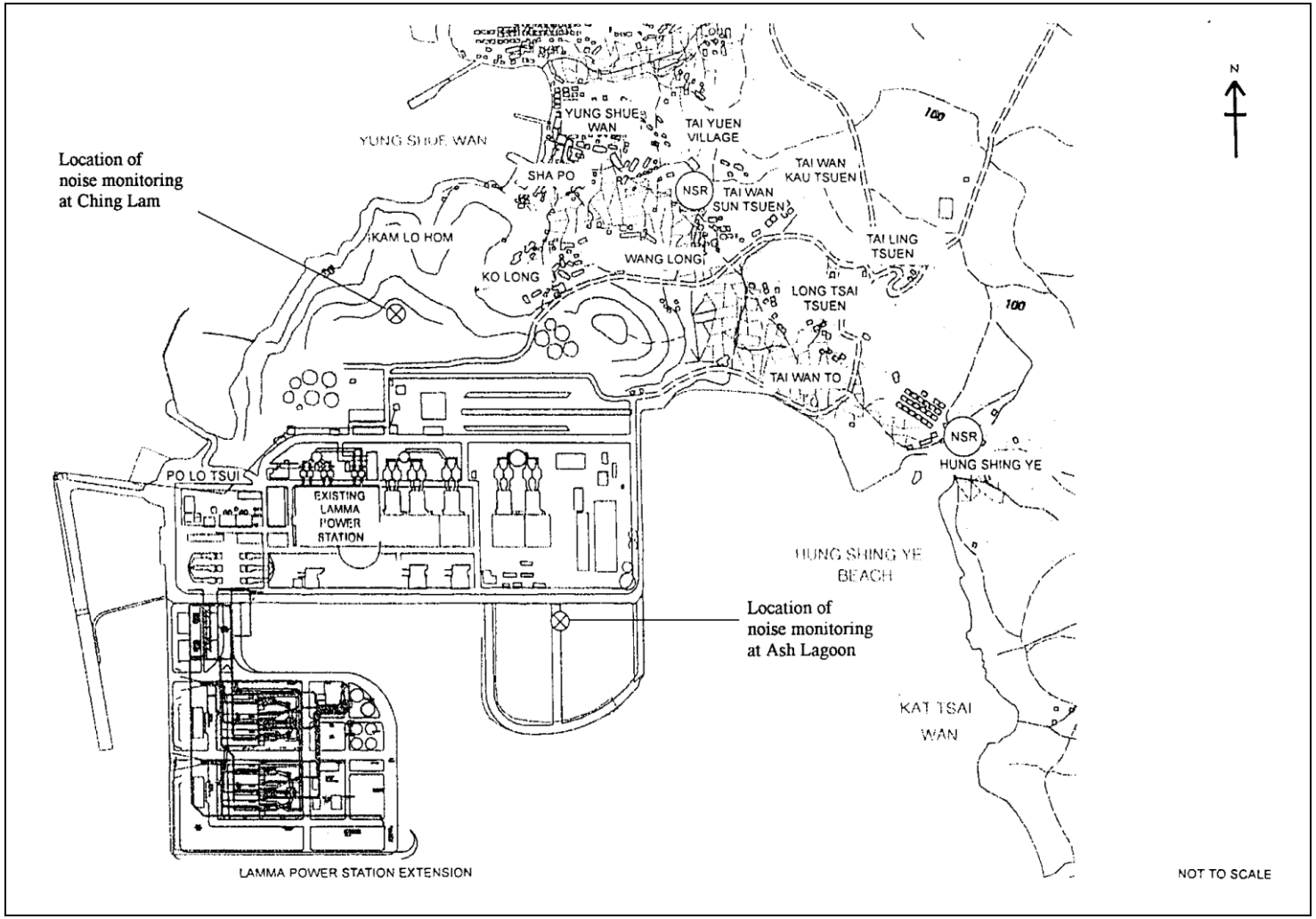


Figure 3.1 Location of Noise Monitoring Stations

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 Noise

The environmental monitoring results for Air Quality and Noise in the reporting month presented in Sections 2 and 3 respectively are summarized in Table 4.1.

Table 4.1 Summary of AL 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	Ambient TSP (24-hour)	01/12/2020-31/12/2020	0	0	
2	Ambient TSP (1-hour)	01/12/2020-31/12/2020	0	0	
Noise					
1	Noise level at the critical NSR's predicted by the noise alarm monitoring system	01/12/2020-31/12/2020	0	0	

4.3 Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. Inert C&D materials comprise excavated materials and broken concrete. Non-inert C&D materials comprise general refuse, metals and paper/ cardboard packaging, plastics, chemical waste, etc.

Inert C&D material and non-inert C&D material disposed of in December 2020 are shown in Table 4.2.

Table 4.2 Estimated Amounts of Waste in December 2020

Total Inert C&D Waste Materials	Non-inert C&D Materials		
	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste

0 Tonnes	0 Tonnes	75.36 Tonnes	0 Litres

The monthly waste flow tables prepared by the contractors are attached in Appendix K

4.4 Site Environmental Audit

Site audits were carried out by ET on a weekly basis to monitor environmental issues at the construction sites to ensure that all mitigation measures were implemented timely and properly. The site audit findings for the reporting month are summarized in Appendix H. The site conditions were generally satisfactory. All required mitigation measures were implemented.

4.5 Status of Environmental Licensing and Permitting

All permits/licenses obtained for the project are summarised in Table 4.3.

Table 4.3 Summary of Environmental Licensing and Permit Status

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Varied Environmental Permit	EP-071/2000/D	28/09/20	-	The whole construction work site	Valid
Construction Noise Permit	GW-RS0668-20	17/09/20	13/03/21	Civil and Building Works for Unit L11. Operation of PME during restricted hours	Valid
Construction Noise Permit	GW-RS0391-20	01/07/20	31/12/20	Power Block Facilities works for Unit L11. Operation of PME during restricted hours	Valid
WPCO Discharge Licence#	WT00034006-2019	08/08/19	31/08/24	Civil and Building Works for Unit L11	Valid
Registration of Chemical Waste Producer	WPN5213-912-P2781-22	22/02/16	-	Civil and Building Works	Valid
Registration of Chemical Waste Producer	WPN5517-912-T2007-02	17/03/05	-	E&M Equipment Installation and Maintenance	Valid
Waste Disposal Billing Account	Account No.: 7031135	21/06/18	-	Civil and Building Works for Unit L11	Valid
Waste Disposal Billing Account	Account No.: 7027672	24/04/17	-	E&M Erection of Power Block Facilities – L11	Valid

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Waste Disposal Billing Account	Account No.: 7038672	27/10/20	-	Civil works for Unit L12 No.5 C.W. intake and cable bridge	Valid

Notes: # - Water quality monitoring was carried out in November 2020 and the results of which had been reported separately by the contractor.

4.6 Implementation Status of Environmental Mitigation Measures

Mitigation measures detailed in the permits and the EM&A Manual (Construction Phase) are required to be implemented. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix I.

4.7 Implementation Status of Event/Action Plans

The Event/Action Plans extracted from the EM&A Manual (Construction Phase) are presented in Appendix G.

4.8 Implementation Status of Environmental Complaint Handling Procedures

In December 2020, no complaint against the construction activities was received.

Table 4.4 Environmental Complaints Received in December 2020

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

Table 4.5 Outstanding Environmental Complaints 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 Key Issues for the Coming Month

Key issues to be considered in the coming month include:

Unit L11 Civil and Building Works

Noise Impact

- To continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Water Impact

- To treat wastewater in sedimentation pit and tanks before discharge and to ensure compliance in accordance with the WPCO discharge licence already obtained.

Unit L11 Mechanical Erection

Noise Impact

- To continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L11 Electrical, Instrumentation & Control Erection

Noise Impact

- To continue monitoring the noise level during construction and to ensure compliance with the CNP's already obtained.
- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Unit L12 Civil and Building Works

Noise Impact

- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Water Impact

- To treat wastewater in desilting pits and tanks for reuse on water spraying.

5.2 Monitoring Schedules for the Next 3 Months

The tentative environmental monitoring schedules for the next 3 months are shown in Appendix C.

5.3 Construction Program for the Next 3 Months

The tentative construction programs for the next 3 months are shown in Appendix J.

6. CONCLUSION

All monitoring work at designated stations was performed as scheduled satisfactorily. The environmental monitoring works and site inspection were performed as scheduled in the reporting month. All monitoring results were checked and reviewed.

No Action/Limit level exceedance on 1-hour and 24-hour TSP level was recorded in the reporting month.

No Action/Limit level exceedance on noise was recorded in the reporting month.

Environmental mitigation measures recommended in the EM&A manual for the construction activities were implemented in the reporting month. No complaint against the construction activities was received in the reporting month. No prosecution was received for this Project in the reporting period.

The environmental performance of the Project was generally satisfactory.

Appendix A Organization Chart

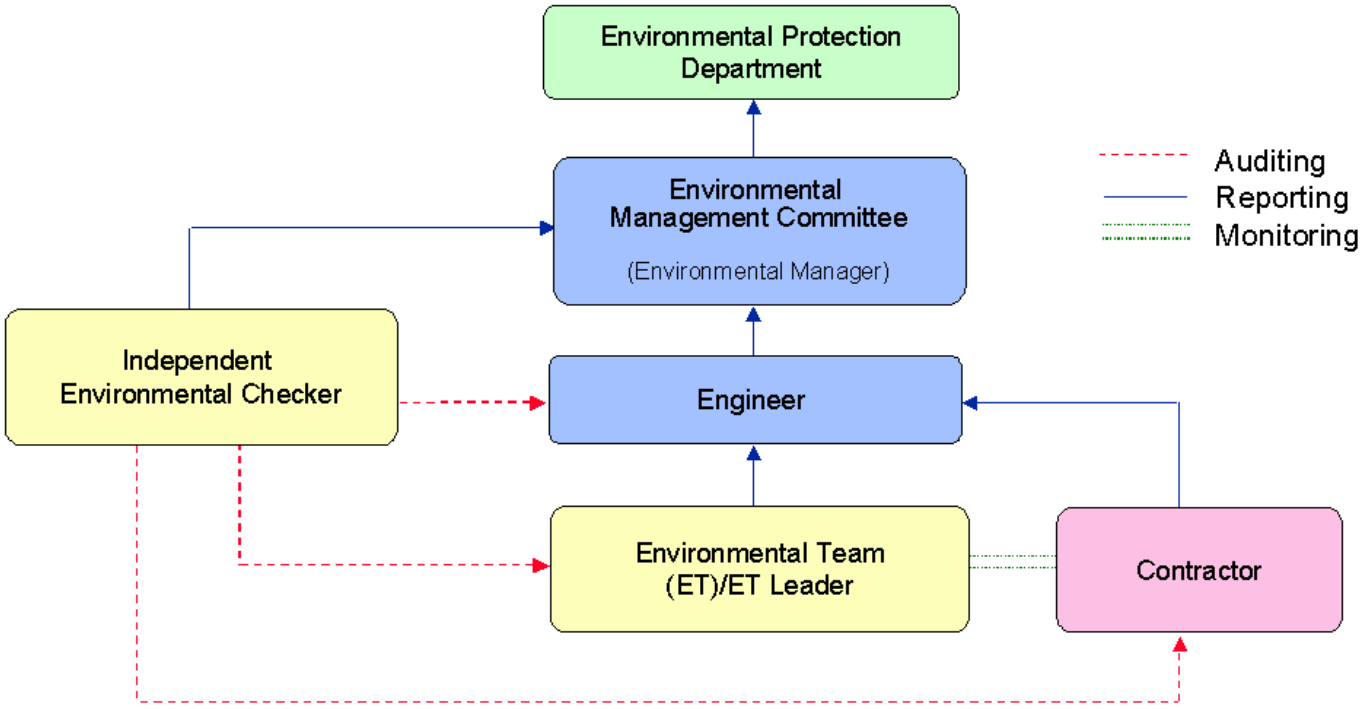


Figure A.1 Organisation of EM&A Programme at Construction Phase

Appendix B Action and Limit Levels for Air Quality and Noise Monitoring

B.1. Air

Table B.1 Action and Limit Levels for 1-hour and 24-hour TSP

	Action Level, $\mu g/m^3$	Limit Level, $\mu g/m^3$
1-hour TSP*	340	500
24-hour TSP	190	260

❄ No Action/Limit Level for 1-hour TSP is applied to AM4 where no real time dust monitor is installed.

B.2. Noise

Table B.2 AL Levels for Construction Noise (Other than Percussive Piling)

Parameters	Action	Limit
Noise Levels at the NSR's at Long Tsai Tsuen/Hung Shing Ye and school within the village of Tai Wan San Tsuen predicted by the noise alarm monitoring system	When one or more documented complaints are received	a. 75 dB(A) in $L_{Aeq,30\ min}$ (07:00-19:00 hrs on normal weekdays) (Note 1) b. subject to statutory control under the Noise Control Ordinance (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days). Set to 60 dB(A) in $L_{Aeq,5\ min}$ c. subject to statutory control under the Noise Control Ordinance (23:00-07:00 hrs of next day). Set to 45 dB(A) in $L_{Aeq,5\ min}$
Manual noise monitoring at the nearest Pak Kok Tsui residences to cable landing points N4 and N5		
Note: 1. For educational institution, the limit level shall be 70 dB(A), reduced to 65 dB(A) during examination periods.		

Appendix C Environmental Monitoring Schedule

Table C.1 Monitoring schedule for 24hr and 1hr TSP monitoring for Lamma Extension Construction (December 2020 to March 2021)

24hr TSP Monitoring	1hr TSP Monitoring
2/December/2020	2/December/2020 1500hr to 1800hr
8/December/2020	8/December/2020 1500hr to 1800hr
14/December/2020	14/December/2020 1500hr to 1800hr
20/December/2020	20/December/2020 1500hr to 1800hr
26/December/2020	26/December/2020 1500hr to 1800hr
1/January/2021	1/January/2021 1500hr to 1800hr
7/January/2021	7/January/2021 1500hr to 1800hr
13/January/2021	13/January/2021 1500hr to 1800hr
19/January/2021	19/January/2021 1500hr to 1800hr
25/January/2021	25/January/2021 1500hr to 1800hr
31/January/2021	31/January/2021 1500hr to 1800hr
6/February/2021	6/February/2021 1500hr to 1800hr
12/February/2021	12/February/2021 1500hr to 1800hr
18/February/2021	18/February/2021 1500hr to 1800hr
24/February/2021	24/February/2021 1500hr to 1800hr
2/March/2021	2/March/2021 1500hr to 1800hr
8/March/2021	8/March/2021 1500hr to 1800hr
14/March/2021	14/March/2021 1500hr to 1800hr
20/March/2021	20/March/2021 1500hr to 1800hr
26/March/2021	26/March/2021 1500hr to 1800hr

APPENDIX D AIR QUALITY MONITORING RESULTS

Site: Lamma Power Station Extension

Month: December 2020

24 hour TSP Measurement:-

Date	TSP concentration (μg/m^3)				Weather Information (From Hong Kong Observatory)		
	Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)	Tai Yuen Village (AM4)	Mean Wind Speed (km/hr)	Prevailing Wind Dir. (°)	Mean R.H. (%)
2/12/2020	44	83	39	40	26.3	360	65
8/12/2020	74	105	66	72	21.3	360	64
14/12/2020	38	46	37	42	30.5	50	80
20/12/2020	53	73	41	51	35.6	360	59
26/12/2020	43	46	37	32	28.3	60	79

1 hour TSP Measurement:-

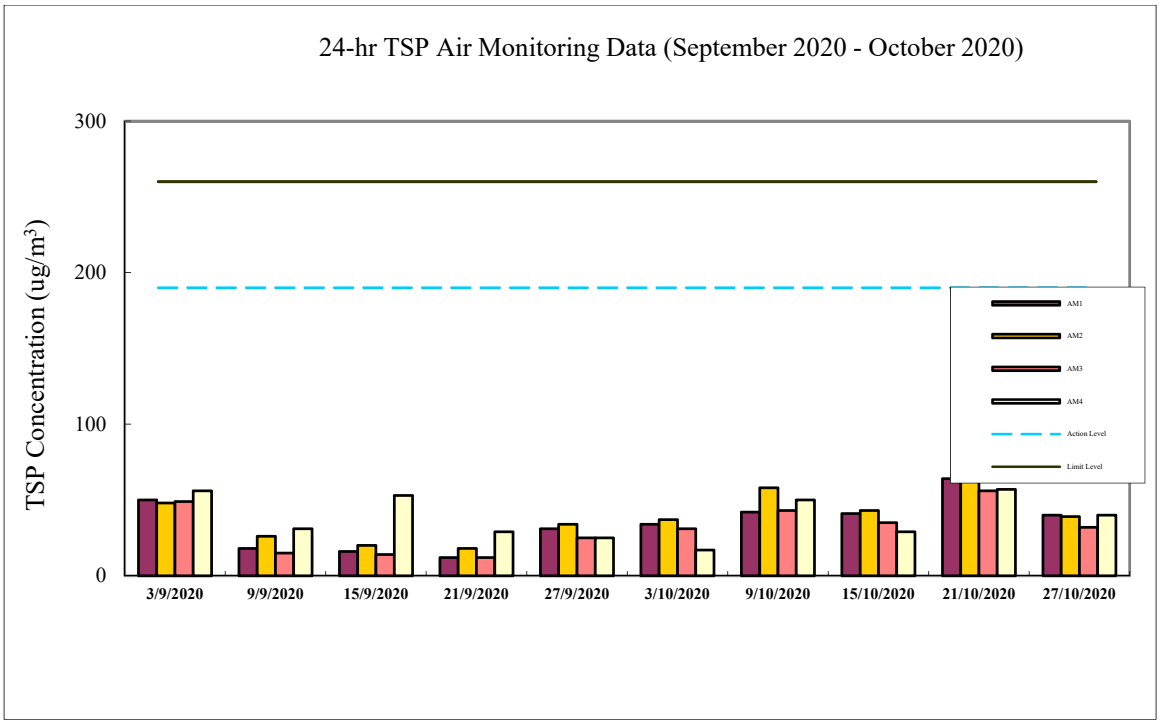
Date	Time	TSP concentration (μg/m^3)		
		Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)
2/12/2020	15:00 - 15:59	34	60	35
	16:00 - 16:59	44	66	41
	17:00 - 17:59	44	63	46
8/12/2020	15:00 - 15:59	106	145	83
	16:00 - 16:59	108	131	73
	17:00 - 17:59	90	77	69
14/12/2020	15:00 - 15:59	46	59	45
	16:00 - 16:59	50	59	50
	17:00 - 17:59	45	64	49
20/12/2020	15:00 - 15:59	67	85	46
	16:00 - 16:59	47	86	44
	17:00 - 17:59	54	81	48
26/12/2020	15:00 - 15:59	40	45	39
	16:00 - 16:59	40	45	42
	17:00 - 17:59	36	38	35

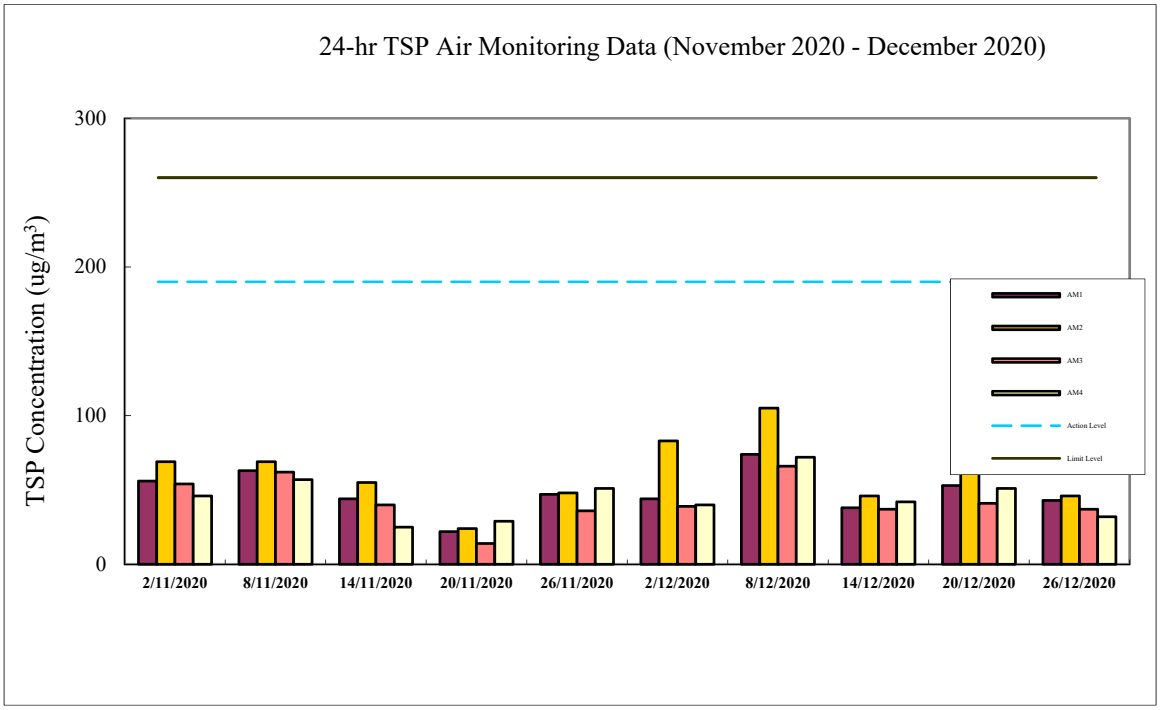
	1-hr TSP ($\mu g/m^3$)	24-hr TSP ($\mu g/m^3$)
Action Level	340	190
Limit Level	500	260

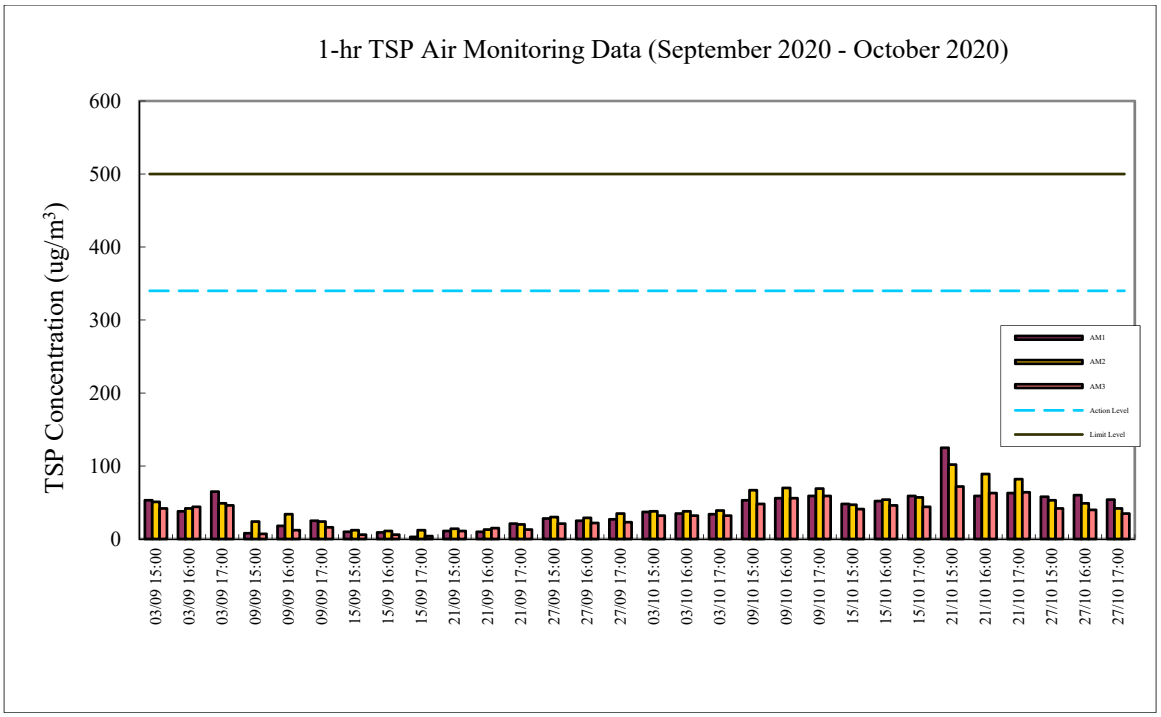
Calibration: Calibration details are shown in appendix F.

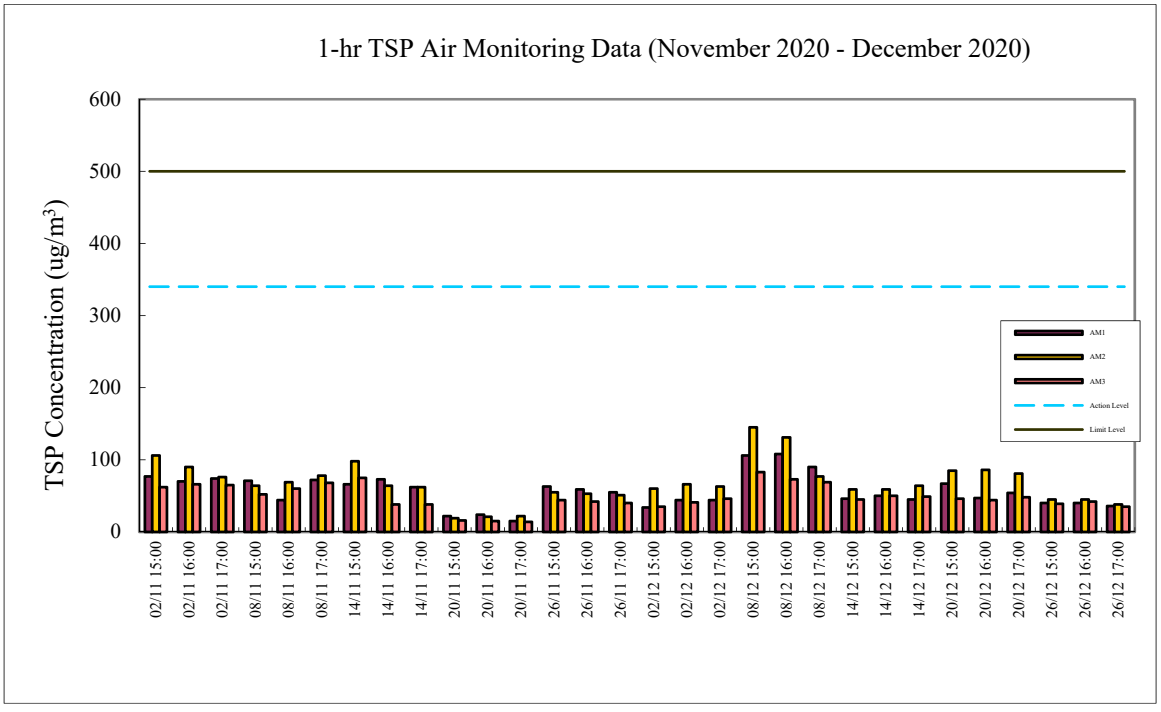
Equipment used:

Location	1-hr TSP	24-hr TSP
Reservoir, East Gate and Ash Lagoon	TEOM	TEOM
Tai Yuen Village	-	MINIVOL Portable Sampler


24-hr TSP Air Monitoring Data (September 2020 - October 2020)
TSP Concentration (ug/m3)
300
200
100
0
3/9/2020
9/9/2020
15/9/2020
21/9/2020
27/9/2020
3/10/2020
9/10/2020
15/10/2020
21/10/2020
27/10/2020
AM1
AM2
AM3
AM4
Action Level
Limit Level


24-hr TSP Air Monitoring Data (November 2020 - December 2020)
TSP Concentration (ug/m3)
300
200
100
0
2/11/2020
8/11/2020
14/11/2020
20/11/2020
26/11/2020
2/12/2020
8/12/2020
14/12/2020
20/12/2020
26/12/2020
AM1
AM2
AM3
AM4
Action Level
Limit Level


1-hr TSP Air Monitoring Data (September 2020 - October 2020)
TSP Concentration (ug/m3)
600
500
400
300
200
100
0
AM1
AM2
AM3
Action Level
Limit Level
03/09 15:00
03/09 16:00
03/09 17:00
09/09 15:00
09/09 16:00
09/09 17:00
15/09 15:00
15/09 16:00
15/09 17:00
21/09 15:00
21/09 16:00
21/09 17:00
27/09 15:00
27/09 16:00
27/09 17:00
03/10 15:00
03/10 16:00
03/10 17:00
09/10 15:00
09/10 16:00
09/10 17:00
15/10 15:00
15/10 16:00
15/10 17:00
21/10 15:00
21/10 16:00
21/10 17:00
27/10 15:00
27/10 16:00
27/10 17:00


1-hr TSP Air Monitoring Data (November 2020 - December 2020)
TSP Concentration (ug/m3)
600
500
400
300
200
100
0
AM1
AM2
AM3
Action Level
Limit Level
02/11 15:00
02/11 16:00
02/11 17:00
08/11 15:00
08/11 16:00
08/11 17:00
14/11 15:00
14/11 16:00
14/11 17:00
20/11 15:00
20/11 16:00
20/11 17:00
26/11 15:00
26/11 16:00
26/11 17:00
02/12 15:00
02/12 16:00
02/12 17:00
08/12 15:00
08/12 16:00
08/12 17:00
14/12 15:00
14/12 16:00
14/12 17:00
20/12 15:00
20/12 16:00
20/12 17:00
26/12 15:00
26/12 16:00
26/12 17:00

Appendix E Continuous Noise Monitoring Results for December 2020

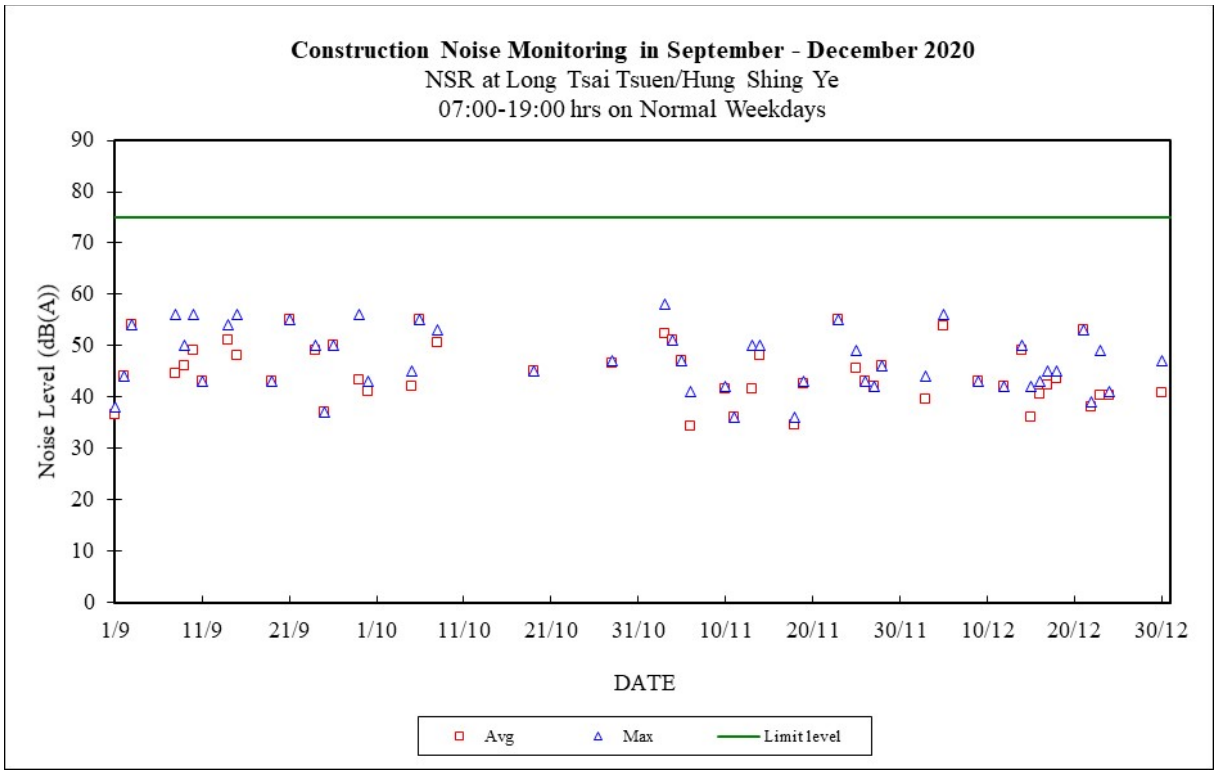
Site: Lamma Power Station Extension Construction
Measurement Location: Ash Lagoon and Ching Lam
Measurement Parameter: 30-min Leq (07:00-19:00 hrs on normal weekdays)
5-min Leq (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days, and 23:00-07:00 hrs of next day)
Noise Equipment: B&K 2250 sound level meters and B&K 4231 sound Level calibrator
Lab. Calibration Date: B&K 2250 sound level meters - 28/06/2020 (Ash Lagoon) 19/08/2019 (Ching Lam)
B&K 4231 calibrator - 02/09/2020

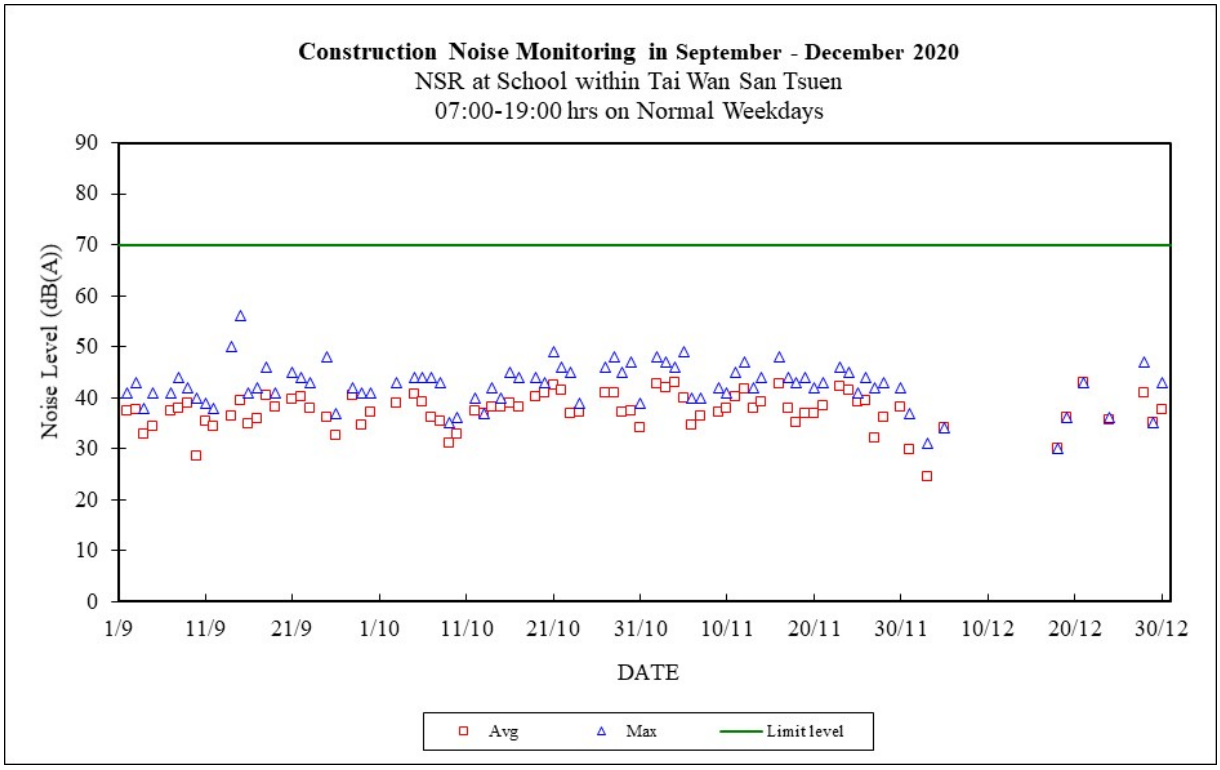
Date	Time	Calculated Noise Level at NSR at Long Tsai Tsuen/Hung Shing Ye (dB(A))		Limit Noise Level (dB(A))	Calculated Noise Level at NSR at the school within Tai Wan San Tsuen (dB(A))		Limit Noise Level (dB(A))
		Max	Avg		Max	Avg	
01/12/2020	07:00-19:00	---	---	75	37	30	70
01/12/2020	19:00-23:00	36	28	60	45	31	60
01/12/2020	23:00-07:00	45	42	45	39	33	45
02/12/2020	07:00-19:00	---	---	75	---	---	70
02/12/2020	19:00-23:00	---	---	60	35	35	60
02/12/2020	23:00-07:00	45	33	45	39	31	45
03/12/2020	07:00-19:00	44	40	75	31	25	65
03/12/2020	19:00-23:00	20	20	60	---	---	60
03/12/2020	23:00-07:00	43	36	45	40	32	45
04/12/2020	07:00-19:00	---	---	75	---	---	65
04/12/2020	19:00-23:00	29	29	60	---	---	60
04/12/2020	23:00-07:00	45	36	45	35	29	45
05/12/2020	07:00-19:00	56	54	75	34	34	70
05/12/2020	19:00-23:00	40	33	60	48	37	60
05/12/2020	23:00-07:00	34	29	45	40	31	45
06/12/2020	07:00-23:00	46	37	60	49	43	60
06/12/2020	23:00-07:00	45	39	45	39	32	45
07/12/2020	07:00-19:00	---	---	75	---	---	65
07/12/2020	19:00-23:00	---	---	60	35	35	60
07/12/2020	23:00-07:00	44	40	45	40	33	45
08/12/2020	07:00-19:00	---	---	75	---	---	65
08/12/2020	19:00-23:00	---	---	60	---	---	60
08/12/2020	23:00-07:00	45	44	45	28	28	45
09/12/2020	07:00-19:00	43	43	75	---	---	70
09/12/2020	19:00-23:00	---	---	60	35	35	60
09/12/2020	23:00-07:00	44	41	45	37	29	45
10/12/2020	07:00-19:00	---	---	75	---	---	70
10/12/2020	19:00-23:00	---	---	60	43	43	60
10/12/2020	23:00-07:00	39	36	45	35	30	45
11/12/2020	07:00-19:00	---	---	75	---	---	70
11/12/2020	19:00-23:00	---	---	60	36	32	60
11/12/2020	23:00-07:00	45	40	45	40	31	45
12/12/2020	07:00-19:00	42	42	75	---	---	70
12/12/2020	19:00-23:00	---	---	60	18	18	60
12/12/2020	23:00-07:00	41	34	45	38	32	45
13/12/2020	07:00-23:00	---	---	60	33	30	60

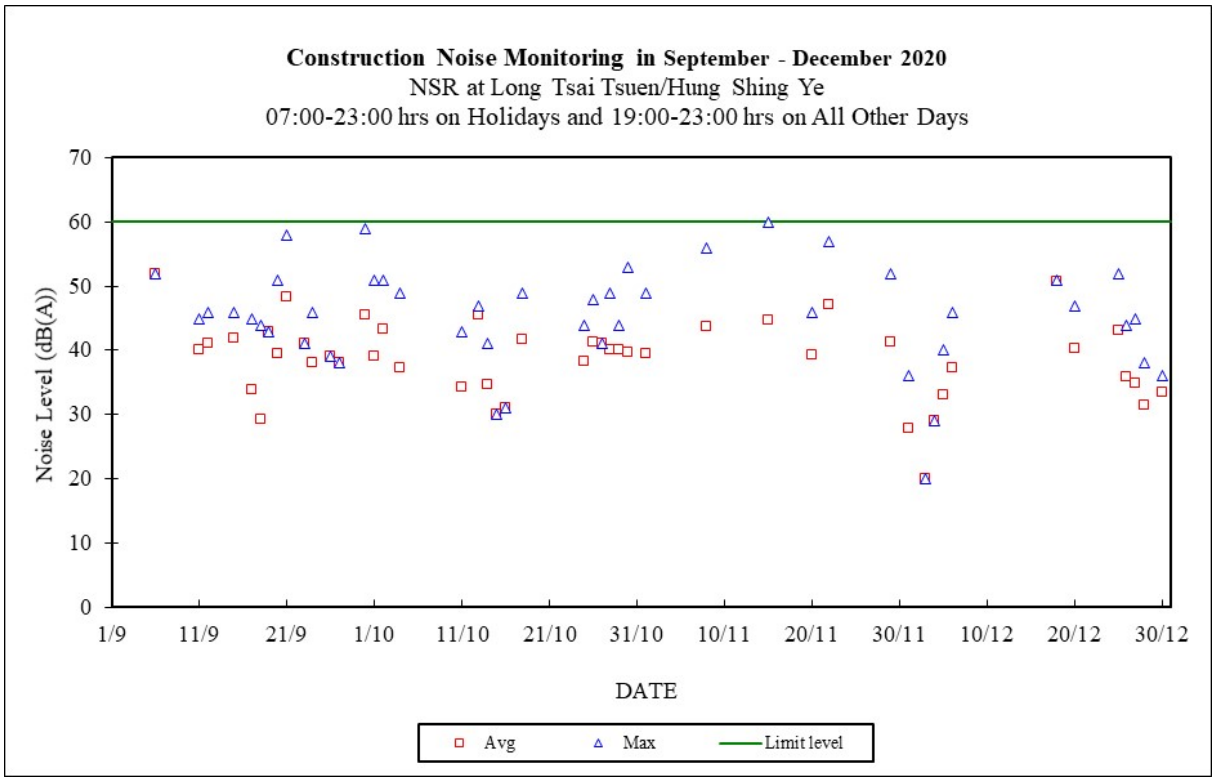
13/12/2020	23:00-07:00	44	41	45	38	31	45
14/12/2020	07:00-19:00	50	49	75	---	---	70
14/12/2020	19:00-23:00	---	---	60	---	---	60
14/12/2020	23:00-07:00	45	38	45	37	37	45
15/12/2020	07:00-19:00	42	36	75	---	---	70
15/12/2020	19:00-23:00	---	---	60	---	---	60
15/12/2020	23:00-07:00	45	41	45	37	32	45
16/12/2020	07:00-19:00	43	41	75	---	---	70
16/12/2020	19:00-23:00	---	---	60	---	---	60
16/12/2020	23:00-07:00	45	40	45	30	30	45
17/12/2020	07:00-19:00	45	42	75	---	---	70
17/12/2020	19:00-23:00	---	---	60	38	38	60
17/12/2020	23:00-07:00	44	38	45	38	32	45
18/12/2020	07:00-19:00	45	44	75	30	30	70
18/12/2020	19:00-23:00	51	51	60	44	33	60
18/12/2020	23:00-07:00	41	34	45	43	35	45
19/12/2020	07:00-19:00	---	---	75	36	36	70
19/12/2020	19:00-23:00	---	---	60	38	34	60
19/12/2020	23:00-07:00	38	32	45	42	34	45
20/12/2020	07:00-23:00	47	40	60	47	34	60
20/12/2020	23:00-07:00	44	39	45	38	32	45
21/12/2020	07:00-19:00	53	53	75	43	43	70
21/12/2020	19:00-23:00	---	---	60	---	---	60
21/12/2020	23:00-07:00	45	37	45	38	32	45
22/12/2020	07:00-19:00	39	38	75	---	---	70
22/12/2020	19:00-23:00	---	---	60	27	27	60
22/12/2020	23:00-07:00	45	41	45	42	32	45
23/12/2020	07:00-19:00	49	40	75	---	---	70
23/12/2020	19:00-23:00	---	---	60	---	---	60
23/12/2020	23:00-07:00	44	38	45	37	31	45
24/12/2020	07:00-19:00	41	40	75	36	36	70
24/12/2020	19:00-23:00	---	---	60	43	33	60
24/12/2020	23:00-07:00	40	36	45	39	32	45
25/12/2020	07:00-23:00	52	43	60	42	36	60
25/12/2020	23:00-07:00	42	36	45	41	33	45
26/12/2020	07:00-23:00	44	36	60	44	34	60
26/12/2020	23:00-07:00	44	37	45	41	31	45
27/12/2020	07:00-23:00	45	35	60	38	32	60
27/12/2020	23:00-07:00	40	35	45	40	34	45
28/12/2020	07:00-19:00	---	---	75	47	41	70
28/12/2020	19:00-23:00	38	32	60	41	36	60
28/12/2020	23:00-07:00	45	40	45	36	33	45
29/12/2020	07:00-19:00	---	---	75	35	35	70
29/12/2020	19:00-23:00	---	---	60	---	---	60
29/12/2020	23:00-07:00	45	35	45	43	35	45
30/12/2020	07:00-19:00	47	41	75	43	38	70
30/12/2020	19:00-23:00	36	34	60	50	35	60
30/12/2020	23:00-07:00	45	36	45	41	34	45
31/12/2020	07:00-19:00	---	---	75	---	---	70
31/12/2020	19:00-23:00	---	---	60	---	---	60
31/12/2020	23:00-07:00	45	40	45	---	---	45

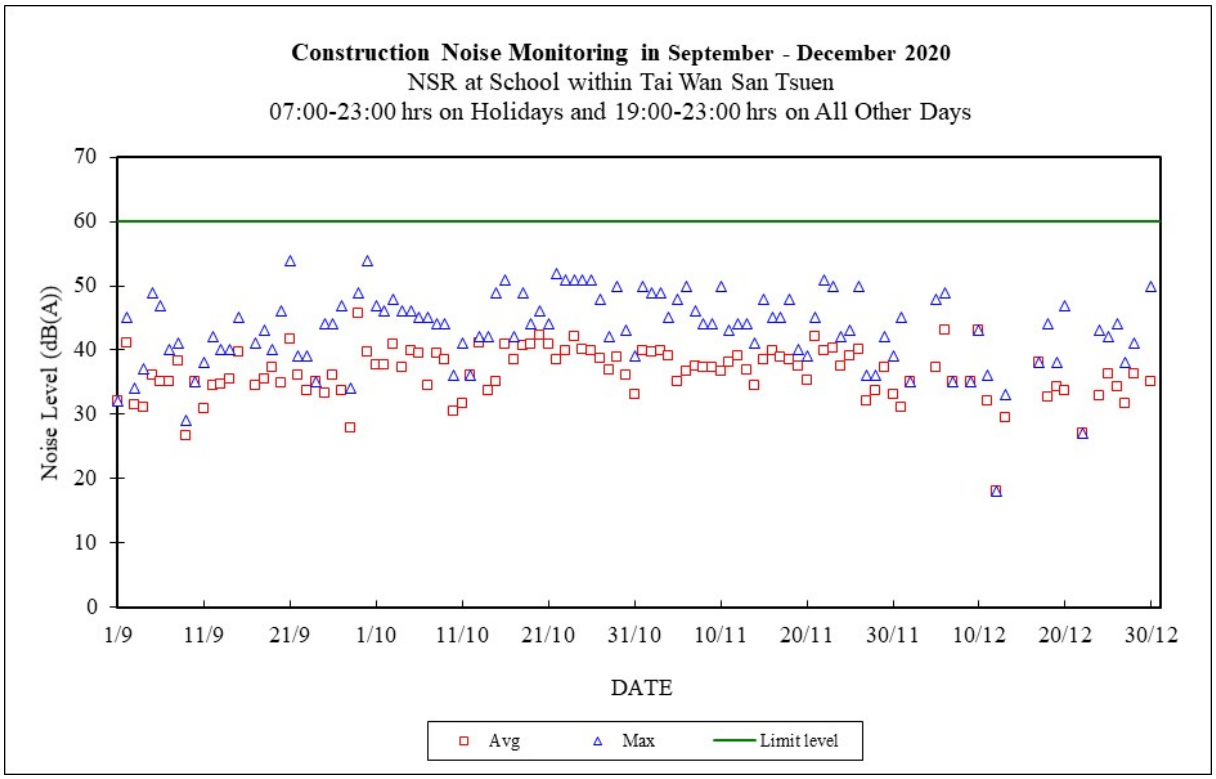
Note:

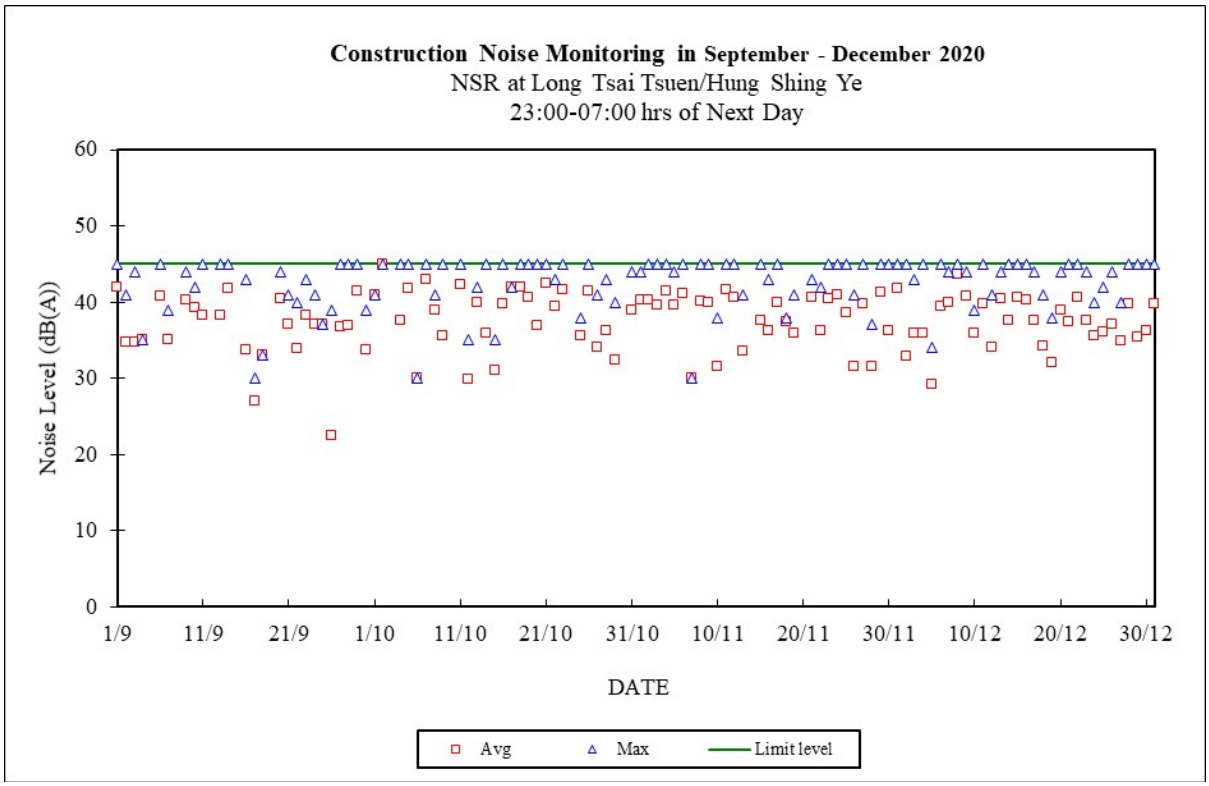
a. “---“ represents the measured noise monitoring data lower than the established notional background level/discarded under strong wind.
b. Continuous noise monitoring was also carried out at holidays & evening-time (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days) and night-time (23:00-07:00 hrs of next day).

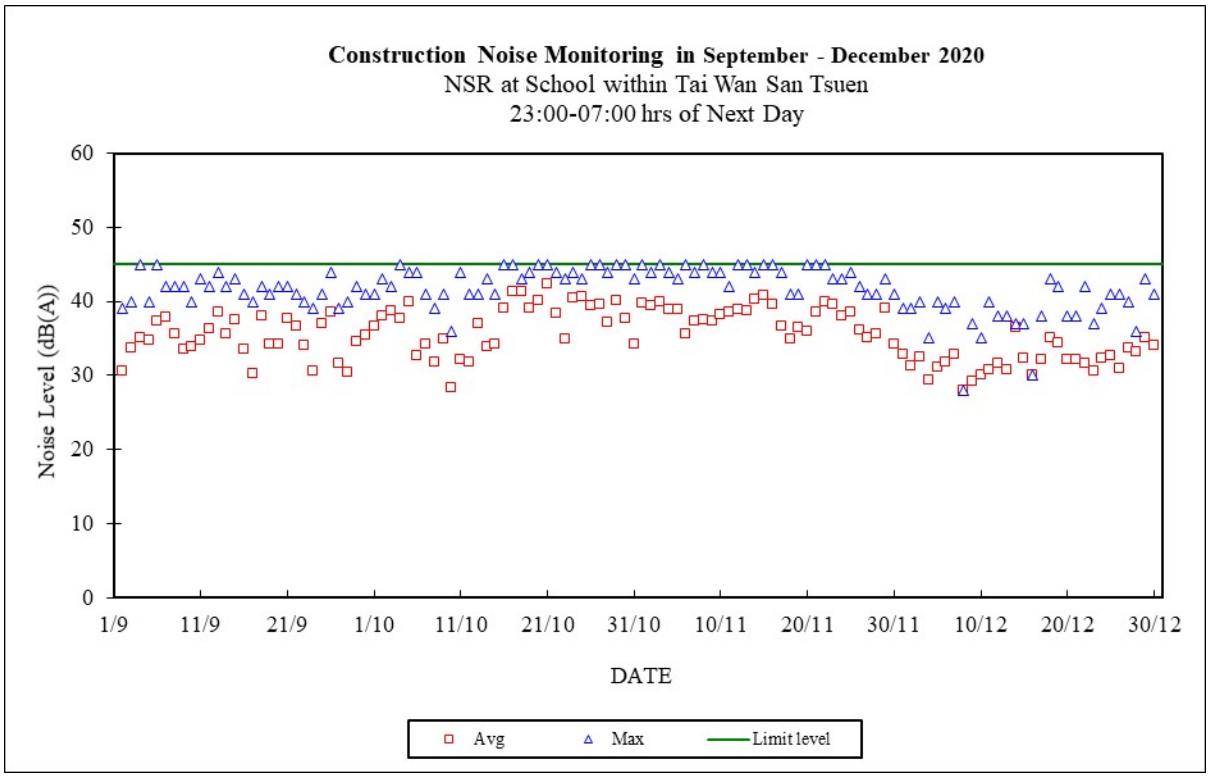

Construction Noise Monitoring in September - December 2020
NSR at Long Tsai Tsuen/Hung Shing Ye
07:00-19:00 hrs on Normal Weekdays
Noise Level (dB(A))
90
80
70
60
50
40
30
20
10
0
1/9
11/9
21/9
1/10
11/10
21/10
31/10
10/11
20/11
30/11
10/12
20/12
30/12
DATE
Avg
Max
Limit level


Construction Noise Monitoring in September - December 2020
NSR at School within Tai Wan San Tsuen
07:00-19:00 hrs on Normal Weekdays
Noise Level (dB(A))
90
80
70
60
50
40
30
20
10
0
1/9
11/9
21/9
1/10
11/10
21/10
31/10
10/11
20/11
30/11
10/12
20/12
30/12
DATE
Avg
Max
Limit level


Construction Noise Monitoring in September - December 2020
NSR at Long Tsai Tsuen/Hung Shing Ye
07:00-23:00 hrs on Holidays and 19:00-23:00 hrs on All Other Days
Noise Level (dB(A))
70
60
50
40
30
20
10
0
1/9
11/9
21/9
1/10
11/10
21/10
31/10
10/11
20/11
30/11
10/12
20/12
30/12
DATE
Avg
Max
Limit level


Construction Noise Monitoring in September - December 2020
NSR at School within Tai Wan San Tsuen
07:00-23:00 hrs on Holidays and 19:00-23:00 hrs on All Other Days
Noise Level (dB(A))
70
60
50
40
30
20
10
0
1/9
11/9
21/9
1/10
11/10
21/10
31/10
10/11
20/11
30/11
10/12
20/12
30/12
DATE
Avg
Max
Limit level


Construction Noise Monitoring in September - December 2020
NSR at Long Tsai Tsuen/Hung Shing Ye
23:00-07:00 hrs of Next Day
Noise Level (dB(A))
60
50
40
30
20
10
0
1/9
11/9
21/9
1/10
11/10
21/10
31/10
10/11
20/11
30/11
10/12
20/12
30/12
DATE
Avg
Max
Limit level


Construction Noise Monitoring in September - December 2020
NSR at School within Tai Wan San Tsuen
23:00-07:00 hrs of Next Day
Noise Level (dB(A))
60
50
40
30
20
10
0
1/9
11/9
21/9
1/10
11/10
21/10
31/10
10/11
20/11
30/11
10/12
20/12
30/12
DATE
Avg
Max
Limit level

Appendix F

The QA/QC Procedures and Results

The Hongkong Electric Co., Ltd.
Lamma Power Station Extension
TEOM Continuous Dust Monitor
Data Quality Assurance Log Sheet

Month: December Year: 2020

Reservoir (AM1)				
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (l/min) (2.70 - 3.30)	Bypass Flow (l/min) (12.30 - 15.04)
2/12/2020	269.359	4	2.99	13.61
8/12/2020	268.396	4	3.02	13.44
14/12/2020	267.752	4	3.00	13.46
20/12/2020	267.027	4	3.06	13.39
26/12/2020	266.302	4	3.01	13.39

East Gate (AM2)				
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (l/min) (2.70 - 3.30)	Bypass Flow (l/min) (12.30 - 15.04)
2/12/2020	249.760	4	3.06	13.84
8/12/2020	248.543	4	2.78	13.92
14/12/2020	250.768	4	3.06	13.94
20/12/2020	249.730	4	3.06	14.14
26/12/2020	248.936	4	2.92	13.92

Ash Lagoon (AM3)				
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (l/min) (2.70 - 3.30)	Bypass Flow (l/min) (12.30 - 15.04)
2/12/2020	255.454	4	3.00	13.67
8/12/2020	254.718	4	3.00	13.67
14/12/2020	255.680	4	3.00	13.68
20/12/2020	255.174	4	3.00	13.68
26/12/2020	254.622	4	3.00	13.67

Maintenance Record			
	Reservoir	East Gate	Ash Lagoon
TEOM Filter Exchange	✓	✓	✓
Clean TSP Inlet	✓	✓	✓
Replace flow in-line filter	✓	✓	✓
Pump Repair			
Leak Check	✓	✓	✓
Flow audit	✓	✓	✓
Flow Controller Calibration	✓	✓	✓
A/C filter cleaning			

Remarks:

Prepared by: Chris Chan

Checked by: HY Chan

The Hongkong Electric Co., Ltd.
Mini Volume Air Sampler Site Visit Log Sheet

Attendance Log

Site Name: Tai Yuen Village (AM4)

Date/Time	Staff Name
15/12/2020 / 14:15	WM Tam

Equipment / Item

Equipment / Item	Serial No. / No.
MINIVOL	5580
Used filter paper no.	MR12
New filter paper no.	MR13

Type of filter: Glass-fibre

I. Calibration is performed by using Drycal DC-2 Flow Calibrator
5 std. L/min set point is recommended

Before: 5.035
After: 5.035

II. General Services

1. Clean Rotameter: Yes
2. Clean / Replace Pump Valves: No
3. Clean / Replace Pump Diaphragms: No
4. Clean Impaction Inlet: Yes
5. Replace Timer Battery Every 6 months: No
6. Replace Inlet Filter: Yes

Remarks

N/A

Conducted by: WM Tam

Checked by: SM Hon

The Hongkong Electric Co., Ltd.
Lamma Power Station Extension
Noise Monitoring Station
Daily Calibration Records

Date	Location: Ash Lagoon		Location: Ching Lam	
	Calibration Results	Deviation from Reference (dB)	Calibration Results	Deviation from Reference (dB)
01/12/2020	Passed	-0.11	Passed	0.08
02/12/2020	Passed	-0.14	Passed	0.06
03/12/2020	Passed	-0.12	Passed	0.05
04/12/2020	Passed	-0.11	Passed	0.07
05/12/2020	Passed	-0.11	Passed	0.08
06/12/2020	Passed	-0.08	Passed	0.12
07/12/2020	Passed	-0.10	Passed	0.08
08/12/2020	Passed	-0.10	Passed	0.11
09/12/2020	Passed	-0.10	Passed	0.10
10/12/2020	Passed	-0.09	Passed	0.09
11/12/2020	Passed	-0.10	Passed	0.09
12/12/2020	Passed	-0.08	Passed	0.08
13/12/2020	Passed	-0.13	Passed	0.08
14/12/2020	Passed	-0.14	Passed	0.07
15/12/2020	Passed	-0.16	Passed	0.04
16/12/2020	Passed	-0.14	Passed	0.06
17/12/2020	Passed	-0.13	Passed	0.08
18/12/2020	Passed	-0.14	Passed	0.07
19/12/2020	Passed	-0.13	Passed	0.07
20/12/2020	Passed	-0.12	Passed	0.08
21/12/2020	Passed	-0.12	Passed	0.10
22/12/2020	Passed	-0.12	Passed	0.05
23/12/2020	Passed	-0.10	Passed	0.08
24/12/2020	Passed	-0.10	Passed	0.13
25/12/2020	Passed	-0.11	Passed	0.08
26/12/2020	Passed	-0.10	Passed	0.10
27/12/2020	Passed	-0.06	Passed	0.12
28/12/2020	Passed	-0.09	Passed	0.09
29/12/2020	Passed	-0.16	Passed	0.05
30/12/2020	Passed	-0.17	Passed	0.06
31/12/2020	Passed	-0.17	Passed	0.05

Remarks:

1. The B&K sound level meter at the noise monitoring station has an advanced feature of internal calibration checking (viz. Charge Injection Calibration (CIC)). CIC is a B&K patented method for in situ verification of the integrity of the entire sound measurement chain (including microphone, preamplifier and cabling).

2. The acceptance criterion of deviation from reference is ± 0.5 dB.

Appendix G Event/Action Plans

Table G.1 Event and Action Plans for Air Quality

Event	Monitoring		Action	
	ET Leader	**IEC**	**Engineer**	**Contractor**
Action Level				
Exceedance of one sample	Identify source Inform Engineer and IEC verbally Repeat measurement to confirm finding	Check monitoring data submitted by ET and advise Engineer.	Notify Contractor Checking monitoring data and contractor's working methods	Rectify any unacceptable practice amend any working methods if appropriate
Exceedance of two or more consecutive samples	Identify source Inform Engineer and IEC verbally Repeat measurement to confirm finding Increase monitoring frequency Discuss with Engineer and Contractor on remedial actions required If exceedance continues, arrange meeting with Engineer If exceedance stops, discontinue additional monitoring	Check monitoring data submitted by ET and advise Engineer. Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Confirm receipt of notification of failure in writing Notify contractor Checking monitoring data and contractor's working methods Discuss proposed remedial actions with the ET and Contractor Ensure remedial actions properly implemented	Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Amend proposal if appropriate
Limit level				
Exceedance of one sample	Repeat measurement to confirm finding. Identify the source(s) of the impact. If the exceedance is found to be valid and due to the Construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance, as soon as practicable. Increase monitoring frequency to daily Assess the effectiveness of the contractor's remedial actions and keep Engineer, IEC and EPD informed of the results	Check monitoring data submitted by ET and advise Engineer Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Confirm receipt of notification of failure in writing Notify Contractor Checking monitoring data and Contractor's working method Discuss with ET and Contractor on remedial actions to be provided Ensure remedial measures properly implemented	Take immediate action to avoid further exceedance Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Amend proposal if appropriate
Exceedance of two or more	Identify source	Provide feedback to the Engineer on the remedial actions proposed by the	Confirm receipt of notification of	Take immediate action to

Event	Monitoring		Action	
	ET Leader	**IEC**	**Engineer**	**Contractor**
consecutive samples	If the exceedance is found to be valid and due to the construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance as soon as practicable. Repeat measurement to confirm finding Increase monitoring frequency to daily Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented Arrange meeting with Engineer and Contractor to discuss the remedial actions to be taken If exceedance stops, discontinue additional monitoring	ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	failure in writing Checking monitoring data and Contractor's working methods Notify Contractor Discuss proposed remedial actions with ET and Contractor Ensure remedial measures properly implemented If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop the portion of work until the exceedance is abated	avoid further exceedance Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Resubmit proposals if problem still not under control Stop the relevant portion of works as determined by the Engineer until the exceedance is abated

Table G.2 Event and Action Plans for Construction Noise

Exceedance	ET Leader	IEC	Engineer	Contractor
Action Level	Undertake noise measurement/check monitoring data to establish validity of complaint.	Review the analysed results submitted by the ET.	Notify Contractor of the complaint if proven.	Submit proposals for remedial actions to Engineer.
	If the complaint is valid, inform Engineer and IEC verbally.	Review the remedial measures proposed by the Contractor and advise the Engineer and ET accordingly.	Check Contractor's working methods and advise IEC and ET accordingly.	Amend proposals if required by the Engineer.
	Identify the source(s) of the noise.	Verify the implementation of the remedial measures.	Remind the Contractor of his contractual obligations and discuss remedial actions.	Implement the remedial actions immediately upon instruction from the Engineer.
	Discuss remedial actions required with Contractor and Engineer.		Keep the Contractor informed of the efficacy of remedial actions.	Liaise with the Engineer to optimise the effectiveness of the agreed mitigation.
	Increase manual monitoring frequency to assess efficacy of remedial measures.			
	If exceedance continues, review implementation of appropriate mitigation measures.			
Limit Level	Repeat manual measurement/check monitoring data to confirm findings.	Agree potential remedial actions with Engineer, ET and Contractor.	Notify Contractor of exceedance.	Take immediate action to avoid further exceedance.
	Identify the source(s) of the impact. If the exceedance is found to be valid and due to the Construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance, as soon as practicable.	Review Contractor's remedial actions / measures to ensure their effectiveness and advise the Engineer and ET accordingly.	Check Contractor's working methods and advise IEC and ET accordingly.	Submit proposals for remedial actions to Engineer.
			Discuss with Contractor the remedial actions to be implemented.	Amend proposals if required by the Engineer.
		Verify the implementation of the remedial measures	Keep the Contractor informed of the efficacy of remedial actions.	Implement remedial actions immediately upon instruction from the Engineer.
	Discuss remedial actions required with Engineer.		If the exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop the portion of work until the exceedance is abated	If the exceedance continues, consider what portion of the work is responsible and, as instructed by the Engineer, stop the portion of work until the exceedance is abated
	Increase manual monitoring frequency to assess efficacy of remedial measures.			

Table G.3 Event and Action Plans for Water Quality

Exceedance	ET Leader	IEC	Engineer	Contractor
Action level exceeded on one sampling day	Verbally inform the Contractor, and IEC. Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with Engineer and Contractor; Repeat measurement on next day of exceedance.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose and discuss mitigation measures with Engineer; Implement the agreed mitigation measures.
Action level exceeded on more than one consecutive sampling day	Repeat in-situ measurements to confirm findings; Identify source(s) of impact; Inform Contractor and IEC; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measure with Engineer and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; Repeat measurement on next day of exceedance.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with ET and Contractor on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer within 3 working days and discuss with ET and Engineer; Implement the agreed mitigation measures.
Limit level exceeded on one sampling day	Verbally inform the Contractor, IEC and the EPD of the exceedance; Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Check monitoring data, all plant,	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer

Exceedance	ET Leader	IEC	Engineer	Contractor
	equipment and Contractor's working methods; Discuss mitigation measure with Engineer and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level.		implemented mitigation measures.	within 3 working days and discuss with Engineer; Implement the agreed mitigation measures.
Limit level exceeded by more than one consecutive sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform Contractor, IEC and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measure with Engineer and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine works until no exceedance of the Limit Level.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer within 3 working days and discuss with Engineer; Implement the agreed mitigation measures.. As directed by the Engineer, to slow down or to stop all or part of the marine work

Appendix H Summary of Site Audit Findings

L11 Civil and Building Works

Dates of Inspection: 1/12/2020, 8/12/2020, 17/12/2020, 22/12/2020 and 29/12/2020.

Summary of Findings

General

- No environmental deficiency identified.

Air Quality

- No environmental deficiency identified.

Noise

- No environmental deficiency identified.

Water Quality

- No environmental deficiency identified.

Waste Management

- No environmental deficiency identified.

L11 Mechanical, Electrical, Instrumentation & Control Erection Works

Dates of Inspection: 3/12/2020, 10/12/2020, 17/12/2020, 24/12/2020 and 31/12/2020.

Summary of Findings

General

- No environmental deficiency identified.

Air Quality

- No environmental deficiency identified.

Noise

- No environmental deficiency identified.

Water Quality

- No environmental deficiency identified.

Waste Management

- No environmental deficiency identified.

L12 Civil and Building Works

Dates of Inspection: 1/12/2020, 8/12/2020, 17/12/2020, 22/12/2020 and 29/12/2020.

Summary of Findings

General

- No environmental deficiency identified.

Air Quality

- No environmental deficiency identified.

Noise

- No environmental deficiency identified.

Water Quality

- No environmental deficiency identified.

Waste Management

- No environmental deficiency identified.

Summary of EMIS

Power Station – (Part B of EIA Report)

Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
A1	For general construction works, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as:	
	• the haul roads shall be sprayed with water to keep the entire road surface wet.	C
	• the load carried by vehicle shall be covered by impervious sheeting to ensure no leakage of dusty materials from the vehicle.	C
	• the heights from which fill materials are dropped shall be controlled to a practical level to minimise the fugitive dust arising from unloading.	C
A2	For the concrete batching plant, the following control measures are recommended:	
	• loading, unloading, handling, transfer or storage or any dusty materials shall be carried out in a totally enclosed system.	C
	• The materials which may generate airborne dust emissions shall be wetted by water spray system.	C
	• All receiving hoppers shall be enclosed on three sides up to 3m above unloading point.	C
	• All conveyor transfer points shall be totally enclosed.	C
	WATER QUALITY	
B1	Silt curtains shall be installed on the eastern, southern and north western sides of the reclamation site during dredging for the reclamation construction. This is a required mitigation measure for the construction works and shall be implemented prior to the commencement of bulk dredging. **	N/A
B3	As a necessary operational constraint combined bulk dredging and sand filling for site formation shall not be permitted at any time. In addition, sand filling for site platform shall take place behind constructed sea walls which pierce the water surface. **	N/A
B4	HEC shall ensure design to divert all storm drains away from Hung Shing Ye Bay. **	N/A
B5	Sand fill for the rubble mound seawalls shall be placed by controlled pumping down the trailer arm. **	N/A
B6	EM&A shall confirm the acceptability of any impacts during construction and should any unacceptable impacts be found then one or more of the following mitigation measures shall be implemented: ** • reducing the number of dredgers working at any one time; • reducing the rate of working of the dredgers; • temporary suspension of operations; • phasing of the works so that dredging / filling is only undertaken at certain stages of the tidal cycle.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
B7	In addition to the above specific measures the following general working procedures shall be adopted. **	
	• fully-enclosed or watertight grabs shall be used to minimise loss of sediment during the raising of loaded grabs through the water column;	N/A
	• the descent speed of grabs shall be controlled to minimise the seabed impact speed and to reduce the volume of over dredging;	N/A
	• barges shall be loaded carefully to avoid splashing of material;	N/A
	• all barges used for the transport of dredged materials shall be fitted with tight bottom seals in order to prevent leakage of material during loading and transport;	N/A
	• all barges shall be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action;	N/A
	• the speed of trailer dredgers shall be controlled to prevent propeller wash from stirring up the sea bed sediments;	N/A
	• "rainbowing" sand fill from trailer dredgers shall not be permitted; and	N/A
	• the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the dredging site and along the route to the disposal site.	N/A
B8	Cumulative impacts shall be assessed through EM&A. Co-ordination with the EM&A consultants for other projects to determine if any exceedances are caused by the other projects or by HEC's activities. Should monitoring results indicate exceedances at sensitive receivers due to HEC's activities, then the above described mitigation measures shall be implemented until impacts reduce to acceptable levels. **	N/A
	NOISE	
C1	General noise mitigation measures shall be employed at all work sites throughout the construction phase.	C
C2	Mitigate against general construction noise during Sunday's and public holidays, either at source with portable noise barriers, or by rescheduling of some PMEs to less sensitive time periods.	C
C3	Mitigate against night time noise from dredging equipment, with silencers or mufflers. **	N/A
	LANDSCAPE & VISUAL IMPACTS	
D1	The following mitigation measures shall be allowed for landscape and visual improvement:	
	• Use rubble mound seawall along south and west edges of the reclamation to provide a more natural look.	C
	• Break the mass of main buildings by varying the height/division into smaller units.	C
	• Plant trees and vegetation for screening.	C
	• Adopt colour scheme to blend the buildings into the scenery.	C

EM&A Log Ref.	Mitigation Measures	Implementation Status
	WASTE MANAGEMENT	
E1	HEC to submit a Waste Management Plan for the construction phase to EPD. The Plan shall be verified by the IEC and shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall take into account the recommendations of the EIA report.	C
	Dredging Waste	
E2	All vessels for marine transportation of dredged sediment shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials. In addition, loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water, and barges or hoppers should under no circumstances be filled to a level which shall cause the overflowing of materials or polluted water during loading or transportation**	N/A
	Storage, Collection and Transport of Waste	
E3	• Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers.	C
	• Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap.354), Waste Disposal (Chemical Waste) (General) Regulation (Cap.354), the Crown Land Ordinance (Cap 28), Dumping at Sea Ordinance (Cap 466) and Work Branch Technical Circular No. 22/92, Marine Disposal of Dredged Mud.	C
	• Disposal of waste at Licensed sites;	C
	• Develop procedures such as a ticketing system to facilitate tracking of marine mud and chemical waste, and to ensure that illegal disposal does not occur;	C

	• Segregate and sort the waste materials into 3 categories:
	  • public fill (e.g. concrete and rubble) for re-use on-site or disposal at a public filling area;
	  • re-use and/or recycling waste (e.g. steel and other metals);
	  • waste which cannot be re-used and/or recycled (e.g. wood, glass and plastic) for landfill disposal.
	  • The sorting process shall be carefully monitored to avoid missing of the 3 categories. Different types of wastes shall be stockpiled and stored in different containers or skips to enhance re-use or recycling of materials and their proper disposal.
		C

	• Maintain records of the quantities of wastes generated and disposed off-site for each category of waste.	C
E4	Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	C
	LAND CONTAMINATION	
F1	No land Contamination mitigation measures are required during the construction phase.	N/A
	MARINE ECOLOGY	

EM&A Log Ref.	Mitigation Measures	Implementation Status
G1	All percussive piling works shall be conducted on reclaimed land to avoid noise impact to marine mammals**	N/A
G2	All construction related vessels shall approach the extension site from the north and via the East Lamma Channel to avoid disturbance to the finless porpoise**	N/A
G3	Rubble mound seawall to the south and west edges of the reclamation to enhance recolonisation of marine organisms**	N/A
G4	Artificial Reefs of a volume not less than 400 m^3 shall be deployed in a location to be decided upon consultation with the Director of Agriculture and Fisheries to serve the purpose of an Additional Habitat Enhancement Measure.**	N/A
	FISHERIES	
H1	No Fisheries-specific mitigation measures are required during the construction phase.	N/A
	RISK ASSESSMENT	
I1	No risk mitigation measures are required during the construction phase.	N/A

Remarks:

** - No dredging and reclamation work would be involved for L11 & L12 construction

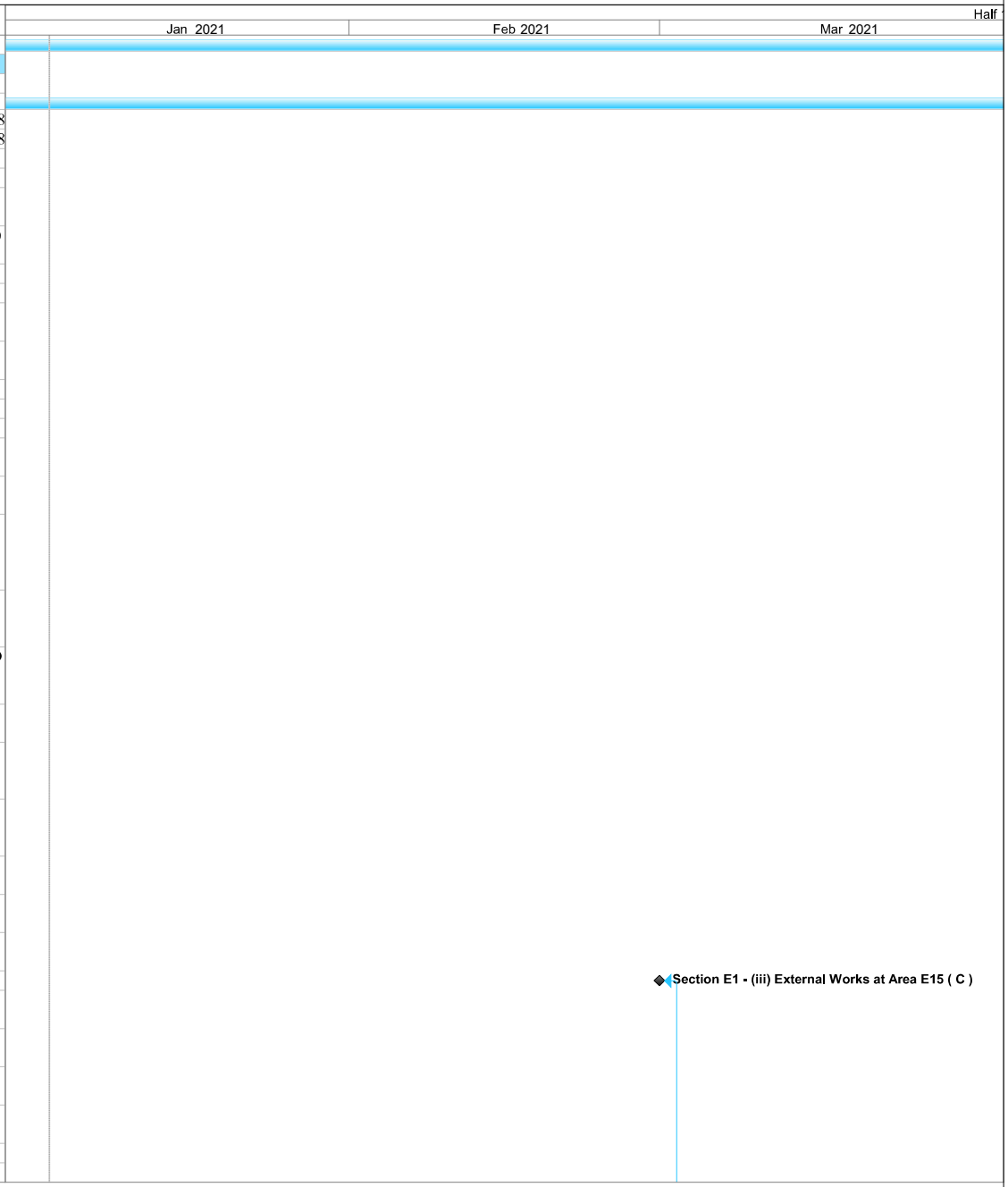
C - Compliance with mitigation measure

NC - Non-compliance with mitigation measure

N/A - Not Applicable

Contract No. 17/8002 Lamma Power Station Extension Civil and Building Works for Unit L11 | 17-8002 Master Prog Rev 3 | **Refer to CEM dated 26March2019**

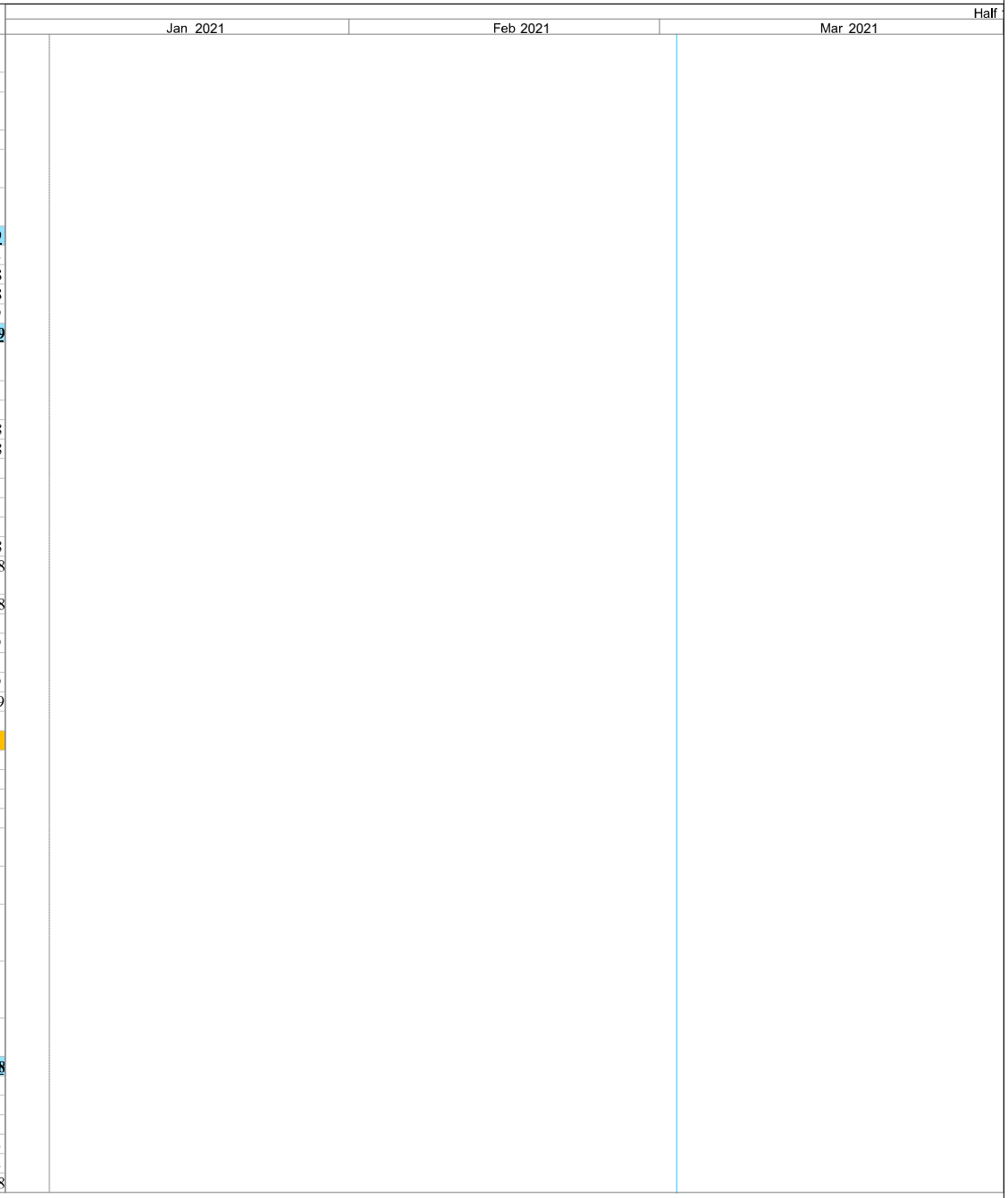
ID	Task Name	Duration	Start	Finish
1	**Civil and Building Works for Unit 11 and Assoicated Works**	**1197 days**	**Fri 1/6/18**	**Thu 30/9/21**
2	**Contract Key Dates**	**1197 days**	**Fri 1/6/18**	**Thu 30/9/21**
3	Contract Commencement Date	0 days	Fri 1/6/18	Fri 1/6/18
4	**Completion Dates**	**1044 days**	**Wed 31/10/18**	**Thu 30/9/21**
5	Section A1 - Ground treatment installation works at Zone 1A	0 days	Wed 31/10/18	Wed 31/10/18
6	Section A2 - Ground treatment installation works at Zone 1B	0 days	Wed 31/10/18	Wed 31/10/18
7	Section A3 - Ground treatment installation works at Zone 2	0 days	Sun 17/3/19	Sun 17/3/19
8	Section A4 - Ground treatment installation works at Zone 3	0 days	Thu 21/3/19	Thu 21/3/19
9	Section A5 (i) - Ground treatment installation works at Zone 4 - Band drain installation	0 days	Thu 28/3/19	Thu 28/3/19
10	Section A5 (ii) - Ground treatment installation works at Zone 4 - Surcharge filling	0 days	Wed 30/9/20	Wed 30/9/20
11	Section A6 (i) - A&A Works for No. 4 C.W. Outfall at Area E18	0 days	Sat 28/3/20	Sat 28/3/20
12	Section A6 (ii) - External works at Area E15	0 days	Sat 15/2/20	Sat 15/2/20
13	Section B1 (i) - Area south of L11 MSB and HRSG from GL11-F eastwards leading to Chimney Road at Area E1 & E2	0 days	Sun 1/3/20	Sun 1/3/20
14	Section B1 (ii) - Supporting structures for overhead cranes of L11 MSB including the associated roof structure except the roof deferred works	0 days	Tue 17/3/20	Tue 17/3/20
15	Section B1 (iii) - FSRU Civil works at Area E13	0 days	Mon 31/5/21	Mon 31/5/21
16	Section B2 - Retractable Cover D at Area E22	0 days	Tue 31/3/20	Tue 31/3/20
17	Section B3 - External works at Area B1, D2 and D4	0 days	Thu 30/4/20	Thu 30/4/20
18	Section C1 - Area south of L11 MSB from GL11-F westwards leading to Station Road at Area E3(A) & E3(B)	0 days	Sun 1/3/20	Sun 1/3/20
19	Section C2 - (i) Southern part of L11 HRSG area and its surrounding at Area E7 except the deferred works for Lube Oil Storage Tank	0 days	Sun 1/12/19	Sun 1/12/19
20	Section C2 - (ii) L11 Turbo Block foundation including the L11 MSB ground floor together with the equipment foundations between GL 11-F to 11-H and 11-1 to 11-6 for the installation of power generator, air inlet duct and lube oil reservoir	0 days	Thu 30/4/20	Thu 30/4/20
21	Section C2 - (iii) G/F of L11 MSB including the Condenser Pit, Circulating Water Pipe Pit and equipment foundations between GL 11-B to 11-C and 11-1 to 11-6 for the installation of condenser	0 days	Sun 1/3/20	Sun 1/3/20
22	Section D - (i) Roads and external grounds surrounding L11 MSB and L11 HRSG in addition to the southern & eastern areas mentioned above in Area E5 and E6	0 days	Tue 31/12/19	Tue 31/12/19
23	Section D - (ii) Remaining northern part of L11 HRSG area and its surrounding in Area E6	0 days	Sun 1/3/20	Sun 1/3/20
24	Section D - (iii) Whole of L11 MSB including the pipe and cable rack along south façade of L11 MSB with all underground utilities at Area E4 including C.W. Inlet and Outlet Culvert except the deferred works	0 days	Thu 30/4/20	Thu 30/4/20
25	Section D - (iv) Link Bridge between L10 and L11 MSB and at the south of L11 MSB including their associated alternations & additions (A&A) Works at L10 MSB	0 days	Thu 30/4/20	Thu 30/4/20
26	Section D - (v) Gas Duct Foundation, Pipe and Cable Rack and associated trench in Area E20	0 days	Sat 1/2/20	Sat 1/2/20
27	Section E1 - (i) Link BrIdge and Pipe and Cable Rack connecting L11 MSB to the western area of L11 MSB at Area E3	0 days	Mon 28/9/20	Mon 28/9/20
28	Section E1 - (ii) Gas Receiving Station and L11 Gas Receiving Station Equipment Room (GRS) Area Extension at Area E16	0 days	Tue 30/6/20	Tue 30/6/20
29	Section E1 - (iii) External Works at Area E15 (C)	0 days	Sun 28/2/21	Sun 28/2/21
30	Section E2 - Pipe and Cable Rack and trench at west of Chimney Road and Pipe and Cable Rack at south of Middle Road at Area E8 and E19	0 days	Thu 17/9/20	Thu 17/9/20
31	Section E3 - Gas Pipe Support Foundation and Pipe Trench and associated external works at Area E14, E15 (A) and E15 (B)	0 days	Tue 30/6/20	Tue 30/6/20
32	Section E4 - 275kV cable trenching works connecting the 275kV Switching Station Extension and L11 MSB at Area E9 (A)	0 days	Sun 15/9/19	Sun 15/9/19
33	Section F - 275kV Station Building Extension and associated works at Area E17	0 days	Sat 30/5/20	Sat 30/5/20
34	Section G - A&A Works at No. 4 C.W. Intake at Area E12	0 days	Sun 31/5/20	Sun 31/5/20
35	Section H - L11 Steel flue liner at No. 4 Chimney	0 days	Mon 15/7/19	Mon 15/7/19



17-8002 Master Prog Rev 3 | Task | Split | Milestone | Summary

Contract No. 17/8002 Lamma Power Station Extension Civil and Building Works for Unit L11 | 17-8002 Master Prog Rev 3 | **Refer to CEM dated 26March2019**

ID	Task Name	Duration	Start	Finish
36	Section I - (i) 275kV cable trenching works connecting the 275kV Switching Station Extension and L11 MSB at Area E9 (B)	0 days	Fri 15/5/20	Fri 15/5/20
37	Section I - (ii) Interconnector 2 Trench Modification Works at Area E10	0 days	Fri 15/5/20	Fri 15/5/20
38	Section J - (i) Demolition of Retractable Cover A&B & (ii) Foundation of LMX Light Oil Storage Tank Nos. 3 & 4 and A&A for Existing Bund Wall at	0 days	Fri 30/4/21	Fri 30/4/21
39	Section K1 - External works at Area 15 (E) and 15(F)	0 days	Mon 31/5/21	Mon 31/5/21
40	Section K2 - Removal of Southern Bund and External Works at Area D5, D6 and D7	0 days	Mon 31/5/21	Mon 31/5/21
41	Section K3 - All remaining works shall be completed for reporting completion to BD and ready for OP inspection	0 days	Thu 30/9/21	Thu 30/9/21
42	**General & Preliminary**	**318 days**	**Fri 1/6/18**	**Wed 24/4/19**
43	Set up Temporary Site Office and Utilities	90 days	Fri 1/6/18	Wed 29/8/18
44	Permit Applications & Statuary Submissions	120 days	Thu 30/8/18	Thu 27/12/18
45	Existing Utilities scanning & Excavation Permit	45 days	Tue 13/11/18	Thu 27/12/18
46	Tower Crane erection 2@MSB, 1@ 275	50 days	Wed 6/3/19	Wed 24/4/19
47	**Submission and Approval**	**554 days**	**Fri 1/6/18**	**Mon 16/12/19**
48	Method Statement / Temp Work Submission & Approval from HEC for General Works	240 days	Fri 1/6/18	Sat 26/1/19
49	BD Approval & Consent (If required)	120 days	Fri 1/6/18	Fri 28/9/18
50	BIM Model, CSD & CBWD Submission & Approval from HEC	200 days	Sat 29/9/18	Fri 26/4/19
51	Structure Steelwork Connection Design Submission & BD Approval	60 days	Sat 29/9/18	Tue 27/11/18
52	Structure Steelwork Shop Drawing & Approval	60 days	Sat 13/10/18	Tue 11/12/18
53	Metal Cladding, louvre & windows submission & BD Approval	60 days	Wed 28/11/18	Sat 26/1/19
54	Metal Cladding, louvre & windows shop drawing submission	60 days	Wed 12/12/18	Tue 19/2/19
55	Order, Off Site Fabrication and Delivery (S. Steel & Cladding & louvres)	180 days	Sat 27/10/18	Sat 4/5/19
56	Retractable Cover D BD Submission & Approval	90 days	Wed 20/2/19	Mon 20/5/19
57	No. 4 C.W. Outfall A&A BD 1st Submission	90 days	Thu 30/8/18	Tue 27/11/18
58	Sumission & Approval of Steel Flue Assessment Report and Design Drawings	60 days	Sun 30/9/18	Wed 28/11/18
59	Submission and Approval of Steel Flue Design from BD	60 days	Sun 30/9/18	Wed 28/11/18
60	Material Fabrication & Delivery for L11 Flue	100 days	Mon 15/10/18	Tue 22/1/19
61	Folding Shutters Shop Drawing Submission & Approval	120 days	Wed 20/2/19	Wed 19/6/19
62	Fabrication & Delivery of Folding Shutters	150 days	Thu 20/6/19	Sat 16/11/19
63	Sewage Pump System Design submission & approval	90 days	Fri 22/3/19	Wed 19/6/19
64	Fabrication & Delivery of Sewage Pump	180 days	Thu 20/6/19	Mon 16/12/19
65	Other material submission & approval & delivery	300 days	Thu 30/8/18	Fri 5/7/19
66	**Coordination with the Employer's Specialist Contractors**	**478 days**	**Mon 20/5/19**	**Sat 19/9/20**
67	Installation of Puddle Pipes at C.W. outlet Culvert	7 days	Mon 20/5/19	Sun 26/5/19
68	Installation of Puddle Pipes at C.W. Inlet Culvert	7 days	Sun 7/7/19	Sat 13/7/19
69	Template setting at L11 Turbo Block Foundation	60 days	Wed 1/1/20	Mon 9/3/20
70	Template setting of holding down bolts at HRSG column base	46 days	Tue 23/7/19	Fri 6/9/19
71	I-beam / channel base installation on top of transformer foundations at Transformer Area	30 days	Fri 17/4/20	Sat 16/5/20
72	Overhead crane erection at turbine hall using access through a temporary opening at L11 MSB roof between GL11-G to 11-H and 11-2 to 11-6	36 days	Sun 1/12/19	Tue 7/1/20
73	Condenser assembly and erection using access through a temporary façade opening at L11 MSB below 1/F along GL 11-6 from GL11-B to 11-C including a clear space below 1/F between GL 11-B to 11-C	127 days	Sun 1/3/20	Sun 5/7/20
74	Installation of power train equipment including air inlet duct using access through a temporary façade opening at L11 MSB below 1/F along GL 11-6 from GL11-F to 11-H including a clear space below 1/F of the above area	142 days	Fri 1/5/20	Sat 19/9/20
75	Installation of embedded materials such as holding down bolts for equipment foundations - Commencement	30 days	Sun 23/6/19	Mon 22/7/19
76	**Section A1 & A2 - Ground treatment at Zone 1A & 1B**	**92 days**	**Wed 1/8/18**	**Wed 31/10/18**
77	Plant establishment for earthworks	7 days	Wed 1/8/18	Tue 7/8/18
78	Backfilling and compaction from existing ground +4.5mPD to +5.5mPD	45 days	Wed 8/8/18	Fri 21/9/18
79	Delivery of band drain	5 days	Wed 29/8/18	Sun 2/9/18
80	Plant establishment for band drain (1st rig)	10 days	Mon 3/9/18	Wed 12/9/18
81	Plant establishment for band drain (2nd rig)	7 days	Thu 20/9/18	Wed 26/9/18
82	Plant establishment for band drain (3rd rig)	7 days	Thu 11/10/18	Wed 17/10/18



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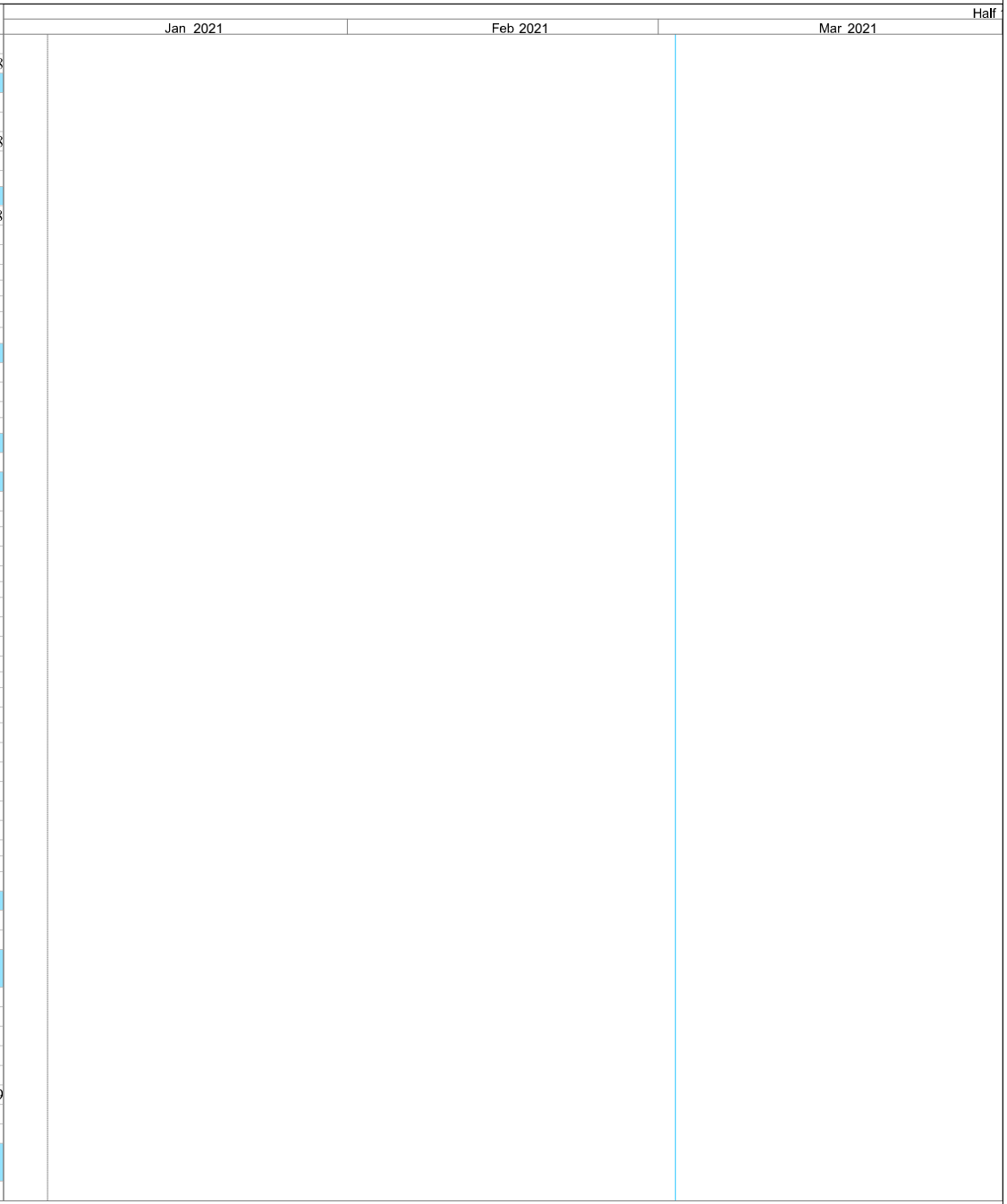
ID	Task Name	Duration	Start	Finish
83	Vert. Band drain installation (1023 nos. x 44m)	45 days	Thu 13/9/18	Sat 27/10/18
84	Deposition of surcharge up to +8.3mPD	45 days	Mon 17/9/18	Wed 31/10/18
85	**Section A3 - Ground treatment installation works at Zone 2**	**158 days**	**Mon 1/10/18**	**Sun 17/3/19**
86	Backfilling and compaction from existing ground +4.5mPD to +5.5mPD	30 days	Mon 1/10/18	Tue 30/10/18
87	Delivery of band drain	6 days	Thu 18/10/18	Tue 23/10/18
88	Vert. Band drain installation (1787 nos. x 44m)	50 days	Wed 24/10/18	Wed 12/12/18
89	Deposition of surcharge up to +8.3mPD	60 days	Mon 3/12/18	Thu 31/1/19
90	Additional Concrete Blocks + Extra Surcharge	60 days	Mon 7/1/19	Sun 17/3/19
91	**Section A4 - Ground treatment installation works at Zone 3**	**131 days**	**Thu 1/11/18**	**Thu 21/3/19**
92	Backfilling and compaction from existing ground +4.5mPD to +5.5mPD	12 days	Thu 1/11/18	Mon 12/11/18
93	Vert. Band drain installation	60 days	Fri 9/11/18	Mon 7/1/19
94	Deposition of surcharge up to +8.3mPD	45 days	Tue 18/12/18	Thu 31/1/19
95	Possession of Part 1 Defer portion at Zone 3	0 days	Wed 20/2/19	Wed 20/2/19
96	Vert. Band drain installation	10 days	Wed 20/2/19	Fri 1/3/19
97	Possession of Part 2 Defer portion at Zone 3	0 days	Fri 1/3/19	Fri 1/3/19
98	Vert. Band drain installation	7 days	Fri 1/3/19	Thu 7/3/19
99	Surcharge at deferred portion	14 days	Fri 8/3/19	Thu 21/3/19
100	**Section A5 (i) - Ground treatment installation works at Zone 4**	**83 days**	**Wed 26/12/18**	**Thu 28/3/19**
101	Site Preparation for Vertical Band Drain	3 days	Tue 1/1/19	Thu 3/1/19
102	Band drain installation	21 days	Wed 26/12/18	Tue 15/1/19
103	Possession of Defer portion at Zone 4	0 days	Fri 1/3/19	Fri 1/3/19
104	Vert. Band drain installation	28 days	Fri 1/3/19	Thu 28/3/19
105	**Section A5 (ii) - Surcharge works at Zone 4**	**30 days**	**Tue 1/9/20**	**Wed 30/9/20**
106	Deposition of surcharge up to +8.3mPD	30 days	Tue 1/9/20	Wed 30/9/20
107	**Section A6 (i) - A&A Works for No. 4 C.W. Outfall at Area E18**	**493 days**	**Thu 1/11/18**	**Sat 28/3/20**
108	BD Amendment, resubmission & approval for Jacking Pit	170 days	Thu 1/11/18	Mon 29/4/19
109	Consent for Jacking Pit ELS	28 days	Sat 20/4/19	Fri 17/5/19
110	Mobilization	0 days	Sat 15/12/18	Sat 15/12/18
111	Jacking Pit Sheetpile Installation (incl. Stop work notice + CNY)	60 days	Sun 16/12/18	Sat 23/2/19
112	Protective screen and preventive measure for U9 gas pipeline (VO)	28 days	Sun 24/2/19	Sat 23/3/19
113	Provision of temp support for U10 gas pipeline (VO) upon RMA allow access	28 days	Sun 14/4/19	Sat 11/5/19
114	ELS of jacking pit	30 days	Sat 18/5/19	Sun 16/6/19
115	Pipe Jacking set up & ground strengthing	18 days	Mon 17/6/19	Thu 4/7/19
116	Pipe Jacking	90 days	Tue 10/9/19	Sun 8/12/19
117	Receiving Pit BD Approval	170 days	Sun 25/11/18	Thu 23/5/19
118	Consent for Pipe & Sheet pile	28 days	Tue 14/5/19	Mon 10/6/19
119	Receiving Pit Pipe & Sheet pile installation	30 days	Tue 11/6/19	Wed 10/7/19
120	Consent for Receiving Pit ELS	28 days	Thu 4/7/19	Wed 31/7/19
121	ELS of Receiving pit	40 days	Thu 1/8/19	Mon 9/9/19
122	Allow modify existing outfall manhole for pipe jacking receiving	18 days	Tue 10/9/19	Fri 27/9/19
123	Culvert Pipe Intallation & water test	55 days	Mon 9/12/19	Wed 12/2/20
124	Inspection Manhole at Jacking Pit + backfill (Area E3(A))	18 days	Thu 13/2/20	Sun 1/3/20
125	Manhole extension at Outfall no. 4 + backfill + Reinstate of Outfall Rd	45 days	Thu 13/2/20	Sat 28/3/20
126	Sheetpile for L12 Outlet culvert (Connection to Jacking Pit)	45 days	Mon 15/7/19	Wed 28/8/19
127	Consent + ELS for remaining jacking pit	75 days	Thu 29/8/19	Mon 11/11/19
128	Outlet Culvert pipe installation + Thrust Box (remaining portion at A1 Area)	45 days	Tue 12/11/19	Sat 28/12/19
129	Sheet pile for future extension along GRS	60 days	Thu 29/8/19	Sun 27/10/19
130	**Section A6 (ii) - External works at Area E15(D)**	**37 days**	**Wed 1/1/20**	**Sat 15/2/20**
131	Arae possession & Clearance	6 days	Wed 1/1/20	Mon 6/1/20
132	Road & Surface Works	31 days	Tue 7/1/20	Sat 15/2/20
133	**Section B1 (i) - Area south of L11 MSB and HRSG from GL11-F eastwards leading to Chimney Road at Area E1 & E2**	**375 days**	**Thu 31/1/19**	**Sun 1/3/20**
134	Area Possession & Clearance	0 days	Thu 31/1/19	Thu 31/1/19
135	Excavation for CW Inlet Culvert (South of L11 HRSG)	21 days	Tue 16/4/19	Mon 6/5/19
136	Installation CW Inlet Culvert pipe	30 days	Tue 7/5/19	Wed 5/6/19
137	Construction of Thrust Box & Manholes,etc	14 days	Thu 6/6/19	Wed 19/6/19
138	Backfill	21 days	Thu 20/6/19	Wed 10/7/19
139	Install underground utilities	45 days	Mon 30/9/19	Wed 13/11/19
140	Backfill and Temporary paving for Condensor Move in (E1)	14 days	Mon 17/2/20	Sun 1/3/20
141	Backfill and Temporary paving for Condensor Move in (others)	30 days	Sat 1/2/20	Sun 1/3/20
142	**Section B1 (ii) - Supporting structures for overhead cranes of L11 MSB including the associated roof structure except the roof deferred works**	**482 days**	**Thu 1/11/18**	**Tue 17/3/20**
143	Area possession & Clearance	0 days	Thu 1/11/18	Thu 1/11/18



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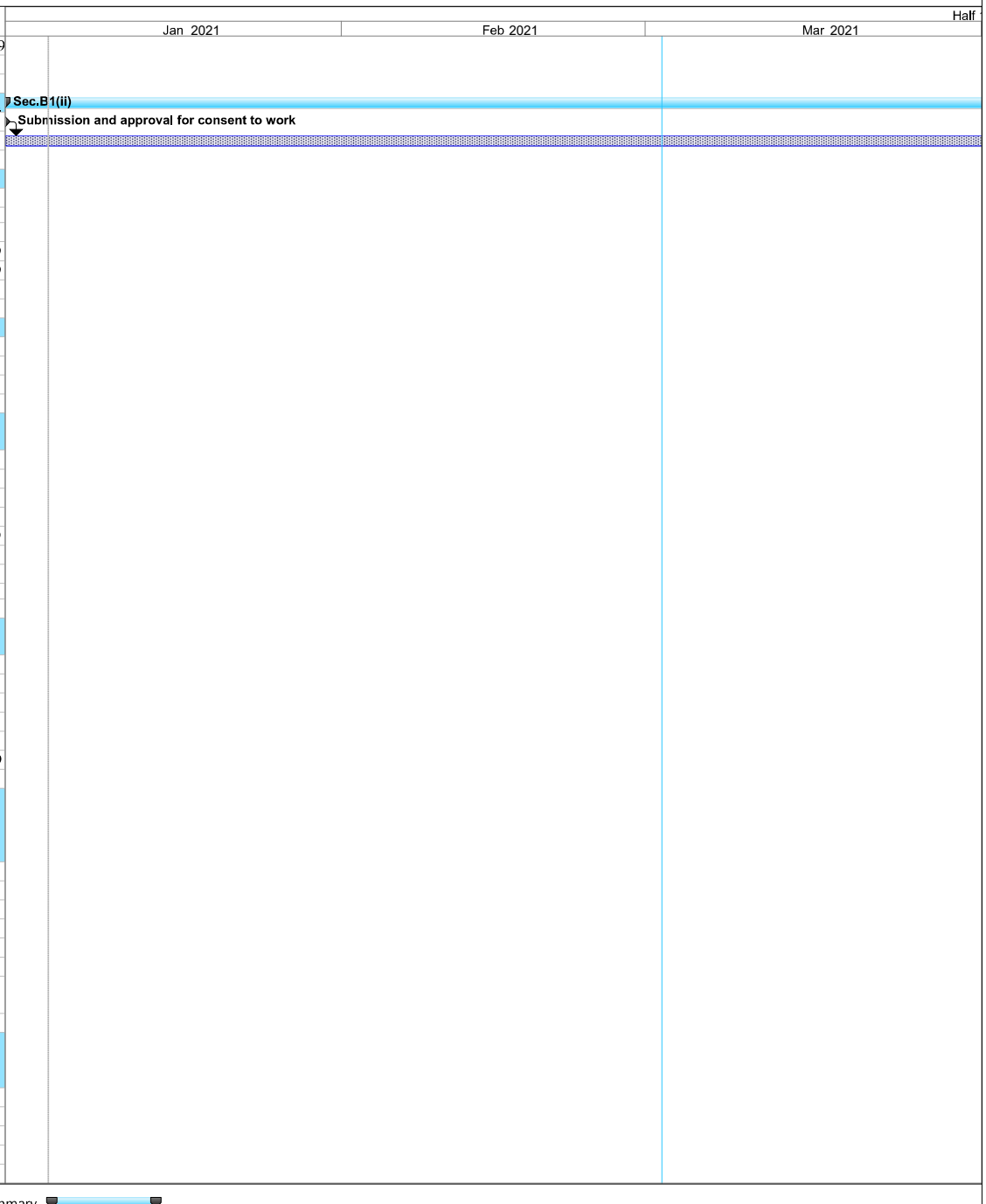
ID	Task Name	Duration	Start	Finish
144	Erection of turbine hall roof except defer work	0 days	Wed 13/11/19	Wed 13/11/19
145	Installation of crane griders	21 days	Mon 11/11/19	Sun 1/12/19
146	Turbine hall wall claddings	60 days	Thu 9/1/20	Tue 17/3/20
147	**Section B1 (iii) - FSRU Civil works at Area E13 (GRS)**	**151 days**	**Fri 1/1/21**	**Mon 31/5/21**
148	Submission and approval for consent to work	0 days	Fri 1/1/21	Fri 1/1/21
149	Civil & Building Works	130 days	Fri 1/1/21	Mon 10/5/21
150	Ground reinstatement	21 days	Tue 11/5/21	Mon 31/5/21
151	**Section B2 - Retractable Cover D at Area E22**	**435 days**	**Tue 1/1/19**	**Tue 31/3/20**
152	Area Possession, Demolition and clearance work	60 days	Tue 1/1/19	Mon 11/3/19
153	Revise Structural Form and BD resubmission & approval	150 days	Tue 12/3/19	Thu 8/8/19
154	Foundation construction	60 days	Fri 9/8/19	Mon 7/10/19
155	Backfill & Ground reinstatement	30 days	Tue 8/10/19	Wed 6/11/19
156	Superstructure fabrication & delivery	90 days	Fri 9/8/19	Wed 6/11/19
157	Superstructure erection	90 days	Thu 7/11/19	Sat 15/2/20
158	E&M Installation and T&C	45 days	Sun 16/2/20	Tue 31/3/20
159	**Section B3 - External works at Area B1, D2 and D4**	**416 days**	**Fri 1/3/19**	**Thu 30/4/20**
160	Receive Area from HKE, Area Possession & Clearance	0 days	Fri 1/3/19	Fri 1/3/19
161	Removal of existing paving for band drain under Section A5(i)	30 days	Fri 1/3/19	Sat 30/3/19
162	Complete Vert. Band drain under Section A5(i)	0 days	Thu 28/3/19	Thu 28/3/19
163	Ground preparation for B1, D2 & D4 for handover to Plant contractor	90 days	Sat 1/2/20	Thu 30/4/20
164	**Section C1 - Area south of L11 MSB from GL11-F westwards leading to Station Road at Area E3(A) & E3(B)**	**466 days**	**Thu 1/11/18**	**Sun 1/3/20**
165	Area Possession & Clearance	0 days	Thu 1/11/18	Thu 1/11/18
166	Excavation for Type C (Area E3A)	21 days	Tue 26/3/19	Mon 15/4/19
167	Installation CW Outlet Culvert Pipe connect to Type C1	21 days	Tue 16/4/19	Mon 6/5/19
168	Installation CW Inlet Culvert pipe (South of L11 Condensor)	21 days	Mon 20/5/19	Sun 9/6/19
169	Construction of Thrust Box	10 days	Mon 10/6/19	Wed 19/6/19
170	Construction of Access Manhole	21 days	Mon 10/6/19	Sun 30/6/19
171	Backfill	14 days	Mon 1/7/19	Sun 14/7/19
172	Construction of Underground drainage and utilities	60 days	Thu 7/11/19	Tue 7/1/20
173	Construct Temp Paving for Condenser move in	45 days	Wed 8/1/20	Sun 1/3/20
174	**Section C2 - (i) Southern part of L11 HRSG area and its surrounding at Area E7 (No Defer Foundations)**	**295 days**	**Thu 31/1/19**	**Sun 1/12/19**
175	Area Possession & Clearance	0 days	Thu 31/1/19	Thu 31/1/19
176	Excavation & Pile Caps & Tie Beams (HRSG South Area E7)	45 days	Sun 19/5/19	Tue 2/7/19
177	Construction RC foundations	45 days	Tue 9/7/19	Thu 22/8/19
178	Construction RC plinths	30 days	Fri 23/8/19	Sat 21/9/19
179	Construction underground utilities	45 days	Fri 23/8/19	Sun 6/10/19
180	Backfill & Construction on-grade slabs	35 days	Mon 7/10/19	Sun 10/11/19
181	Backfill and Temporary paving	21 days	Mon 11/11/19	Sun 1/12/19
182	**Section C2 - (ii) L11 Turbo Block foundation including the L11 MSB ground floor together with the equipment foundations between GL 11-F to 11-H and 11-1 to 11-6 for the installation of power generator, air inlet duct and lube oil reservoir**	**496 days**	**Sat 1/12/18**	**Thu 30/4/20**
183	Area Possession & Clearance	0 days	Sat 1/12/18	Sat 1/12/18
184	Excavation & Pile Caps & Tie Beams (MSBL11 - Turbo Block North)	70 days	Mon 14/1/19	Wed 3/4/19
185	Excavation & Pile Caps & Tie Beams (MSBL11 - Turbo Block South)	30 days	Wed 10/7/19	Thu 8/8/19
186	Backfill and construction turbine block foundations	21 days	Fri 9/8/19	Thu 29/8/19
187	Construction of internal drainage	60 days	Fri 9/8/19	Mon 7/10/19
188	Construction RC walls incl. G/F rooms	90 days	Tue 8/10/19	Tue 7/1/20
189	Construction turbine block columns and upper portion for plant embed installation	21 days	Mon 9/9/19	Sun 29/9/19
190	Concrete Turbine upper part foundation & clear falsework	52 days	Tue 10/3/20	Thu 30/4/20
191	**Section C2 - (iii) G/F of L11 MSB including the Condenser Pit, Circulating Water Pipe Pit and equipment foundations between GL 11-B to 11-C and 11-1 to 11-6 for the installation of condenser**	**466 days**	**Thu 1/11/18**	**Sun 1/3/20**
192	Area Possession & Clearance	0 days	Thu 1/11/18	Thu 1/11/18
193	Excavation to foundation level at ELS Type A	18 days	Sat 13/4/19	Tue 30/4/19
194	Construction of CW Outlet Box + lowest tie beam & caps	40 days	Wed 1/5/19	Sun 9/6/19
195	Construction of pile caps & tie beams & hot well sump pit up to +2.5mPD	30 days	Mon 10/6/19	Tue 9/7/19
196	Backfill & Construction of CW Inlet Box + tie beams	18 days	Wed 10/7/19	Sat 27/7/19



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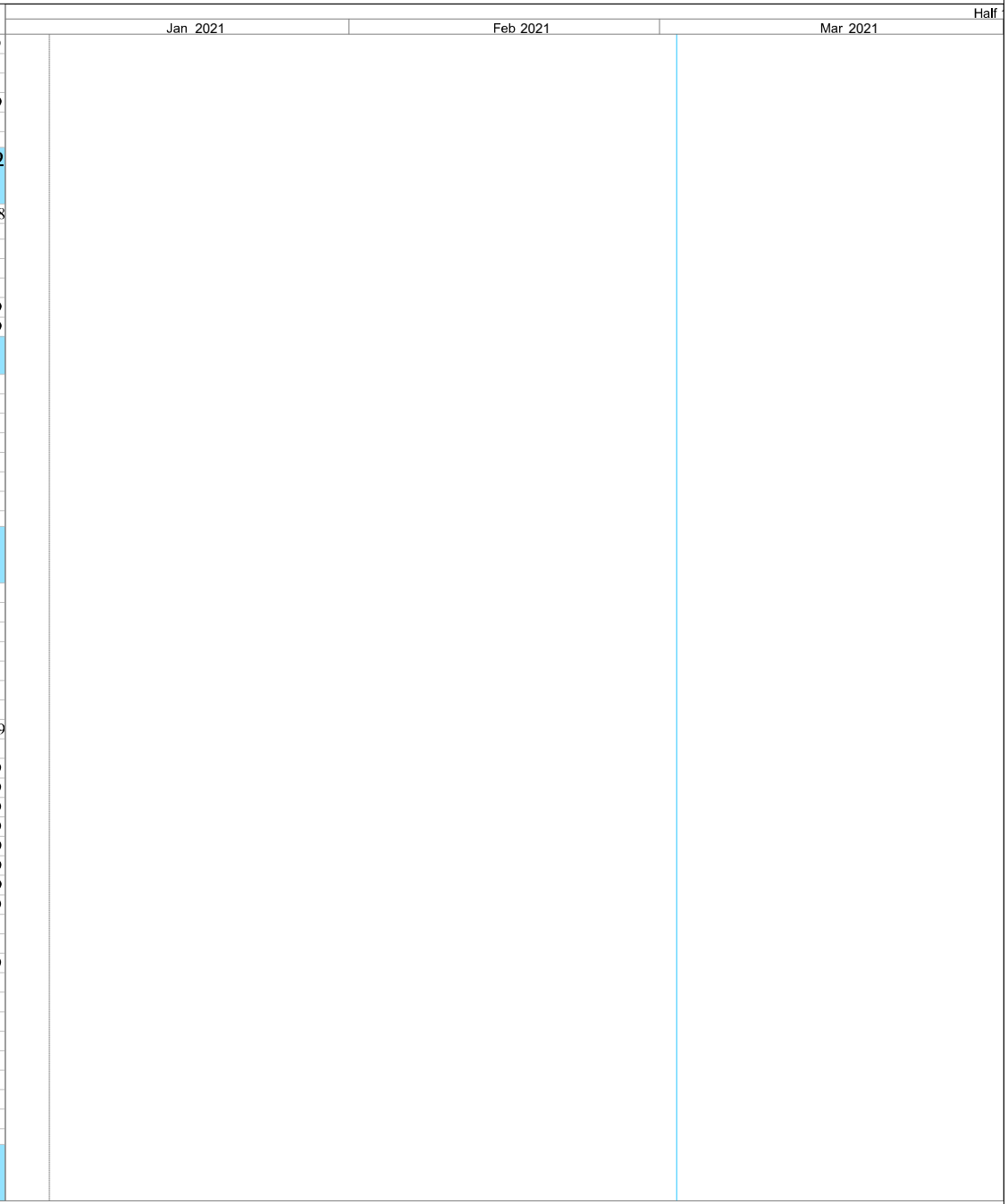
ID	Task Name	Duration	Start	Finish
197	Backfill and Construction ground beams & trenches	18 days	Sun 28/7/19	Wed 14/8/19
198	Construction of indoor underground drainage	12 days	Thu 15/8/19	Mon 26/8/19
199	Backfill & construction on-grade slabs	10 days	Tue 27/8/19	Thu 5/9/19
200	Construction Column casting and RC walls	30 days	Mon 30/9/19	Tue 29/10/19
201	Metal Cladding & Louvres for GLB-C/1-6	60 days	Thu 28/11/19	Thu 6/2/20
202	Mis. Works for plant erection	24 days	Fri 7/2/20	Sun 1/3/20
203	**Section D - (i) Roads and external grounds surrounding L11 MSB and L11 HRSG in addition to the southern & eastern areas mentioned above in Area E5 and E6**	**414 days**	**Thu 1/11/18**	**Tue 31/12/19**
204	Area Possession & Clearance	14 days	Thu 1/11/18	Wed 14/11/18
205	Excavation for Type C1 and open sheet pile	75 days	Mon 14/1/19	Mon 8/4/19
206	Install CW Outlet pipe & connect to prevous	21 days	Tue 16/4/19	Mon 6/5/19
207	Backfill	10 days	Tue 7/5/19	Thu 16/5/19
208	Undeground utilities and trenches	60 days	Wed 3/7/19	Sat 31/8/19
209	Construction of plant drainage, trenches & RC plinths	45 days	Sun 1/9/19	Tue 15/10/19
210	Remaining Undeground utilities & backfill (West of Tx Bay)	75 days	Wed 16/10/19	Tue 31/12/19
211	**Section D - (ii) Remaining northern part of L11 HRSG area and its surrounding in Area E6**	**375 days**	**Thu 31/1/19**	**Sun 1/3/20**
212	Area Possession & Clearance	0 days	Thu 31/1/19	Thu 31/1/19
213	Excavation & Pits & Pile Caps & Tie Beams (HRSG north Area E6)	45 days	Thu 4/4/19	Sat 18/5/19
214	Construction RC foundations	45 days	Sun 19/5/19	Tue 2/7/19
215	Construction RC plinths & HRSG Lift Pit & internal drainage	60 days	Sun 9/6/19	Wed 7/8/19
216	Backfill Construction on-grade slabs	28 days	Thu 8/8/19	Wed 4/9/19
217	Construction underground utilities	45 days	Thu 5/9/19	Sat 19/10/19
218	Backfill, Remaining utilities and temporary paving	85 days	Thu 14/11/19	Mon 17/2/20
219	Touch up and site clearance	13 days	Tue 18/2/20	Sun 1/3/20
220	**Section D - (iii) Whole of L11 MSB including the pipe and cable rack along south façade of L11 MSB with all underground utilities at Area E4 including C.W. Inlet and Outlet Culvert except the deferred works**	**526 days**	**Thu 1/11/18**	**Thu 30/4/20**
221	Area Possession & Clearance	0 days	Thu 1/11/18	Thu 1/11/18
222	Construction of pile caps & tie beams at Transformer Area	60 days	Thu 15/11/18	Sun 13/1/19
223	Excavation & Construction Blow Down Sum pit (Type B)	45 days	Thu 4/4/19	Sat 18/5/19
224	Construction of pile caps & tie beams at SunShadeCover Area	45 days	Wed 10/7/19	Fri 23/8/19
225	Preaparation for S.Steelwork Erection	14 days	Wed 3/7/19	Tue 16/7/19
226	Structural Delivery & Erection (Turhine Hall North fr G.L. 1-3/H->B)	30 days	Wed 17/7/19	Thu 15/8/19
227	Structural Delivery & Erection (Equipment Floors)	45 days	Fri 16/8/19	Sun 29/9/19
228	Structural Delivery & Erection (Turbine Hall South)	45 days	Mon 30/9/19	Wed 13/11/19
229	Fire Coating Application at Joint	120 days	Fri 16/8/19	Fri 13/12/19
230	External Scaffolding Erection	150 days	Wed 31/7/19	Sun 29/12/19
231	Construction 1/F RC Slab	14 days	Mon 30/9/19	Sun 13/10/19
232	Construction M/F RC Slab	7 days	Mon 14/10/19	Sun 20/10/19
233	Construction 2/F RC Slab	14 days	Mon 14/10/19	Sun 27/10/19
234	Construction 3/F RC Slab	14 days	Mon 28/10/19	Sun 10/11/19
235	Construction 4/F RC Slab	14 days	Mon 11/11/19	Sun 24/11/19
236	Construction 5/F RC Slab (Roof of turbine hall, except defer portion)	30 days	Mon 25/11/19	Tue 24/12/19
237	Construction Roof RC Slab	14 days	Mon 9/12/19	Sun 22/12/19
238	Construction Upper Roof RC Slab	12 days	Fri 27/12/19	Tue 7/1/20
239	Construction Defer Roof RC Slab (G.L. G-H)	30 days	Wed 8/1/20	Sat 15/2/20
240	Construction of Staircase ST-01 & lift shaft & machine room	120 days	Fri 30/8/19	Sun 29/12/19
241	Construction of Staircase ST-02 except defer work	76 days	Mon 28/10/19	Mon 13/1/20
242	Construction of RC plinth, kerbs & parapet Walls	30 days	Fri 7/2/20	Sat 7/3/20
243	Erection of Skylight & Roof Features	45 days	Fri 21/2/20	Sun 5/4/20
244	Waterproofing & Flooring at Roof	60 days	Wed 8/1/20	Mon 16/3/20
245	ABFW Works from 1/F to 5/F equipment rooms	150 days	Mon 21/10/19	Sun 29/3/20
246	Metal Cladding, Windows and Louvres incl. roof feature	100 days	Thu 28/11/19	Tue 17/3/20
247	Removal of external scaffolding	60 days	Mon 17/2/20	Thu 16/4/20
248	Building Services E&M Access & Installation	150 days	Mon 4/11/19	Sun 12/4/20
249	Remaining and Mis. works for Plant erection Full Access	18 days	Mon 13/4/20	Thu 30/4/20
250	**Section D - (iv) Link Bridge between L10 and L11 MSB and at the south of L11 MSB including their associated alternations & additions (A&A) Works at L10 MSB**	**526 days**	**Thu 1/11/18**	**Thu 30/4/20**



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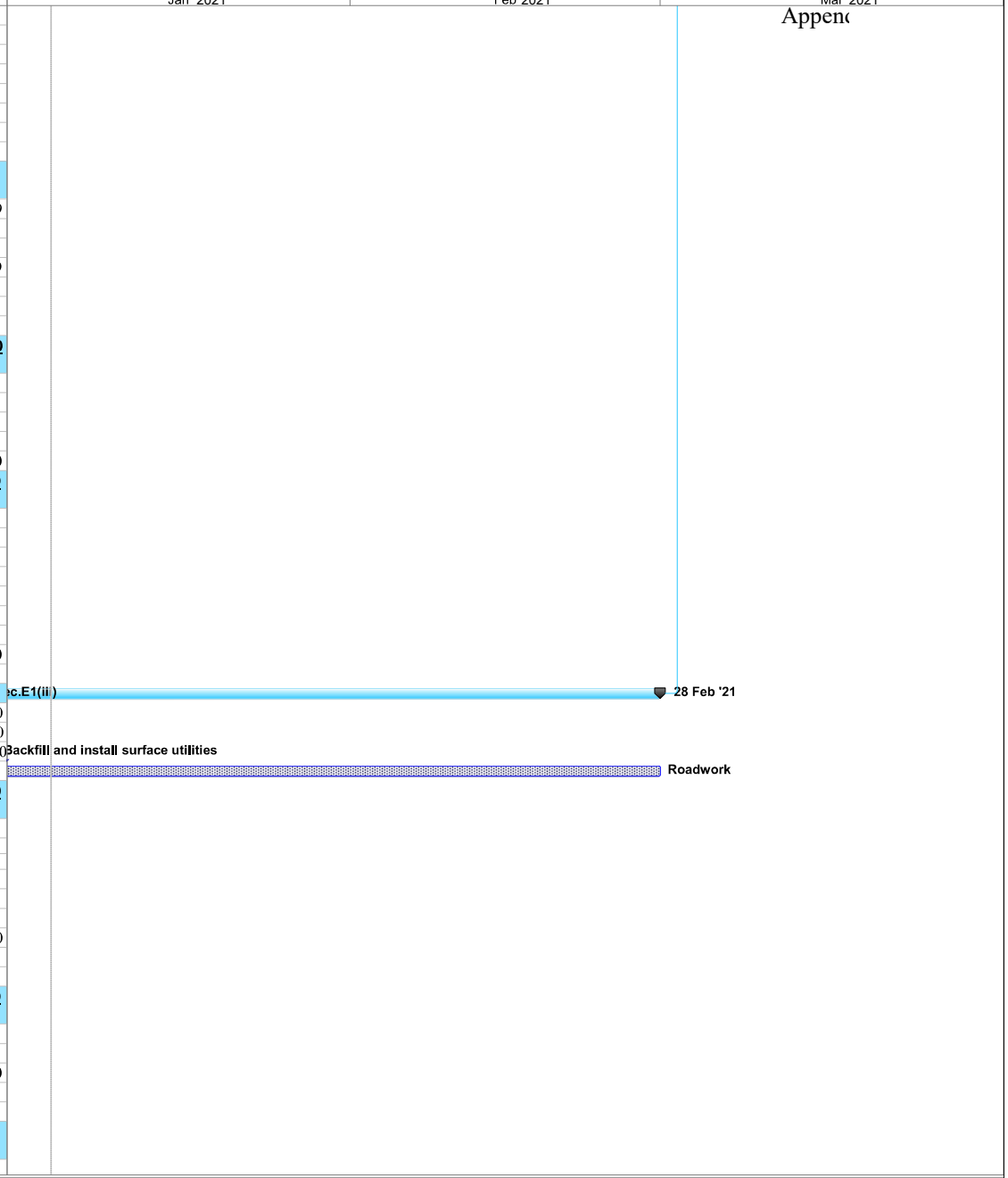
ID	Task Name	Duration	Start	Finish
251	Area Possession & Clearance	0 days	Thu 1/11/18	Thu 1/11/18
252	A&A works at South of L10 MSB	60 days	Thu 28/11/19	Fri 7/2/20
253	Erection of link bridge structural steel	21 days	Fri 7/2/20	Thu 27/2/20
254	Casting of bridge deck	7 days	Fri 28/2/20	Thu 5/3/20
255	Metal roofing installation	14 days	Fri 6/3/20	Thu 19/3/20
256	ABWF work	21 days	Fri 20/3/20	Thu 9/4/20
257	Form new opening at MSB for final connection	14 days	Fri 27/3/20	Thu 9/4/20
258	E&M Work for completion	21 days	Fri 10/4/20	Thu 30/4/20
259	**Section D - (v) Gas Duct Foundation, Pipe and Cable Rack and associated trench in Area E20**	**345 days**	**Mon 11/2/19**	**Sat 1/2/20**
260	Area Possession & Clearance + CNY	0 days	Mon 11/2/19	Mon 11/2/19
261	Sheet pile installation & submit as-built	75 days	Mon 11/2/19	Fri 26/4/19
262	Consent for excavation	28 days	Sat 27/4/19	Fri 24/5/19
263	Excavation & plate load test	45 days	Sat 1/6/19	Mon 15/7/19
264	Construction of foundation	45 days	Tue 16/7/19	Thu 29/8/19
265	Backfill & Underground utiltiies	30 days	Fri 30/8/19	Sat 28/9/19
266	Remaining Pipe & cable rack and associated trenchs in Area E20	115 days	Sun 29/9/19	Sat 1/2/20
267	**Section E1 - (i) Link BrIdge and Pipe and Cable Rack connecting L11 MSB to the western area of L11 MSB at Area E3**	**263 days**	**Wed 1/1/20**	**Mon 28/9/20**
268	Area Possession	0 days	Wed 1/1/20	Wed 1/1/20
269	Excavation & construction of new foundation	40 days	Wed 1/1/20	Tue 18/2/20
270	Backfill	10 days	Wed 19/2/20	Fri 28/2/20
271	Erection of Structural steel	30 days	Mon 6/7/20	Tue 4/8/20
272	Backfill & Ground works	55 days	Wed 5/8/20	Mon 28/9/20
273	**Section E1 - (ii) Gas Receiving Station and L11 Gas Receiving Station Equipment Room (GRS) Area Extension at Area E16**	**173 days**	**Wed 1/1/20**	**Tue 30/6/20**
274	Area Possession	0 days	Wed 1/1/20	Wed 1/1/20
275	Removal of Surcharge and excavation	14 days	Wed 1/1/20	Tue 14/1/20
276	Modification of Site Drainage	45 days	Wed 15/1/20	Sun 8/3/20
277	Construction of new RC for GRS Equipment Room	75 days	Tue 14/1/20	Mon 6/4/20
278	ABWF for GRS Equipment room	45 days	Tue 7/4/20	Thu 21/5/20
279	E&M Installation	45 days	Sun 17/5/20	Tue 30/6/20
280	Construction of new Gas pipe plinths & racks	45 days	Sat 22/2/20	Mon 6/4/20
281	Backfill and construction site drainage	21 days	Tue 7/4/20	Mon 27/4/20
282	External Paving and install new fencing	60 days	Sat 2/5/20	Tue 30/6/20
283	**Section E1 - (iii) External Works at Area E15 (C)**	**273 days**	**Mon 1/6/20**	**Sun 28/2/21**
284	Removal of Surcharge and excavation	45 days	Mon 1/6/20	Wed 15/7/20
285	Underground drianage, Utilities and RC plinths	123 days	Thu 16/7/20	Sun 15/11/20
286	Backfill and install surface utilities	45 days	Mon 16/11/20	Wed 30/12/20
287	Roadwork	60 days	Thu 31/12/20	Sun 28/2/21
288	**Section E2 - Pipe and Cable Rack and trench at west of Chimney Road and Pipe and Cable Rack at south of Middle Road at Area E8 and E19**	**495 days**	**Wed 1/5/19**	**Thu 17/9/20**
289	BD consent + Site Possession @ Area E8	0 days	Wed 1/5/19	Wed 1/5/19
290	Excavation & Plate load test	60 days	Wed 1/5/19	Sat 29/6/19
291	Foundation and Trench constructions	90 days	Sun 30/6/19	Fri 27/9/19
292	Backfill & underground utitiles + temp paving	60 days	Sat 28/9/19	Tue 26/11/19
293	Excavation & plate load test @ E19	60 days	Wed 27/11/19	Wed 5/2/20
294	Construction of foundations & trenches	45 days	Thu 6/2/20	Sat 21/3/20
295	Backfill & underground utitiles	60 days	Sun 22/3/20	Wed 20/5/20
296	Pipe & cable rack Erection	60 days	Thu 21/5/20	Sun 19/7/20
297	Ground reinstatement	60 days	Mon 20/7/20	Thu 17/9/20
298	**Section E3 - Gas Pipe Support Foundation and Pipe Trench and associated external works at Area E14, E15 (A) and E15 (B)**	**173 days**	**Wed 1/1/20**	**Tue 30/6/20**
299	Removal of surcharge / site clearance	21 days	Wed 1/1/20	Tue 21/1/20
300	Excavation & construction of pipe trench	30 days	Wed 22/1/20	Sat 29/2/20
301	Construction of gas pipe support foundation	30 days	Sun 1/3/20	Mon 30/3/20
302	Construction of underground drainage and utilities	60 days	Tue 31/3/20	Fri 29/5/20
303	Backfill & road work	32 days	Sat 30/5/20	Tue 30/6/20
304	**Section E4 - 275kV cable trenching works connecting the 275kV Switching Station Extension and L11 MSB at Area E9 (A)**	**185 days**	**Fri 15/3/19**	**Sun 15/9/19**
305	Site possession	0 days	Fri 15/3/19	Fri 15/3/19



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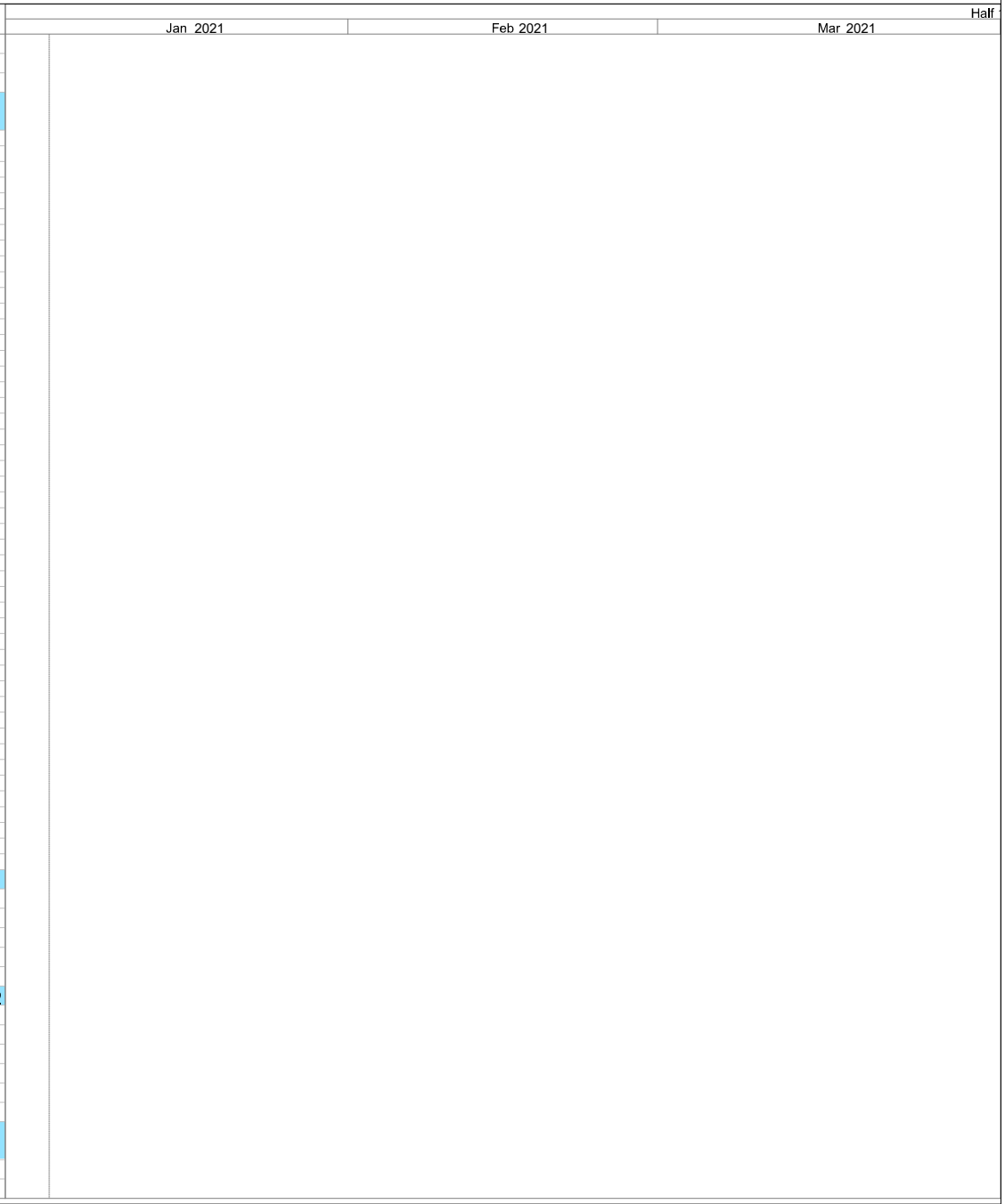
ID	Task Name	Duration	Start	Finish
306	Obtain Permit to work & Road close permit	10 days	Fri 15/3/19	Sun 24/3/19
307	Excavation & construction new cable trench to 275kV	45 days	Mon 25/3/19	Wed 8/5/19
308	Excavation & construction new cable trench to L11MSB	130 days	Thu 9/5/19	Sun 15/9/19
309	**Section F - 275kV Station Building Extension and associated works at Area E17**	**709 days**	**Fri 1/6/18**	**Sat 30/5/20**
310	Installation of ELS for 275kV Switching Station near Staircase ST-3 and ST-6	14 days	Fri 1/6/18	Thu 14/6/18
311	Construction of Staircase ST-3	110 days	Fri 15/6/18	Tue 2/10/18
312	BD Amendment Approval on A&A	0 days	Mon 17/12/18	Mon 17/12/18
313	BD Amendment Approval on A&A ST3 & Drainage	0 days	Mon 4/2/19	Mon 4/2/19
314	OP inspection of Staircase ST-3	14 days	Mon 11/2/19	Sun 24/2/19
315	Consent of New Foundation Works (Stage 1)	0 days	Fri 19/10/18	Fri 19/10/18
316	Consent & BA10 for Demolition of Existing Staircase	0 days	Fri 8/3/19	Fri 8/3/19
317	Demolition of Exisiting Staircase and Submit BA14A	14 days	Sat 9/3/19	Fri 22/3/19
318	BD inspection for BA14A & Issue OP	28 days	Sat 23/3/19	Fri 19/4/19
319	Consent & BA10 for New Foundation Work (Stage 2)	28 days	Sat 13/4/19	Fri 10/5/19
320	Hoarding Modification	7 days	Fri 19/10/18	Thu 25/10/18
321	Pile Cap & Tie Beam Construction (Stage 1)	98 days	Fri 26/10/18	Thu 31/1/19
322	Erection of Tower Crane	40 days	Mon 11/2/19	Fri 22/3/19
323	Pile Cap and Tie Beam (Stage 2)	21 days	Sat 11/5/19	Fri 31/5/19
324	RC Construction up to 1/F (Stage 1)	30 days	Sat 11/5/19	Sun 9/6/19
325	RC Construction up to 1/F (Stage 2)	75 days	Sat 1/6/19	Wed 14/8/19
326	Construction of Staircase ST6	90 days	Sun 15/9/19	Fri 13/12/19
327	Shop Drawing Submission & Approval of Structural Steel	45 days	Wed 27/2/19	Fri 12/4/19
328	Structural Steel fabrication & Delivery	60 days	Sat 13/4/19	Tue 11/6/19
329	Erection of Structural Steel GL 17~18	30 days	Fri 16/8/19	Sat 14/9/19
330	Erection of Structural Steel GL 8~17	60 days	Sun 15/9/19	Wed 13/11/19
331	Metal Cladding Delivery	60 days	Wed 7/8/19	Sat 5/10/19
332	Metal Door, Window & Lourve Delivery	45 days	Sun 6/10/19	Tue 19/11/19
333	Erection of Working Platform and Scaffold	150 days	Mon 1/7/19	Wed 27/11/19
334	Install Decking	60 days	Wed 9/10/19	Sat 7/12/19
335	RC Walls from 1/F @ GIS Hall	40 days	Thu 31/10/19	Mon 9/12/19
336	Construction of 2/F RC slab	14 days	Tue 10/12/19	Mon 23/12/19
337	Construction of R/F RC slab	21 days	Tue 24/12/19	Wed 15/1/20
338	Construction of UR/F RC slab	14 days	Thu 16/1/20	Fri 7/2/20
339	Construction of GIS Hall Floor	60 days	Tue 24/12/19	Tue 3/3/20
340	Installation of Overhead Crane (By JEC)	60 days	Wed 4/3/20	Sat 2/5/20
341	Construction of staircase ST4, ST5, Lift Shaft & Equip Floors	150 days	Sun 15/9/19	Sat 22/2/20
342	Lift Installation	90 days	Sun 23/2/20	Fri 22/5/20
343	Concrete of RC walls, plinths, kerb & parapet walls & New trench for LV Power	30 days	Tue 24/12/19	Sun 2/2/20
344	ABWF Works @ G/F	50 days	Mon 14/10/19	Mon 2/12/19
345	ABWF Works @ 1/F	50 days	Wed 13/11/19	Fri 3/1/20
346	ABWF Works @ 2/F	75 days	Fri 13/12/19	Sat 7/3/20
347	ABWF Works @ R/F	30 days	Tue 14/1/20	Fri 21/2/20
348	ABWF Works @ UR/F	21 days	Mon 3/2/20	Sun 23/2/20
349	Waterproofing Works at R/F & UR/F	45 days	Thu 16/1/20	Mon 9/3/20
350	Building Services E&M Access & Installation & T&C	150 days	Wed 13/11/19	Tue 21/4/20
351	Metal Cladding, Windows and Louvres incl. Roof Feature	90 days	Tue 24/12/19	Thu 2/4/20
352	Shutter Erection	30 days	Fri 3/4/20	Sat 2/5/20
353	Removal of External Scaffolding + Tower Crane	35 days	Fri 3/4/20	Thu 7/5/20
354	External Underground Drainage and Utilities	30 days	Fri 17/4/20	Sat 16/5/20
355	Road & Paving Reinstatement	30 days	Fri 1/5/20	Sat 30/5/20
356	Ready for FSD & OP Inspection	0 days	Sat 30/5/20	Sat 30/5/20
357	**Section G - A&A Works at No. 4 C.W. Intake at Area E12**	**143 days**	**Wed 1/1/20**	**Sun 31/5/20**
358	Permit to work	0 days	Wed 1/1/20	Wed 1/1/20
359	Erection of temp. platform	14 days	Wed 1/1/20	Tue 14/1/20
360	Demolition work	30 days	Wed 15/1/20	Sat 22/2/20
361	Modify existing slab openings	75 days	Sun 23/2/20	Thu 7/5/20
362	Curing + Removal of platform	24 days	Fri 8/5/20	Sun 31/5/20
363	**Section H - L11 Steel flue liner at No. 4 Chimney**	**186 days**	**Tue 1/1/19**	**Mon 15/7/19**
364	Complete erection of L10 Steel flue	0 days	Tue 1/1/19	Tue 1/1/19
365	Modification of erection equipment	21 days	Tue 1/1/19	Mon 21/1/19
366	Erection temp. platform and demolition work	30 days	Tue 22/1/19	Sat 2/3/19
367	Structural steel delivery & Erection	85 days	Sun 3/3/19	Sun 26/5/19
368	Removal of temp. work	5 days	Mon 27/5/19	Fri 31/5/19
369	Reinstate G/F louvre wall and access door	45 days	Sat 1/6/19	Mon 15/7/19
370	**Section I - (i) 275kV cable trenching works connecting the 275kV Switching Station Extension and L11 MSB at Area E9 (B)**	**232 days**	**Sun 15/9/19**	**Fri 15/5/20**
371	Obtain Permit to work & Road close permit	0 days	Sun 15/9/19	Sun 15/9/19
372	Excavation & construction new cable trench	160 days	Mon 16/9/19	Wed 4/3/20



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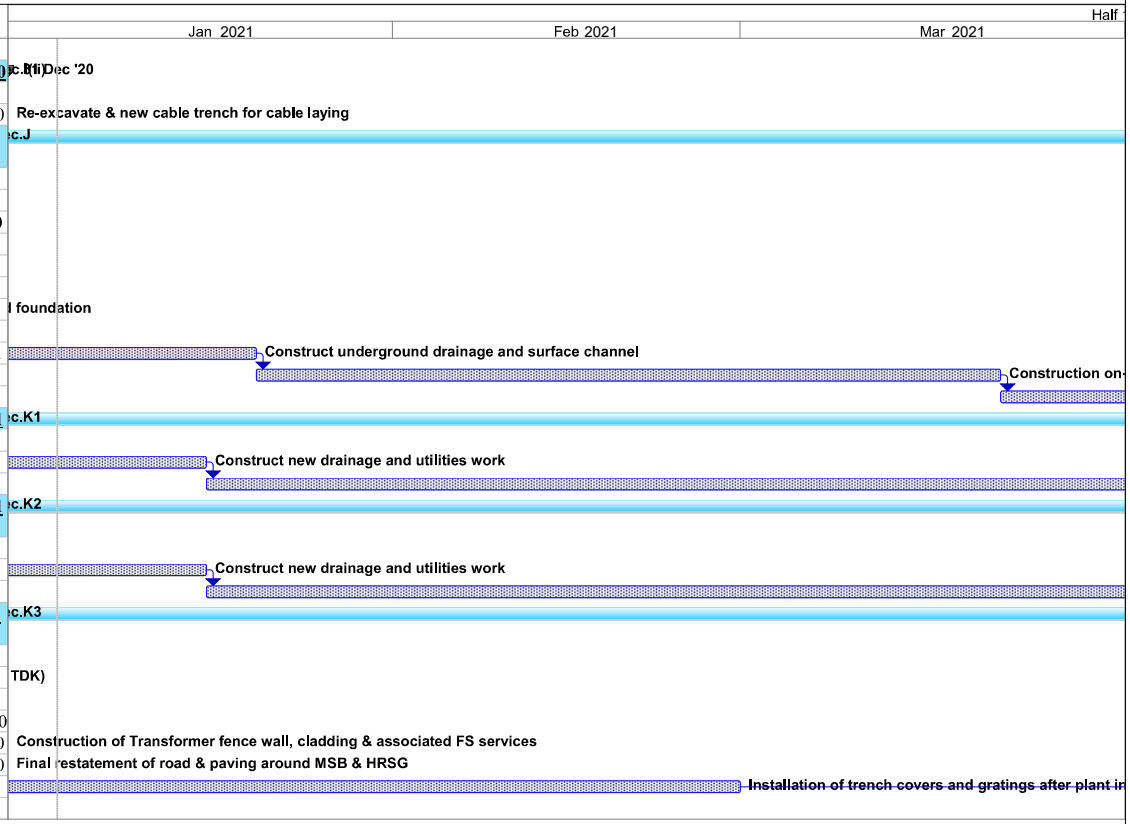
ID	Task Name	Duration	Start	Finish
373	Re-excavate cable trench for cable laying	72 days	Thu 5/3/20	Fri 15/5/20
374	**Section I - (ii) Interconnector 2 Trench Modification Works at Area E10**	**275 days**	**Wed 1/4/20**	**Thu 31/12/20**
375	Obtain Permit to work & Road close permit	0 days	Wed 1/4/20	Wed 1/4/20
376	Re-excavate & new cable trench for cable laying	275 days	Wed 1/4/20	Thu 31/12/20
377	**Section J - (i) Demolition of Retractable Cover A&B & (ii) Construction of new LOT 3 & 4**	**426 days**	**Sun 1/3/20**	**Fri 30/4/21**
378	Obtain permit to work & Road close permit	0 days	Sun 1/3/20	Sun 1/3/20
379	Erection of Hoarding	21 days	Sun 1/3/20	Sat 21/3/20
380	Removal of existing cover & structural steel	30 days	Sun 22/3/20	Mon 20/4/20
381	Demolish of existing bund wall and staircases	45 days	Tue 21/4/20	Thu 4/6/20
382	Demolish of existing slab & foundation	60 days	Fri 5/6/20	Mon 3/8/20
383	Consent for new work	30 days	Tue 4/8/20	Wed 2/9/20
384	Construction of new bund wall and foundation	100 days	Thu 3/9/20	Fri 11/12/20
385	Construction of new oil separator	80 days	Wed 23/9/20	Fri 11/12/20
386	Construct underground drainage and surface channel	40 days	Sat 12/12/20	Wed 20/1/21
387	Construction on-grade slab	60 days	Thu 21/1/21	Sun 21/3/21
388	Removal of hoarding and ground reinstatement	40 days	Mon 22/3/21	Fri 30/4/21
389	**Section K1 - External works at Area 15 (E) and 15(F)**	**365 days**	**Mon 1/6/20**	**Mon 31/5/21**
390	Removal of surcharge	30 days	Mon 1/6/20	Tue 30/6/20
391	Construct new drainage and utilities work	200 days	Wed 1/7/20	Sat 16/1/21
392	Road & Paving	135 days	Sun 17/1/21	Mon 31/5/21
393	**Section K2 - Removal of Southern Bund and External Works at Area D5, D6 and D7**	**365 days**	**Mon 1/6/20**	**Mon 31/5/21**
394	Demolition work	30 days	Mon 1/6/20	Tue 30/6/20
395	Construct new drainage and utilities work	200 days	Wed 1/7/20	Sat 16/1/21
396	Road & Paving	135 days	Sun 17/1/21	Mon 31/5/21
397	**Section K3 - All remaining works shall be completed for reporting completion to BD and ready for OP inspection (PS1.4.4)**	**623 days**	**Wed 8/1/20**	**Thu 30/9/21**
398	Completion of remaining roof after over headcrane move in	30 days	Wed 8/1/20	Sat 15/2/20
399	Construction of G/F Lube Oil Tank Room (BY TDK)	61 days	Tue 6/10/20	Sat 5/12/20
400	Construction of wall and staircase at G/F after Condensor Move in	90 days	Mon 6/7/20	Sat 3/10/20
401	Construction of Durasteel Steel wall panel after IBP installation	30 days	Sun 20/9/20	Mon 19/10/20
402	Construction of Transformer fence wall, cladding & associated FS services	122 days	Tue 1/9/20	Thu 31/12/20
403	Final restatement of road & paving around MSB & HRSG	122 days	Tue 1/9/20	Thu 31/12/20
404	Installation of trench covers and gratings after plant installation	151 days	Thu 1/10/20	Sun 28/2/21
405	Backfill and reinstatement after 275kV cable laying	122 days	Tue 1/6/21	Thu 30/9/21



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Construction Schedule of Unit-11

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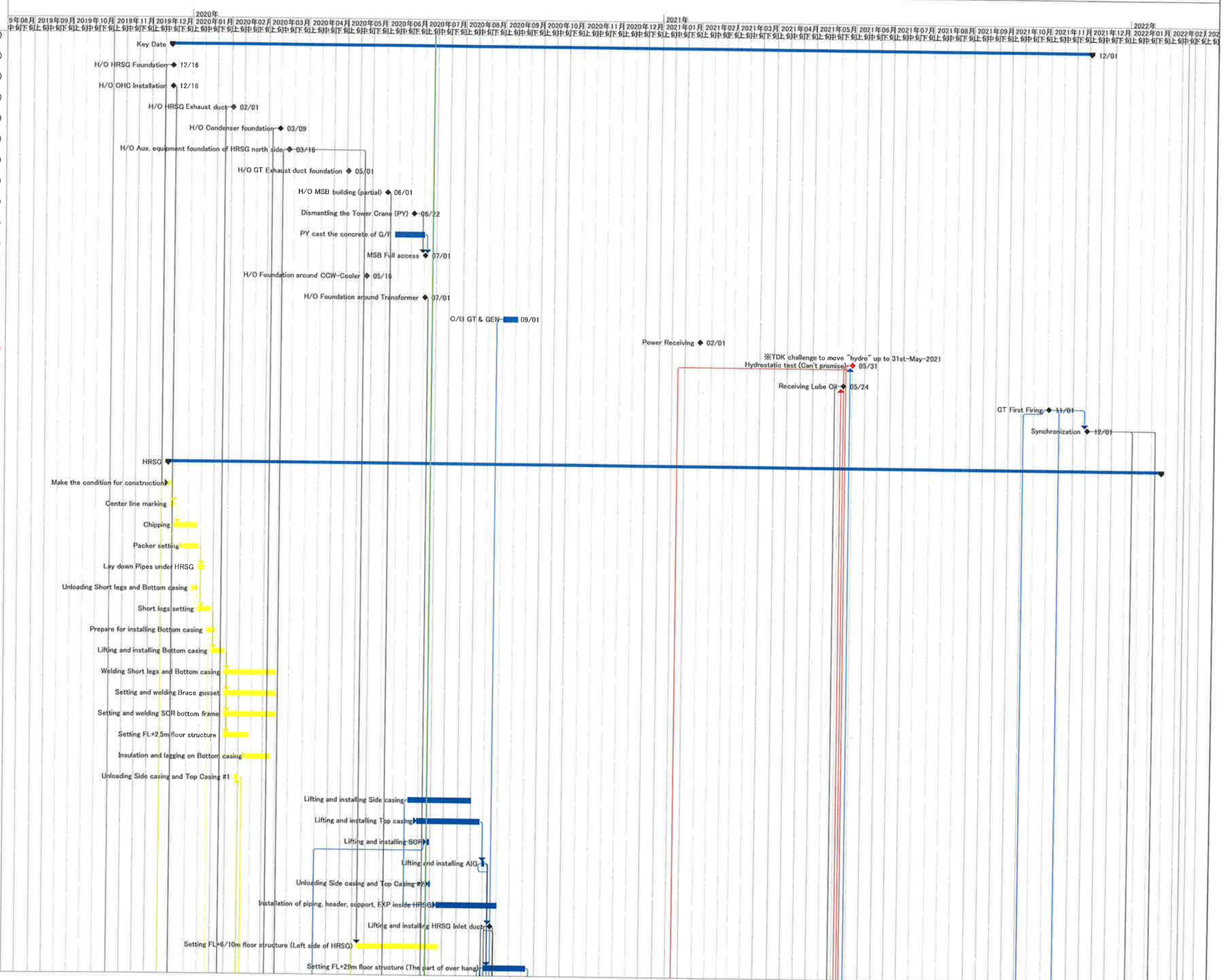
ID		タスク名	期間	開始日	終了日
1		Key Date	613日	19/12/16 (月)	21/12/01 (水)
2		H/O HRSG Foundation	1日	19/12/16 (月)	19/12/16 (月)
3		H/O OHC Installation	1日	19/12/16 (月)	19/12/16 (月)
4		H/O HRSG Exhaust duct	1日	20/02/01 (土)	20/02/01 (土)
5		H/O Condenser foundation	1日	20/03/09 (月)	20/03/09 (月)
6		H/O Aux. equipment foundation of HRSG north side	1日	20/03/16 (月)	20/03/16 (月)
7		H/O GT Exhaust duct foundation	1日	20/05/01 (金)	20/05/01 (金)
8		H/O MSB building (partial)	1日	20/06/01 (月)	20/06/01 (月)
9		Dismantling the Tower Crane (PY)	1日	20/06/22 (月)	20/06/22 (月)
10		PY cast the concrete of G/F	20日	20/06/08 (月)	20/06/30 (火)
11		MSB Full access	1日	20/07/01 (水)	20/07/01 (水)
12		H/O Foundation around CCW-Cooler	1日	20/05/16 (土)	20/05/16 (土)
13		H/O Foundation around Transformer	1日	20/07/01 (水)	20/07/01 (水)
14		O/B GT & GEN	10日	20/09/01 (火)	20/09/11 (金)
15		Power Receiving	1日	21/02/01 (月)	21/02/01 (月)
16		Hydrostatic test (Can't promise)	1日	21/05/31 (月)	21/05/31 (月)
17		Receiving Lube Oil	1日	21/05/24 (月)	21/05/24 (月)
18		GT First Firing	1日	21/11/01 (月)	21/11/01 (月)
19		Synchronization	1日	21/12/01 (水)	21/12/01 (水)
20					
21		HRSG	663日	19/12/16 (月)	22/01/28 (金)
22		Make the condition for construction	2日	19/12/16 (月)	19/12/17 (火)
23		Center line marking	3日	19/12/18 (水)	19/12/20 (金)
24		Chipping	15日	19/12/21 (土)	20/01/07 (火)
25		Packer setting	10日	19/12/28 (土)	20/01/08 (水)
26		Lay down Pipes under HRSG	4日	20/01/09 (木)	20/01/13 (月)
27		Unloading Short legs and Bottom casing	1日	20/01/04 (土)	20/01/06 (月)
28		Short legs setting	9日	20/01/09 (木)	20/01/18 (土)
29		Prepare for installing Bottom casing	3日	20/01/16 (木)	20/01/20 (月)
30		Lifting and installing Bottom casing	6日	20/01/20 (月)	20/01/29 (水)
31		Welding Short legs and Bottom casing	35日	20/01/30 (木)	20/03/10 (火)
32		Setting and welding Brace gusset	35日	20/01/30 (木)	20/03/10 (火)
33		Setting and welding SCR bottom frame	35日	20/01/30 (木)	20/03/10 (火)
34		Setting FL+2.5m floor structure	17日	20/01/30 (木)	20/02/18 (火)
35		Insulation and lagging on Bottom casing	17日	20/02/17 (月)	20/03/06 (金)
36		Unloading Side casing and Top Casing #1	2日	20/02/08 (土)	20/02/10 (月)
37		Lifting and installing Side casing	42日	20/06/23 (火)	20/08/10 (月)
38		Lifting and installing Top casing	42日	20/06/30 (火)	20/08/17 (月)
39		Lifting and installing SCR	2日	20/07/08 (水)	20/07/09 (木)
40		Lifting and installing AIG	2日	20/08/20 (木)	20/08/21 (金)
41		Unloading Side casing and Top Casing #2	1日	20/07/10 (金)	20/07/10 (金)
42		Installation of piping, header, support, EXP inside HRSG	40日	20/07/16 (木)	20/08/31 (月)
43		Lifting and installing HRSG Inlet duct	2日	20/08/25 (火)	20/08/26 (水)
44		Setting FL+6/10m floor structure (Left side of HRSG)	55日	20/05/15 (金)	20/07/17 (金)
45		Setting FL+29m floor structure (The part of over hang)	28日	20/08/22 (土)	20/09/23 (水)



1. Change the starting date of installation below
・Installation HRSG was re-started from 23rd-Jun
・Installation Exhaust duct was re-started from15st-May
2. To consider that structure of Takasago portion is delayed

4. To consider the delay of H/O date from PDC
5. Add the schedule of the electric work and the replacement the gantry crane for CWP

Construction Schedule of Unit-11

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ID	タスク名	期間	開始日	終了日
46	North side stair frame & EV structure	90日	20/08/22 (土)	20/12/04 (金)
47	Setting FL+29m floor structure (Above tube bundle)	30日	20/10/01 (木)	20/11/04 (水)
48	South side stair frame	60日	21/02/25 (木)	21/05/05 (水)
49	Setting roof structure (Including deferable structure)	120日	20/12/04 (金)	21/04/22 (木)
50	Prepare unloading Tube bundle	10日	20/09/04 (金)	20/09/16 (水)
51	Unloading Tube bundle #1 (9set)	3日	20/09/16 (水)	20/09/18 (金)
52	Prepare installing Tube bundle #1 (9set)	5日	20/09/19 (土)	20/09/24 (木)
53	Period for the installation of Power Train	0日	20/09/24 (木)	20/09/24 (木)
54	Lifting and installing Tube bundle #1 (9set)	12日	20/09/25 (金)	20/10/08 (木)
55	Unloading Tube bundle #2 (6set)	2日	20/10/10 (土)	20/10/12 (月)
56	Prepare installing Tube bundle #2 (6set)	4日	20/10/13 (火)	20/10/16 (金)
57	Lifting and installing Tube bundle #2 (6set)	8日	20/10/17 (土)	20/10/26 (月)
58	Lifting Down commer piping (pre-assembling)	8日	20/09/01 (火)	20/09/09 (水)
59	Lifting and setting HP-Drum	1日	20/10/14 (水)	20/10/14 (水)
60	Lifting and setting IP-Drum	1日	20/10/31 (土)	20/10/31 (土)
61	Lifting and setting LP-Drum	1日	20/11/04 (水)	20/11/04 (水)
62	Lifting and installing HRSG Outlet duct	2日	20/11/18 (水)	20/11/19 (木)
63	Adjusting HDR level (HP)	10日	20/11/05 (木)	20/11/16 (月)
64	Adjusting HDR level (IP & LP)	15日	20/11/17 (火)	20/12/03 (木)
65	Lifting and setting the silencer of HRSG	5日	21/04/23 (金)	21/04/28 (水)
66	Assembly accessory inside HRSG	180日	21/03/19 (金)	21/10/14 (木)
67	Excavation the foundation of UTAC (By Civil)	21日	21/02/01 (月)	21/02/24 (水)
68	Urea to Ammonia comversion system	90日	21/02/25 (木)	21/06/09 (水)
69	CO2 Fire fighting	50日	21/04/13 (火)	21/06/09 (水)
70	Installation the SCR catalyst	20日	22/01/06 (木)	22/01/28 (金)
71				
72	Lifting and hang Pipes (Left side of HRSG)	80日	20/07/16 (木)	20/10/16 (金)
73	Fitting Pipes (Inside of HRSG / HP)	90日	20/11/17 (火)	21/03/01 (月)
74	Fitting Pipes (Inside of HRSG / IP,LP)	90日	20/12/04 (金)	21/03/18 (木)
75	Lifting FL+29m and roof structure	40日	20/12/04 (金)	21/01/19 (火)
76	Lifting and hang Pipes (Upper HRSG)	60日	20/12/04 (金)	21/02/11 (木)
77	Fitting and welding Pipes in range of Hydrostatic	150日	20/11/17 (火)	21/05/10 (月)
78	Fitting and welding Pipes out range of Hydrostatic	160日	21/03/02 (火)	21/09/03 (金)
79				
80	Prepare for preassemble Side and Top Casing	10日	20/01/24 (金)	20/02/07 (金)
81	Preassembly Side casing (2set)	30日	20/02/11 (火)	20/03/16 (月)
82	Preassembly Top casing (HP and IP)	30日	20/02/11 (火)	20/03/16 (月)
83	Prepare for preassemble SCR	3日	20/03/20 (金)	20/03/24 (火)
84	Preassembly SCR	12日	20/03/24 (火)	20/04/06 (月)
85	Prepare for preassemble AIG	3日	20/07/27 (月)	20/07/30 (木)
86	Preassembly AIG	18日	20/07/30 (木)	20/08/20 (木)
87	Prepare for preassemble HRSG Inlet duct	4日	20/08/20 (土)	20/08/25 (木)
88	Preassembly HRSG Inlet duct	52日	20/08/25 (木)	20/08/25 (火)
89	Prepare for preassembly HRSG Outlet duct	4日	20/09/28 (月)	20/10/02 (金)
90	Preassembly HRSG Outlet duct	40日	20/10/02 (金)	20/11/18 (水)

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・Installation Exhaust duct was re-started from15st-May
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ID	タスク名	期間	開始日	終了日
91	Preassembly FL+29m floor structure #1	18日	20/08/01 (土)	20/08/22 (土)
92				
93	HRSG Exhaust duct	445日	20/02/01 (土)	21/07/02 (金)
94	Make the condition for construction	5日	20/02/01 (土)	20/02/06 (木)
95	Center line marking	5日	20/02/01 (土)	20/02/06 (木)
96	Chipping	20日	20/02/07 (金)	20/02/29 (土)
97	Packer setting	20日	20/02/19 (水)	20/03/12 (木)
98	Building structure in the part of ED4	25日	20/05/15 (金)	20/06/12 (金)
99	Building structure in the part of ED5,6 (By 2nd tier)	15日	20/06/25 (木)	20/07/11 (土)
100	Grouting structure for exhaust duct (Nearly stack)	10日	20/06/13 (土)	20/06/24 (水)
101	Receiving Exhaust duct ED4	2日	20/05/01 (金)	20/05/02 (土)
102	Lifting and assembly the Elbow duct in ED4	30日	20/07/13 (月)	20/08/15 (土)
103	Preassembling other duct in ED4	40日	20/05/04 (月)	20/06/18 (木)
104	Lifting and connecting the duct of ED4	5日	20/08/17 (月)	20/08/21 (金)
105	Receiving Exhaust duct ED5,6	2日	20/06/15 (月)	20/06/16 (火)
106	Preasembling ED5, 6	70日	20/06/15 (月)	20/09/03 (木)
107	Building structure in the part of ED5,6 (Above 2nd tier)	50日	20/08/22 (土)	20/10/19 (月)
108	Period for the installation of tube bundles	7日	20/10/20 (火)	20/10/27 (火)
109	Lifting and connecting the duct of ED5,6	15日	20/10/31 (土)	20/11/17 (火)
110	Building structure in the part of ED1-3	55日	20/11/24 (火)	21/02/15 (月)
111	Grouting structure for exhaust duct (Horizontal)	10日	21/02/16 (火)	21/02/26 (金)
112	Receiving Exhaust duct ED1-3	2日	20/06/30 (火)	20/07/01 (水)
113	Preassembling ED1-3	120日	20/09/04 (金)	21/01/21 (木)
114	Lifting and connecting the duct of ED1-3	25日	21/02/13 (土)	21/04/22 (木)
115	Scaffolding, welding, insulation	140日	21/01/21 (木)	21/07/02 (金)
116	Period of crane for vertical duct	18日	20/10/30 (金)	20/11/19 (木)
117				
118	Over Head Crane	75日	19/12/14 (土)	20/03/13 (金)
119	Check the location of installation	1日	19/12/17 (火)	19/12/17 (火)
120	Lifting and setting the rail for OHC	16日	19/12/18 (水)	20/01/04 (土)
121	Prepare for preassembling OHC	5日	19/12/14 (土)	19/12/20 (金)
122	Unloading OHC material	2日	19/12/20 (金)	19/12/23 (月)
123	Preassembly OHC	15日	19/12/23 (月)	20/01/09 (木)
124	Lifting and setting Aux. OHC Garter	4日	20/01/09 (木)	20/01/13 (月)
125	Lifting and setting Main. OHC Garter	4日	20/01/14 (火)	20/01/17 (金)
126	Installing electrical equipment	20日	20/01/18 (土)	20/02/13 (木)
127	Commissioning	25日	20/02/14 (金)	20/03/13 (金)
128				
129	Condenser	185日	20/03/03 (火)	20/10/02 (金)
130	Center line marking	2日	20/03/09 (月)	20/03/10 (火)
131	Chipping	6日	20/03/11 (水)	20/03/17 (火)
132	Setting packer and base plate	4日	20/03/18 (水)	20/03/21 (土)
133	Setting temporary rail and SARLIFT for installation condenser	28日	20/03/11 (水)	20/04/10 (金)
134	(Load test for SARLIFT)	1日	20/04/03 (金)	20/04/03 (金)
135	Assembling the scafolding around skirt	15日	20/03/20 (金)	20/04/05 (日)

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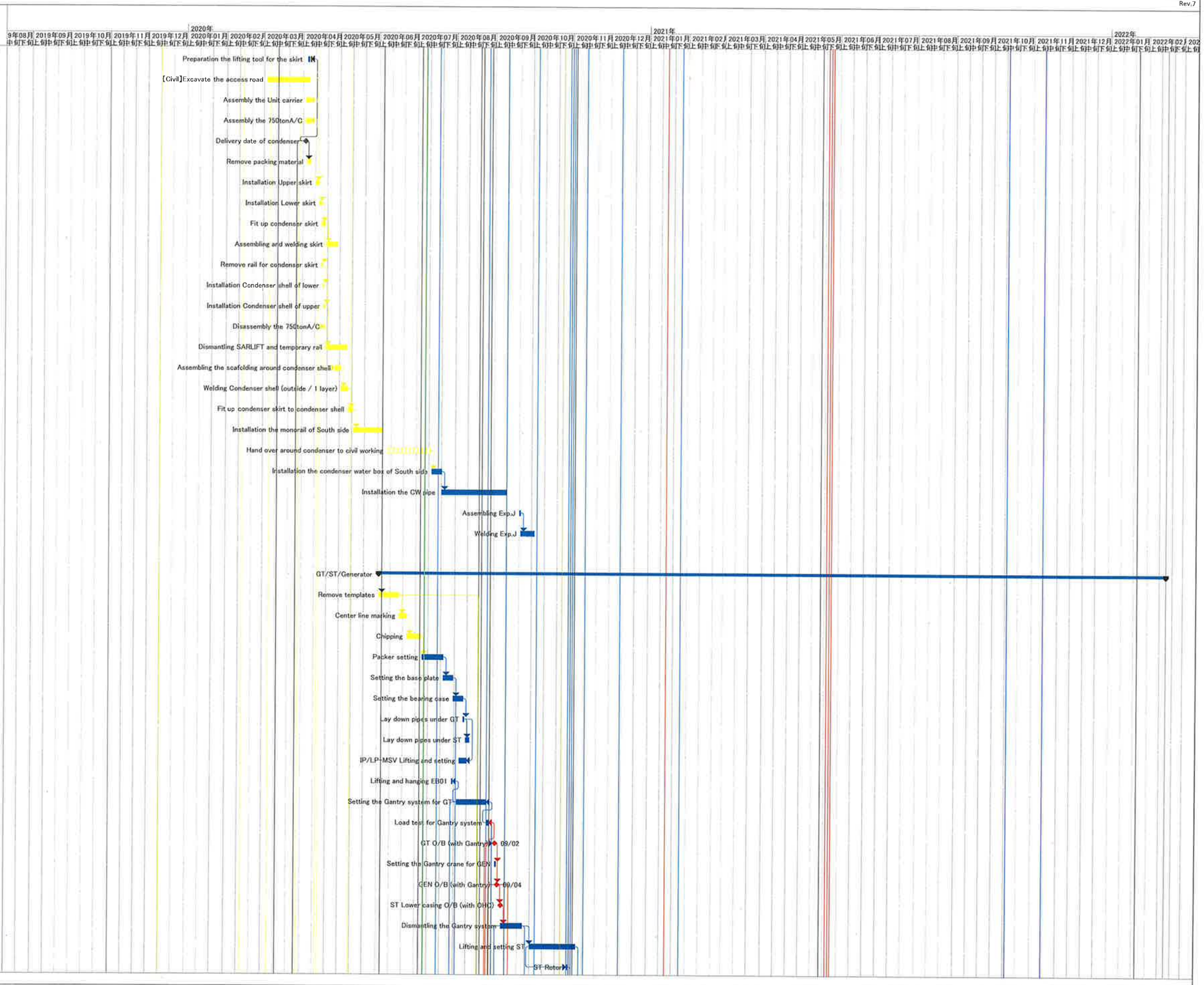
ID	タスク名	期間	開始日	終了日
136	Preparation the lifting tool for the skirt	2日	20/04/05 (日)	20/04/06 (月)
137	【Civil】Excavate the access road	30日	20/03/03 (火)	20/04/05 (日)
138	Assembly the Unit carrier	4日	20/04/03 (金)	20/04/06 (月)
139	Assembly the 750tonA/C	4日	20/04/03 (金)	20/04/06 (月)
140	Delivery date of condenser	2日	20/04/01 (水)	20/04/02 (木)
141	Remove packing material	3日	20/04/04 (土)	20/04/06 (月)
142	Installation Upper skirt	2日	20/04/11 (土)	20/04/13 (月)
143	Installation Lower skirt	2日	20/04/14 (火)	20/04/15 (水)
144	Fit up condenser skirt	3日	20/04/16 (木)	20/04/18 (土)
145	Assembling and welding skirt	8日	20/04/20 (月)	20/04/28 (火)
146	Remove rail for condenser skirt	1日	20/04/16 (木)	20/04/16 (木)
147	Installation Condenser shell of lower	1日	20/04/17 (金)	20/04/17 (金)
148	Installation Condenser shell of upper	1日	20/04/18 (土)	20/04/18 (土)
149	Disassembly the 750tonA/C	1日	20/04/18 (土)	20/04/18 (土)
150	Dismantling SARLIFT and temporary rail	15日	20/04/20 (月)	20/05/06 (水)
151	Assembling the scafolding around condenser shell	5日	20/04/27 (月)	20/05/01 (金)
152	Welding Condenser shell (outside / 1 layer)	5日	20/05/02 (土)	20/05/07 (木)
153	Fit up condenser skirt to condenser shell	3日	20/05/08 (金)	20/05/11 (月)
154	Installation the monorail of South side	20日	20/05/12 (火)	20/06/03 (水)
155	Hand over around condenser to civil working	30日	20/06/08 (月)	20/07/11 (土)
156	Installation the condenser water box of South side	7日	20/07/13 (月)	20/07/20 (月)
157	Installation the CW pipe	45日	20/07/21 (火)	20/09/10 (木)
158	Assembling Exp.J	1日	20/09/21 (月)	20/09/21 (月)
159	Welding Exp.J	10日	20/09/22 (火)	20/10/02 (金)
160				
161	GT/ST/Generator	535日	20/06/02 (火)	22/02/15 (火)
162	Remove templates	14日	20/06/02 (火)	20/06/17 (水)
163	Center line marking	5日	20/06/18 (木)	20/06/23 (火)
164	Chipping	10日	20/06/24 (水)	20/07/04 (土)
165	Packer setting	15日	20/07/06 (月)	20/07/22 (水)
166	Setting the base plate	7日	20/07/23 (木)	20/07/30 (木)
167	Setting the bearing case	7日	20/07/31 (金)	20/08/07 (金)
168	Lay down pipes under GT	1日	20/08/08 (土)	20/08/08 (土)
169	Lay down pipes under ST	3日	20/08/10 (月)	20/08/12 (水)
170	IP/LP-MSV Lifting and setting	5日	20/08/05 (水)	20/08/10 (月)
171	Lifting and hanging EB01	1日	20/07/30 (木)	20/07/31 (金)
172	Setting the Gantry system for GT	21日	20/08/03 (月)	20/08/27 (木)
173	Load test for Gantry system	2日	20/08/27 (木)	20/08/29 (土)
174	GT O/B (with Gantry)	2日	20/09/01 (火)	20/09/02 (水)
175	Setting the Gantry crane for GEN	1日	20/09/03 (木)	20/09/03 (木)
176	GEN O/B (with Gantry)	2日	20/09/03 (木)	20/09/04 (金)
177	ST Lower casing O/B (with OHC)	2日	20/09/05 (土)	20/09/07 (月)
178	Dismantling the Gantry system	15日	20/09/08 (火)	20/09/24 (木)
179	Lifting and setting ST	31日	20/10/01 (木)	20/11/05 (木)
180	ST Rotor	1日	20/10/30 (金)	20/10/30 (金)



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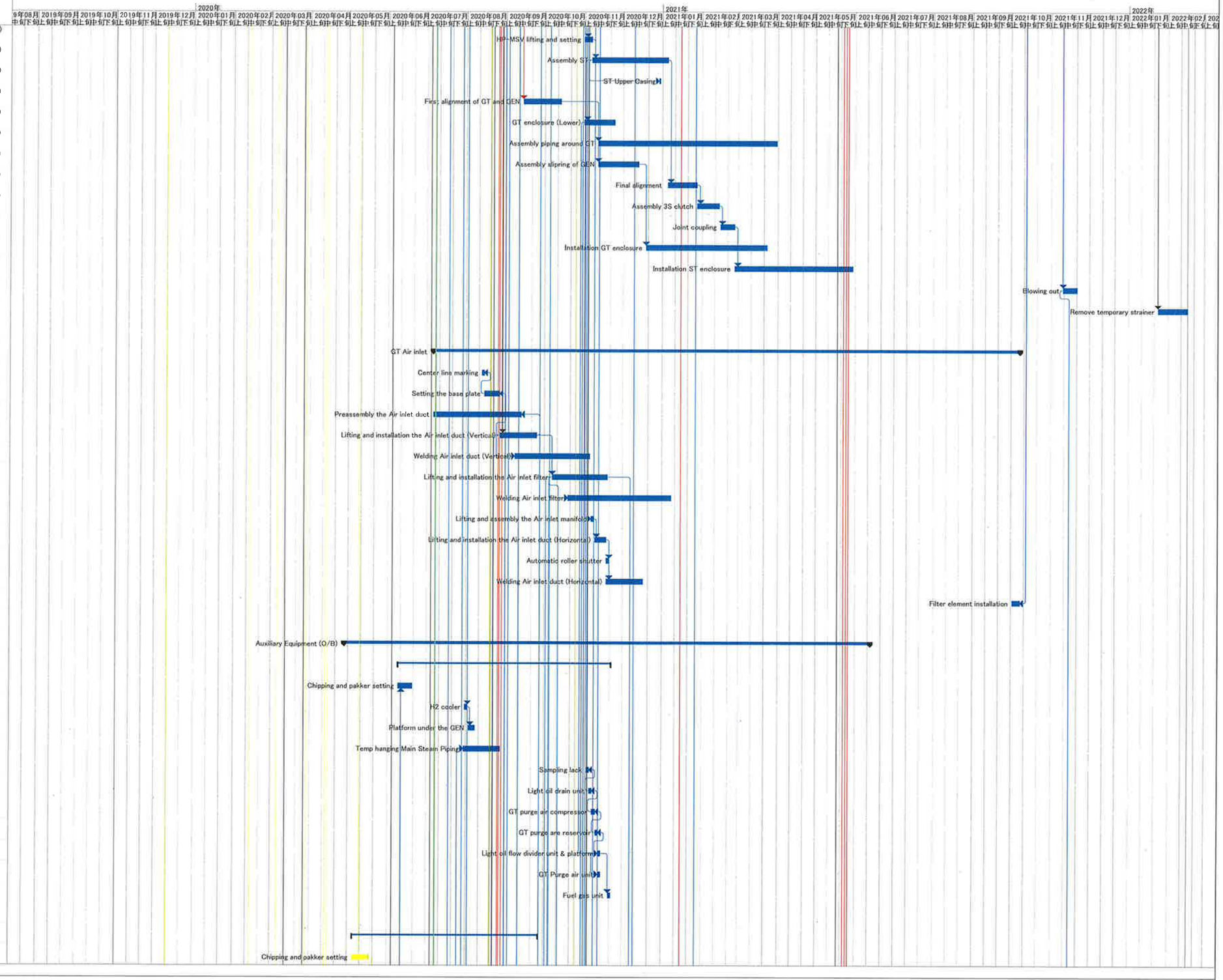
ID	タスク名	期間	開始日	終了日
181	HP-MSV lifting and setting	5日	20/10/31 (土)	20/11/05 (木)
182	Assembly ST	51日	20/11/06 (金)	21/01/04 (月)
183	ST Upper Casing	1日	20/12/29 (火)	20/12/29 (火)
184	First alignment of GT and GEN	25日	20/09/14 (月)	20/10/12 (月)
185	GT enclosure (Lower)	20日	20/10/31 (土)	20/11/23 (月)
186	Assembly piping around GT	120日	20/11/11 (水)	21/03/30 (火)
187	Assembly slipring of GEN	28日	20/11/11 (水)	20/12/12 (土)
188	Final alignment	20日	21/01/05 (火)	21/01/27 (水)
189	Assembly 3S clutch	15日	21/01/28 (木)	21/02/13 (土)
190	Joint coupling	10日	21/02/15 (月)	21/02/25 (木)
191	Installation GT enclosure	80日	20/12/19 (土)	21/03/22 (月)
192	Installation ST enclosure	80日	21/02/26 (金)	21/05/29 (土)
193	Blowing out	10日	21/11/10 (水)	21/11/20 (土)
194	Remove temporary strainer	20日	22/01/24 (月)	22/02/15 (火)
195				
196	GT Air inlet	394日	20/07/06 (月)	21/10/08 (金)
197	Center line marking	2日	20/08/13 (木)	20/08/15 (土)
198	Setting the base plate	10日	20/08/15 (土)	20/08/27 (木)
199	Preassembly the Air inlet duct	60日	20/07/06 (月)	20/09/12 (土)
200	Lifting and installation the Air inlet duct (Vertical)	25日	20/08/27 (木)	20/09/24 (木)
201	Welding Air inlet duct (Vertical)	50日	20/09/08 (火)	20/11/04 (水)
202	Lifting and installation the Air inlet filter	37日	20/10/07 (水)	20/11/18 (水)
203	Welding Air inlet filter	70日	20/10/19 (月)	21/01/07 (木)
204	Lifting and assembly the Air inlet manifold	2日	20/11/06 (金)	20/11/07 (土)
205	Lifting and installation the Air inlet duct (Horizontal)	8日	20/11/09 (月)	20/11/17 (火)
206	Automatic roller shutter	2日	20/11/18 (水)	20/11/19 (木)
207	Welding Air inlet duct (Horizontal)	25日	20/11/18 (水)	20/12/16 (水)
208	Filter element installation	5日	21/10/02 (土)	21/10/08 (金)
209				
210	Auxiliary Equipment (O/B)	353日?	20/04/28 (火)	21/06/12 (土)
211	1&3 around Power Train & North west of MSB	143日?	20/06/09 (火)	20/11/21 (土)
212	Chipping and pakker setting	10日	20/06/09 (火)	20/06/19 (金)
213	H2 cooler	2日	20/07/31 (金)	20/08/01 (土)
214	Platform under the GEN	5日	20/08/03 (月)	20/08/07 (金)
215	Temp hanging Main Steam Piping	25日	20/07/30 (木)	20/08/27 (木)
216	Sampling lack	2日	20/11/03 (火)	20/11/05 (木)
217	Light oil drain unit	2日	20/11/05 (木)	20/11/07 (土)
218	GT purge air compressor	2日	20/11/07 (土)	20/11/10 (火)
219	GT purge are reservoir	2日	20/11/10 (火)	20/11/12 (木)
220	Light oil flow divider unit & platform	2日	20/11/12 (木)	20/11/13 (金)
221	GT Purge air unit	2日	20/11/12 (木)	20/11/13 (金)
222	Fuel gas unit	2日	20/11/20 (金)	20/11/21 (土)
223				
224	2 MSB Inside North-West	125日?	20/05/05 (火)	20/09/26 (土)
225	Chipping and pakker setting	10日	20/05/05 (火)	20/05/16 (土)



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Construction Schedule of Unit-11

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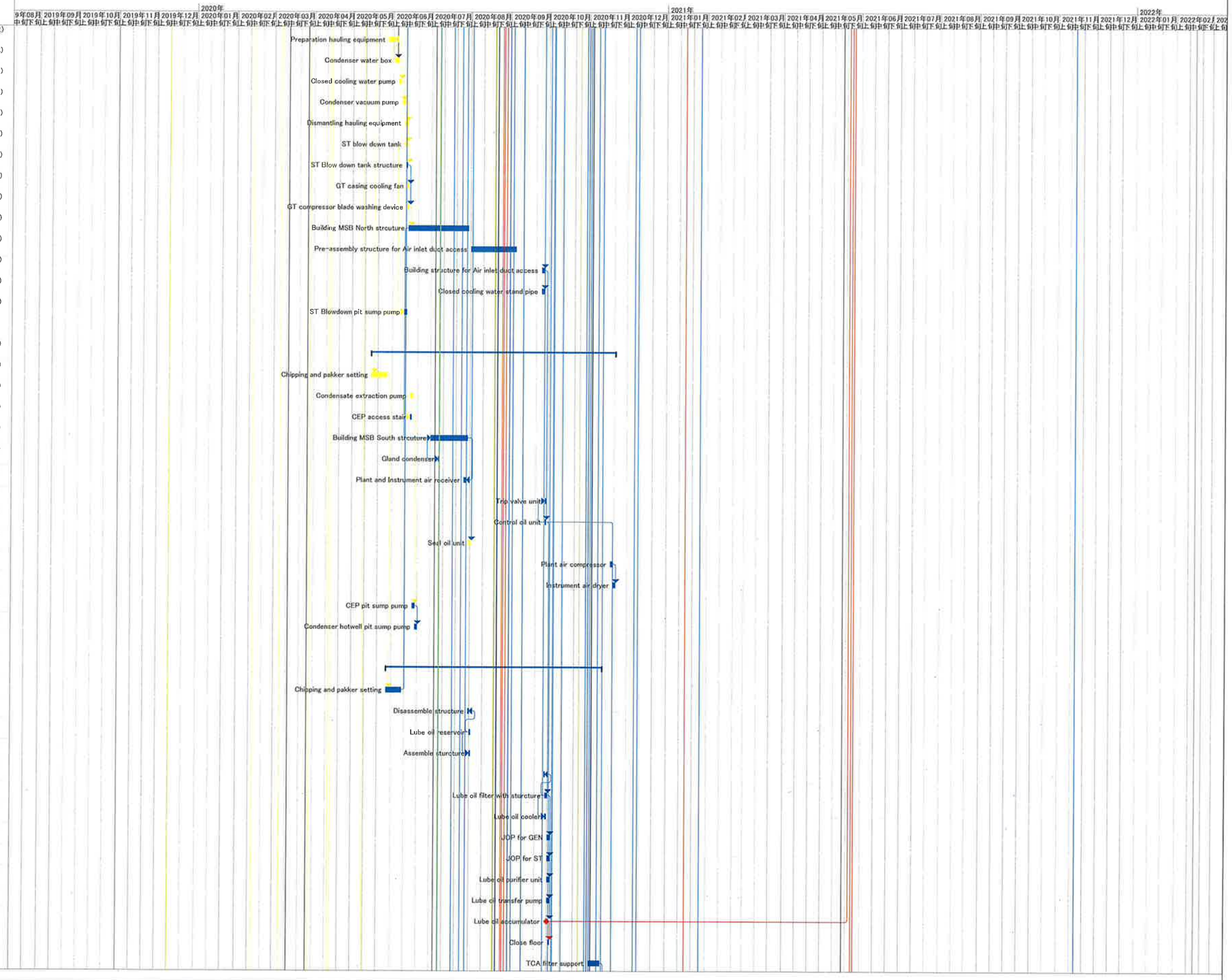
ID	タスク名	期間	開始日	終了日
226	Preparation hauling equipment	4日	20/05/28 (木)	20/06/02 (火)
227	Condenser water box	3日	20/06/02 (火)	20/06/04 (木)
228	Closed cooling water pump	2日	20/06/05 (金)	20/06/06 (土)
229	Condenser vacuum pump	2日	20/06/08 (月)	20/06/09 (火)
230	Dismantling hauling equipment	2日	20/06/10 (水)	20/06/11 (木)
231	ST blow down tank	1日	20/06/10 (水)	20/06/10 (水)
232	ST Blow down tank structure	1日	20/06/11 (木)	20/06/11 (木)
233	GT casing cooling fan	1日	20/06/12 (金)	20/06/12 (金)
234	GT compressor blade washing device	1日	20/06/12 (金)	20/06/12 (金)
235	Building MSB North strcuture	40日	20/06/13 (土)	20/07/29 (水)
236	Pre-assembly structure for Air inlet duct access	30日	20/08/01 (土)	20/09/04 (金)
237	Building structure for Air inlet duct access	2日	20/09/25 (金)	20/09/26 (土)
238	Closed cooling water stand pipe	2日	20/09/25 (金)	20/09/26 (土)
239	ST Blowdown pit sump pump	2日	20/06/10 (水)	20/06/11 (木)
240				
241	6 MSB Inside South-West	163日?	20/05/16 (土)	20/11/21 (土)
242	Chipping and pakker setting	10日	20/05/16 (土)	20/05/27 (水)
243	Condensate extraction pump	2日	20/06/15 (月)	20/06/16 (火)
244	CEP access stair	1日	20/06/15 (月)	20/06/15 (月)
245	Building MSB South strcuture	25日	20/07/01 (水)	20/07/29 (水)
246	Gland condenser	1日	20/07/07 (火)	20/07/07 (火)
247	Plant and Instrument air receiver	2日	20/07/27 (月)	20/07/28 (火)
248	Trip valve unit	1日	20/09/28 (月)	20/09/28 (月)
249	Control oil unit	1日	20/09/28 (月)	20/09/28 (月)
250	Seal oil unit	2日	20/07/31 (金)	20/08/01 (土)
251	Plant air compressor	2日	20/11/18 (水)	20/11/19 (木)
252	Instrument air dryer	2日	20/11/20 (金)	20/11/21 (土)
253	CEP pit sump pump	2日	20/06/17 (水)	20/06/18 (木)
254	Condenser hotwell pit sump pump	2日	20/06/19 (金)	20/06/20 (土)
255				
256	7 Lube oil room	144日?	20/05/28 (木)	20/11/11 (水)
257	Chipping and pakker setting	10日	20/05/28 (木)	20/06/08 (月)
258	Disassemble structure	1日	20/07/31 (金)	20/08/01 (土)
259	Lube oil reservoir	1日	20/08/01 (土)	20/08/01 (土)
260	Assemble sturcture	1日	20/08/01 (土)	20/08/01 (土)
261	Open floor	1日	20/09/28 (月)	20/09/28 (月)
262	Lube oil filter with sturcture	2日	20/09/29 (火)	20/09/30 (水)
263	Lube oil cooler	1日	20/09/29 (火)	20/09/29 (火)
264	JOP for GEN	2日	20/10/01 (木)	20/10/02 (金)
265	JOP for ST	2日	20/10/01 (木)	20/10/02 (金)
266	Lube oil purifier unit	2日	20/10/01 (木)	20/10/02 (金)
267	Lube oil transfer pump	2日	20/10/01 (木)	20/10/02 (金)
268	Lube oil accumulator	1日	20/10/01 (木)	20/10/01 (木)
269	Close floor	1日	20/10/02 (金)	20/10/02 (金)
270	TCA filter support	8日	20/11/02 (月)	20/11/10 (火)



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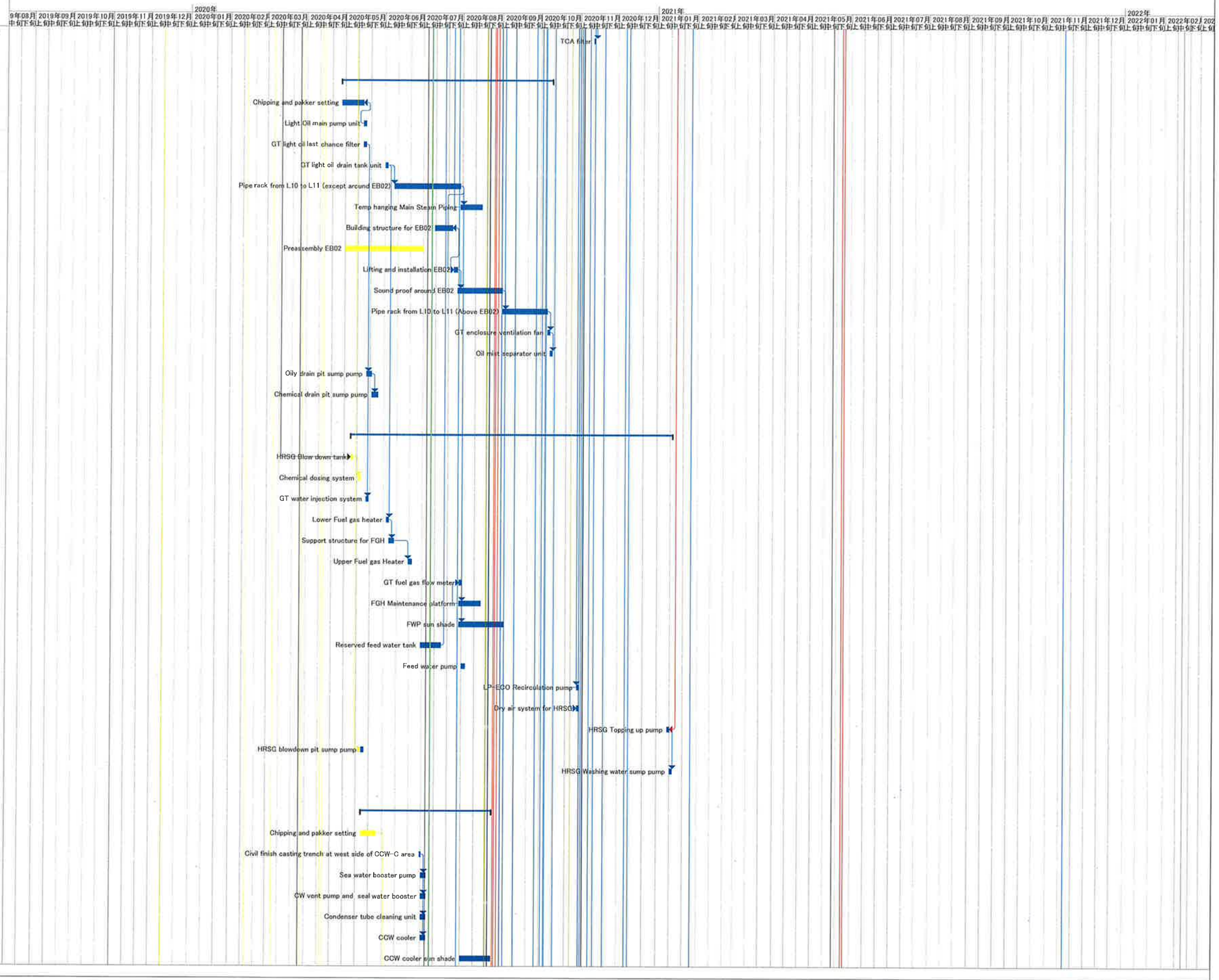
271	TCA filter	1日	20/11/11 (水)	20/11/11 (水)
272				
273	9 East of MSB	142日?	20/04/28 (火)	20/10/09 (金)
274	Chipping and pakker setting	15日	20/04/28 (火)	20/05/15 (金)
275	Light Oil main pump unit	2日	20/05/15 (金)	20/05/16 (土)
276	GT light oil last chance filter	2日	20/05/15 (金)	20/05/16 (土)
277	GT light oil drain tank unit	2日	20/06/01 (月)	20/06/02 (火)
278	Pipe rack from L10 to L11 (except around EB02)	45日	20/06/08 (月)	20/07/29 (水)
279	Temp hanging Main Steam Piping	15日	20/07/30 (木)	20/08/15 (土)
280	Building structure for EB02	12日	20/07/10 (金)	20/07/24 (金)
281	Preassembly EB02	52日	20/05/01 (金)	20/06/30 (火)
282	Lifting and installation EB02	2日	20/07/25 (土)	20/07/27 (月)
283	Sound proof around EB02	30日	20/07/28 (火)	20/08/31 (月)
284	Pipe rack from L10 to L11 (Above EB02)	30日	20/09/01 (火)	20/10/05 (月)
285	GT enclosure ventilation fan	2日	20/10/06 (火)	20/10/07 (水)
286	Oil mist separator unit	2日	20/10/08 (木)	20/10/09 (金)
287	Oily drain pit sump pump	4日	20/05/18 (月)	20/05/21 (木)
288	Chemical drain pit sump pump	4日	20/05/22 (金)	20/05/26 (火)
289				
290	10 North of HRSG	216日?	20/05/06 (水)	21/01/12 (火)
291	HRSG Blow down tank	2日	20/05/06 (水)	20/05/07 (木)
292	Chemical dosing system	2日	20/05/12 (火)	20/05/13 (水)
293	GT water injection system	2日	20/05/18 (月)	20/05/19 (火)
294	Lower Fuel gas heater	2日	20/06/03 (水)	20/06/04 (木)
295	Support structure for FGH	3日	20/06/05 (金)	20/06/08 (月)
296	Upper Fuel gas Heater	2日	20/06/20 (土)	20/06/22 (月)
297	GT fuel gas flow meter	2日	20/07/30 (木)	20/07/31 (金)
298	FGH Maintenance platform	15日	20/07/30 (木)	20/08/15 (土)
299	FWP sun shade	30日	20/07/30 (木)	20/09/02 (水)
300	Reserved feed water tank	14日	20/06/30 (火)	20/07/15 (水)
301	Feed water pump	2日	20/08/01 (土)	20/08/03 (月)
302	LP-ECO Recirculation pump	2日	20/10/30 (金)	20/10/31 (土)
303	Dry air system for HRSG	2日	20/10/30 (金)	20/10/31 (土)
304	HRSG Topping up pump	1日	21/01/09 (土)	21/01/11 (月)
305	HRSG blowdown pit sump pump	2日	20/05/15 (金)	20/05/16 (土)
306	HRSG Washing water sump pump	2日	21/01/11 (月)	21/01/12 (火)
307				
308	12 CCW cooler area	87日	20/05/15 (金)	20/08/24 (月)
309	Chipping and pakker setting	10日	20/05/15 (金)	20/05/26 (火)
310	Civil finish casting trench at west side of CCW-C area	1日	20/06/30 (火)	20/06/30 (火)
311	Sea water booster pump	4日	20/07/01 (水)	20/07/04 (土)
312	CW vent pump and seal water booster	4日	20/07/01 (水)	20/07/04 (土)
313	Condenser tube cleaning unit	4日	20/07/01 (水)	20/07/04 (土)
314	CCW cooler	4日	20/07/01 (水)	20/07/04 (土)
315	CCW cooler sun shade	20日	20/08/01 (土)	20/08/24 (月)



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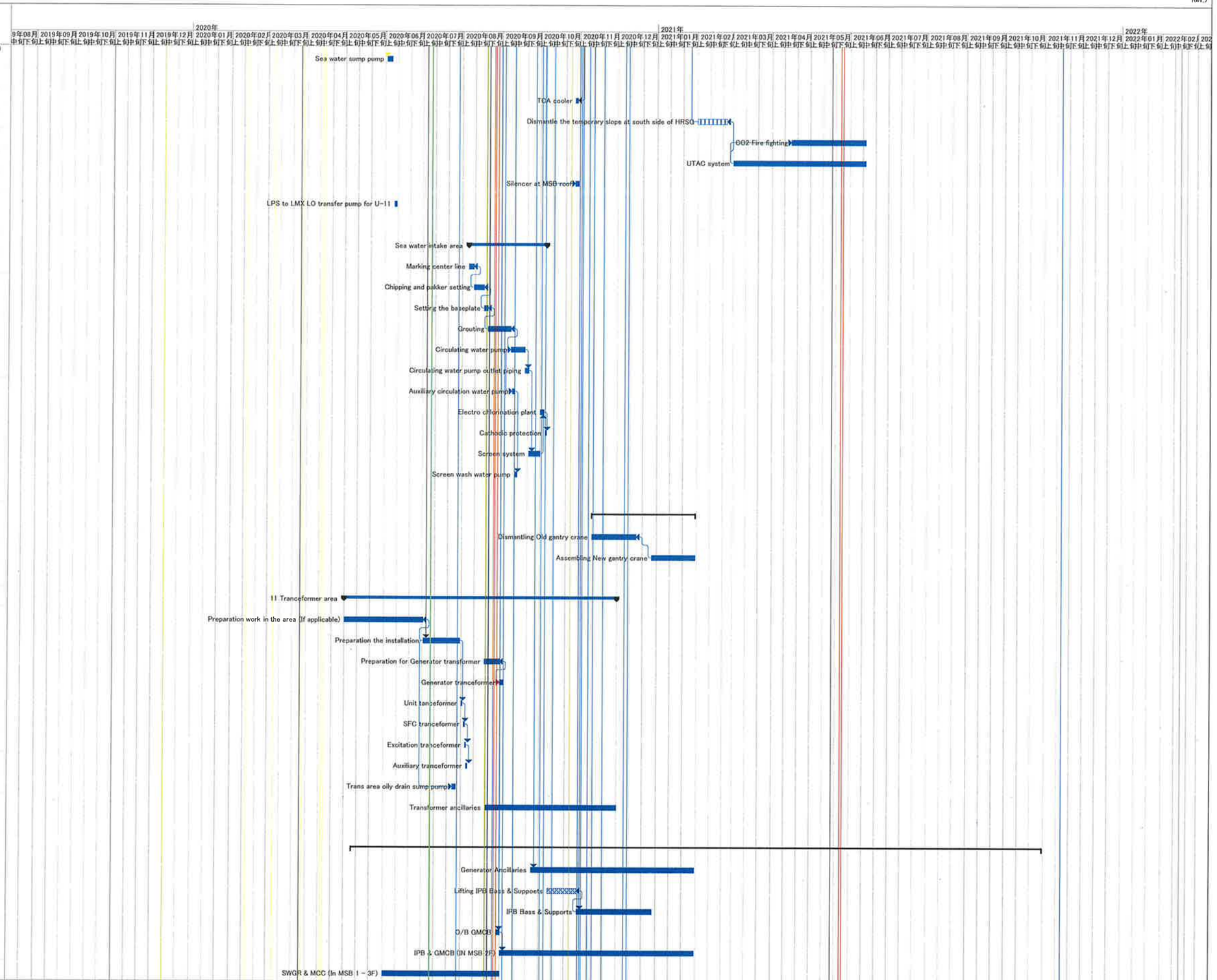
Construction Schedule of Unit-11

6-Jul-2020
Rev.7

ID	タスク名	期間	開始日	終了日
316	Sea water sump pump	4日	20/06/02 (火)	20/06/05 (金)
317				
318	TCA cooler	2日	20/10/28 (水)	20/10/30 (金)
319	Dismantle the temporary slope at south side of HRSG	20日	21/02/01 (月)	21/02/24 (水)
320	CO2 Fire fighting	50日	21/04/16 (金)	21/06/12 (土)
321	UTAC system	90日	21/03/01 (月)	21/06/12 (土)
322	Silencer at MSB roof	3日	20/10/28 (水)	20/10/30 (金)
323	LPS to LMX LO transfer pump for U-11	2日	20/06/08 (月)	20/06/09 (火)
324				
325	Sea water intake area	52日	20/08/06 (木)	20/10/05 (月)
326	Marking center line	3日	20/08/06 (木)	20/08/10 (月)
327	Chipping and pakker setting	7日	20/08/10 (月)	20/08/18 (火)
328	Setting the baseplate	3日	20/08/18 (火)	20/08/21 (金)
329	Grouting	15日	20/08/21 (金)	20/09/08 (火)
330	Circulating water pump	10日	20/09/08 (火)	20/09/18 (金)
331	Circulating water pump outlet piping	2日	20/09/19 (土)	20/09/21 (月)
332	Auxiliary circulation water pump	2日	20/09/09 (水)	20/09/10 (木)
333	Electro chlorination plant	3日	20/10/01 (木)	20/10/03 (土)
334	Cathodic protection	1日	20/10/05 (月)	20/10/05 (月)
335	Screen system	8日	20/09/22 (火)	20/09/30 (水)
336	Screen wash water pump	2日	20/09/11 (金)	20/09/12 (土)
337				
338	Replacement of Gantry crane for CW pump	70日	20/11/11 (水)	21/01/30 (土)
339	Dismantling Old gantry crane	30日	20/11/11 (水)	20/12/16 (水)
340	Assembling New gantry crane	30日	20/12/28 (月)	21/01/30 (土)
341				
342	11 Tranceformer area	183日	20/05/01 (金)	20/11/30 (月)
343	Preparation work in the area (If applicable)	53日	20/05/01 (金)	20/07/02 (木)
344	Preparation the installation	25日	20/07/02 (木)	20/07/30 (木)
345	Preparation for Generator transformer	10日	20/08/19 (水)	20/08/31 (月)
346	Generator tranceformer	3日	20/08/31 (月)	20/09/02 (水)
347	Unit tanceformer	1日	20/08/01 (土)	20/08/01 (土)
348	SFC tranceformer	1日	20/08/03 (月)	20/08/03 (月)
349	Excitation tranceformer	1日	20/08/04 (火)	20/08/04 (火)
350	Auxiliary tranceformer	1日	20/08/05 (水)	20/08/05 (水)
351	Trans area oily drain sump pump	2日	20/07/25 (土)	20/07/27 (月)
352	Transformer ancillaries	88日	20/08/20 (木)	20/11/30 (月)
353				
354	Electrical work	465日?	20/05/07 (木)	21/10/30 (土)
355	Generator Ancillaries	110日	20/09/25 (金)	21/01/30 (土)
356	Lifting IPB Bass & Suppoets	20日	20/10/08 (木)	20/10/31 (土)
357	IPB Bass & Supports	50日	20/10/31 (土)	20/12/28 (月)
358	O/B GMCB	2日	20/08/29 (土)	20/08/31 (月)
359	IPB & GMCB (IN MSB 2F)	131日	20/09/01 (火)	21/01/30 (土)
360	SWGR & MCC (In MSB 1 – 3F)	79日	20/06/01 (月)	20/08/31 (月)



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Construction Schedule of Unit-11

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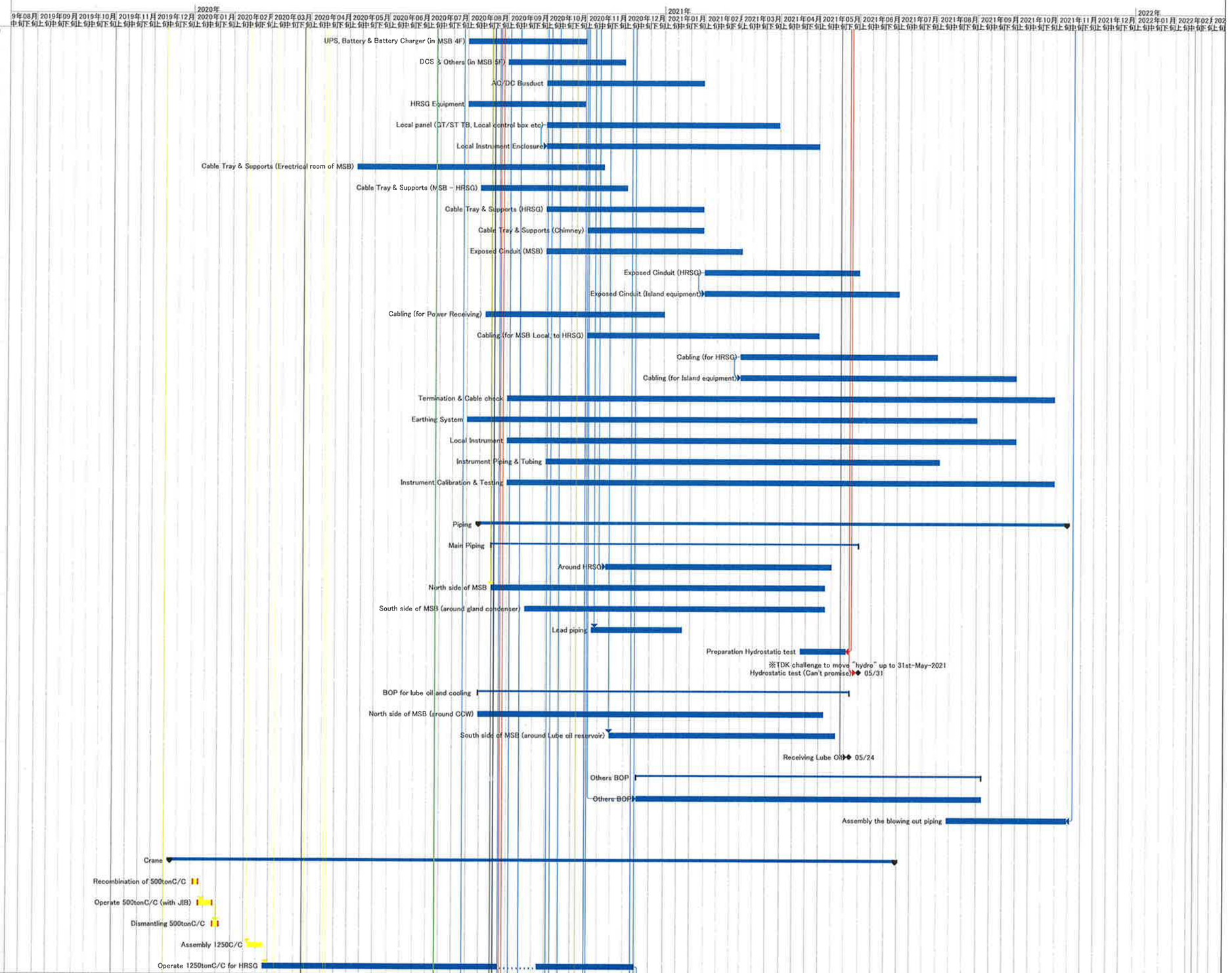
ID	タスク名	期間	開始日	終了日
361	UPS, Battery & Battery Charger (in MSB 4F)	79日	20/08/01 (土)	20/10/31 (土)
362	DCS & Others (in MSB 5F)	78日	20/09/01 (火)	20/11/30 (月)
363	AC/DC Busduct	105日	20/10/01 (木)	21/01/30 (土)
364	HRSG Equipment	78日	20/08/01 (土)	20/10/30 (金)
365	Local panel (GT/ST TB, Local control box etc)	155日	20/10/01 (木)	21/03/30 (火)
366	Local Instrument Enclosure	182日	20/10/01 (木)	21/04/30 (金)
367	Cable Tray & Supports (Erectrical room of MSB)	165日	20/05/07 (木)	20/11/14 (土)
368	Cable Tray & Supports (MSB – HRSG)	98日	20/08/11 (火)	20/12/02 (水)
369	Cable Tray & Supports (HRSG)	105日	20/10/01 (木)	21/01/30 (土)
370	Cable Tray & Supports (Chimney)	78日	20/11/02 (月)	21/01/30 (土)
371	Exposed Cinduit (MSB)	130日	20/10/01 (木)	21/03/01 (月)
372	Exposed Cinduit (HRSG)	103日	21/02/01 (月)	21/05/31 (月)
373	Exposed Cinduit (Island equipment)	130日	21/02/01 (月)	21/07/01 (木)
374	Cabling (for Power Receiving)	119日	20/08/15 (土)	20/12/31 (木)
375	Cabling (for MSB Local, to HRSG)	155日	20/11/02 (月)	21/04/30 (金)
376	Cabling (for HRSG)	132日	21/03/01 (月)	21/07/31 (土)
377	Cabling (for Island equipment)	184日	21/03/01 (月)	21/09/30 (木)
378	Termination & Cable check	365日	20/09/01 (火)	21/10/30 (土)
379	Earthing System	339日	20/08/01 (土)	21/08/31 (火)
380	Local Instrument	339日	20/09/01 (火)	21/09/30 (木)
381	Instrument Piping & Tubing	262日	20/10/01 (木)	21/08/02 (月)
382	Instrument Calibration & Testing	365日	20/09/01 (火)	21/10/30 (土)
383				
384	Piping	392日	20/08/10 (月)	21/11/10 (水)
385	Main Piping	244日	20/08/20 (木)	21/05/31 (月)
386	Around HRSG	150日	20/11/17 (火)	21/05/10 (月)
387	North side of MSB	222日	20/08/20 (木)	21/05/05 (水)
388	South side of MSB (around gland condenser)	200日	20/09/15 (火)	21/05/05 (水)
389	Lead piping	60日	20/11/06 (金)	21/01/14 (木)
390	Preparation Hydrostatic test	30日	21/04/17 (土)	21/05/22 (土)
391	Hydrostatic test (Can't promise)	1日	21/05/31 (月)	21/05/31 (月)
392	BOP for lube oil and cooling	247日	20/08/10 (月)	21/05/24 (月)
393	North side of MSB (around CCW)	230日	20/08/10 (月)	21/05/04 (火)
394	South side of MSB (around Lube oil reservoir)	150日	20/11/20 (金)	21/05/13 (木)
395	Receiving Lube Oil	1日	21/05/24 (月)	21/05/24 (月)
396	Others BOP	230日	20/12/11 (金)	21/09/04 (土)
397	Others BOP	230日	20/12/11 (金)	21/09/04 (土)
398	Assembly the blowing out piping	80日	21/08/09 (月)	21/11/10 (水)
399				
400	Crane	480日	19/12/16 (月)	21/06/29 (火)
401	Recombination of 500tonC/C	3日	20/01/03 (金)	20/01/06 (月)
402	Operate 500tonC/C (with JIB)	10日	20/01/07 (火)	20/01/17 (金)
403	Dismantling 500tonC/C	4日	20/01/18 (土)	20/01/22 (水)
404	Assembly 1250C/C	10日	20/02/14 (金)	20/02/25 (火)
405	Operate 1250tonC/C for HRSG	222日	20/02/26 (水)	20/12/09 (水)



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Construction Schedule of Unit-11

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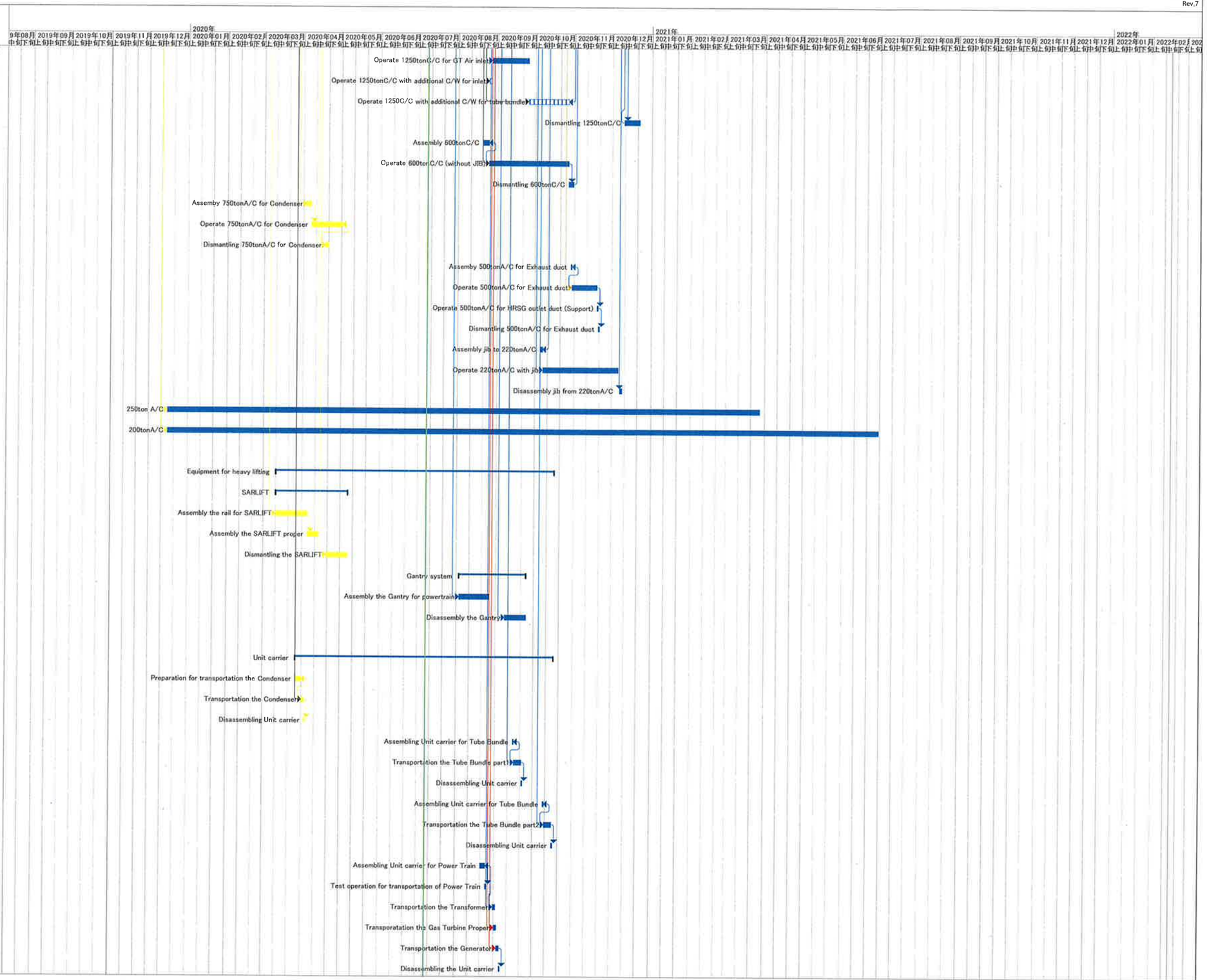
ID	タスク名	期間	開始日	終了日
406	Operate 1250tonC/C for GT Air inlet	25日	20/08/27 (木)	20/09/24 (木)
407	Operate 1250tonC/C with additional C/W for inlet	2日	20/08/25 (火)	20/08/26 (水)
408	Operate 1250C/C with additional C/W for tube bundle	27日	20/09/25 (金)	20/10/26 (月)
409	Dismantling 1250tonC/C	10日	20/12/10 (木)	20/12/21 (月)
410	Assembly 600tonC/C	4日	20/08/20 (木)	20/08/25 (火)
411	Operate 600tonC/C (without JIB)	54日	20/08/25 (火)	20/10/26 (月)
412	Dismantling 600tonC/C	4日	20/10/27 (火)	20/10/30 (金)
413	Assemby 750tonA/C for Condenser	4日	20/04/03 (金)	20/04/06 (月)
414	Operate 750tonA/C for Condenser	22日	20/04/07 (火)	20/05/01 (金)
415	Dismantling 750tonA/C for Condenser	2日	20/04/18 (土)	20/04/20 (月)
416	Assemby 500tonA/C for Exhaust duct	1日	20/10/29 (木)	20/10/30 (金)
417	Operate 500tonA/C for Exhaust duct	17日	20/10/30 (金)	20/11/18 (水)
418	Operate 500tonA/C for HRSG outlet duct (Support)	1日	20/11/19 (木)	20/11/19 (木)
419	Dismantling 500tonA/C for Exhaust duct	1日	20/11/20 (金)	20/11/20 (金)
420	Assembly jib to 220tonA/C	2日	20/10/05 (月)	20/10/07 (水)
421	Operate 220tonA/C with jib	52日	20/10/07 (水)	20/12/05 (土)
422	Disassembly jib from 220tonA/C	2日	20/12/07 (月)	20/12/08 (火)
423	250ton A/C	400日	19/12/16 (月)	21/03/27 (土)
424	200tonA/C	480日	19/12/16 (月)	21/06/29 (火)
425				
426	Equipment for heavy lifting	190日	20/03/11 (水)	20/10/16 (金)
427	SARLIFT	50日	20/03/11 (水)	20/05/06 (水)
428	Assembly the rail for SARLIFT	22日	20/03/11 (水)	20/04/04 (土)
429	Assembly the SARLIFT proper	8日	20/04/05 (日)	20/04/13 (月)
430	Dismantling the SARLIFT	15日	20/04/20 (月)	20/05/06 (水)
431	Gantry system	46日	20/08/03 (月)	20/09/24 (木)
432	Assembly the Gantry for powertrain	21日	20/08/03 (月)	20/08/26 (水)
433	Disassembly the Gantry	15日	20/09/08 (火)	20/09/24 (木)
434				
435	Unit carrier	176日	20/03/27 (金)	20/10/16 (金)
436	Preparation for transportation the Condenser	4日	20/03/27 (金)	20/04/01 (水)
437	Transportation the Condenser	2日	20/04/01 (水)	20/04/02 (木)
438	Disassembling Unit carrier	1日	20/04/03 (金)	20/04/03 (金)
439	Assembling Unit carrier for Tube Bundle	1日	20/09/15 (火)	20/09/16 (水)
440	Transportation the Tube Bundle part1	5日	20/09/16 (水)	20/09/21 (月)
441	Disassembling Unit carrier	1日	20/09/22 (火)	20/09/22 (火)
442	Assembling Unit carrier for Tube Bundle	1日	20/10/09 (金)	20/10/10 (土)
443	Transportation the Tube Bundle part2	5日	20/10/10 (土)	20/10/15 (木)
444	Disassembling Unit carrier	1日	20/10/16 (金)	20/10/16 (金)
445	Assembling Unit carrier for Power Train	3日	20/08/21 (金)	20/08/25 (火)
446	Test operation for transportation of Power Train	1日	20/08/25 (火)	20/08/25 (火)
447	Transportation the Transformer	2日	20/08/31 (月)	20/09/01 (火)
448	Transporatation the Gas Turbine Proper	2日	20/09/01 (火)	20/09/02 (水)
449	Transportation the Generator	2日	20/09/03 (木)	20/09/04 (金)
450	Disassembling the Unit carrier	1日	20/09/05 (土)	20/09/05 (土)



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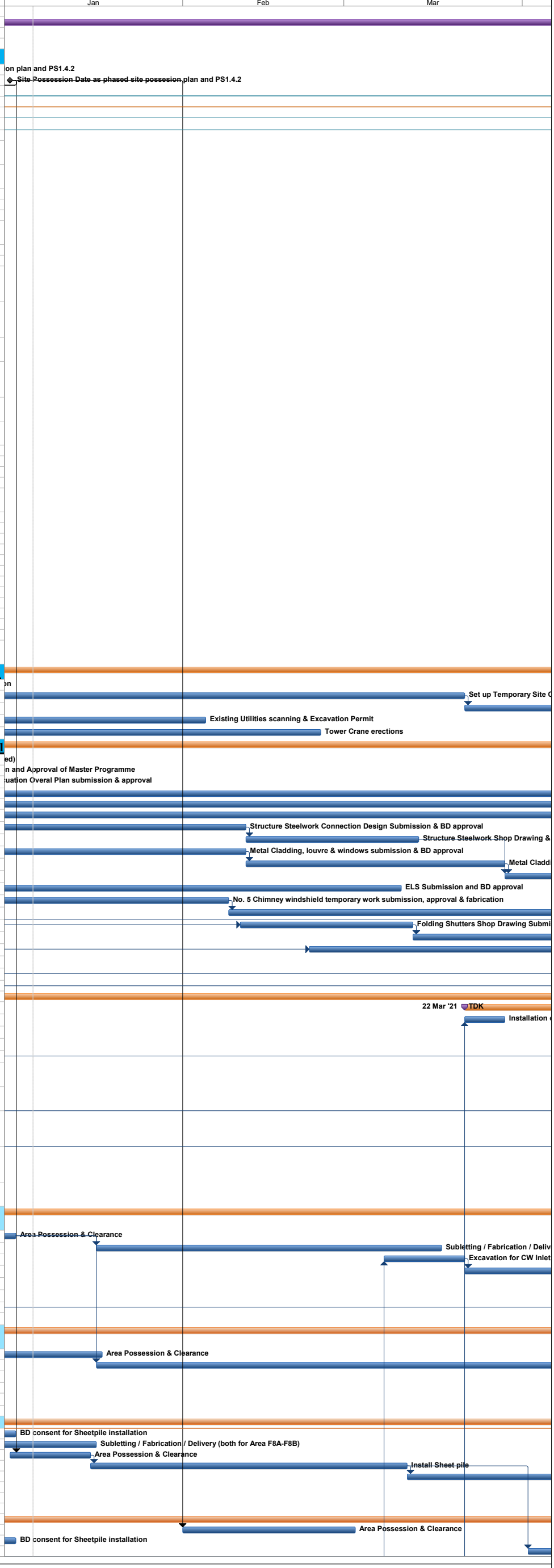
Contract No. 19/83002 Lamma Power Station Extension Civil and Building Works for Unit L12 — MASTER PROGRAMME

ID	Task Name	Duration	Start	Finish
1	**KEY DATES & MILESTONES**	**1123 days**	**Fri 4/12/20**	**Sun 31/12/23**
2	Contract Period	1123 days	Fri 4/12/20	Sun 31/12/23
3	Deferred Work Completion Key Dates	784 days	Mon 8/11/21	Sun 31/12/23
4	Substantial Completion of the Whole Contract Works (1123 Days)	0 days	Sun 31/12/23	Sun 31/12/23
5	**SITE POSSESSION DATES**	**513 days**	**Fri 4/12/20**	**Sun 1/5/22**
6	Site Possession Date as phased site possesion plan and PS1.4.2	0 days	Fri 4/12/20	Fri 4/12/20
7	Site Possession Date as phased site possesion plan and PS1.4.2	0 days	Fri 1/1/21	Fri 1/1/21
8	Site Possession Date as phased site possesion plan and PS1.4.2	0 days	Sat 1/5/21	Sat 1/5/21
9	Site Possession Date as phased site possesion plan and PS1.4.2	0 days	Fri 1/10/21	Fri 1/10/21
10	Site Possession Date as phased site possesion plan and PS1.4.2	0 days	Fri 1/4/22	Fri 1/4/22
11	Site Possession Date as phased site possesion plan and PS1.4.2	0 days	Sun 1/5/22	Sun 1/5/22
12	**COMPLETION DATES as per PS1.4.2 Time for Completion**	**609 days**	**Wed 30/6/21**	**Tue 28/2/23**
13	Section A1 (i) - Area south of L12 MSB and L12 HRSG from GL12-F eastwards leading to Chimney Road at Area F1 & F2	0 days	Thu 30/9/21	Thu 30/9/21
14	Section A1 (ii) - Supporting structures for overhead cranes of L12 MSB including the associated roof structure except the roof deferred works	0 days	Thu 30/9/21	Thu 30/9/21
15	Section A2 (i) External Works including CW Inlet Culvert at Area F8A	0 days	Thu 30/9/21	Thu 30/9/21
16	Section A2 (ii) External Works including CW Intet Culvert at Area F8B	0 days	Thu 31/3/22	Thu 31/3/22
17	Section A2 (iii) External Works including CW Inlet Culvert at Area F8C	0 days	Thu 31/3/22	Thu 31/3/22
18	Section B1 - Area south of L12 MSB from GL12-F westwards leading to Station Road at Area F3	0 days	Wed 15/12/21	Wed 15/12/21
19	Section B2 (i)- Southern Part of L12 HRSG areas and its surrounding refer to Area F6B as shown in drawing no 5	0 days	Tue 31/8/21	Tue 31/8/21
20	Section B2 (ii) - Remaining northern part of Ll2 HRSG area and its surrounding at Area F6A and F6C	0 days	Mon 15/11/21	Mon 15/11/21
21	Section B2 - (iii) L12 Turbo Block foundation including the L12 MSB ground floor together with the equipment foundations between GL 12-F to 12-H and 12-1 to 12-6 for the installation of power generator, air inlet duct and lube oil reservoir	0 days	Sat 15/1/22	Sat 15/1/22
22	Section B2 - (iv) G/F of L12 MSB including the Condenser Pit, Circulating Water Pipe Pit and equipment foundations between GL 12-B to 12-C and 12-1 to 12-6 for the installation of condenser	0 days	Wed 15/12/21	Wed 15/12/21
23	Section C - (i) Roads and external grounds surrounding L12 MSB and L12 HRSG in addition to the southern & eastern areas mentioned above in Area F5	0 days	Sat 15/1/22	Sat 15/1/22
24	Section C - (ii) Whole of L12 MSB including the pipe and cable rack along south façade of L12 MSB with all underground utilities at Area F4 including C.W. Inlet and Outlet Culvert except the deferred works	0 days	Sat 15/1/22	Sat 15/1/22
25	Section C - (iii) Link Bridge between L11 and L12 MSB including their associated A&A at L11 MSB	0 days	Sat 15/1/22	Sat 15/1/22
26	Section D - (i) Microwave Antenna Room and Chimney Windshiled for the installation of miscrowave equipment and antenna	0 days	Wed 30/6/21	Wed 30/6/21
27	Section D (ii) - No. 5 Chimney with L12 Steel Flue liner	0 days	Sat 30/4/22	Sat 30/4/22
28	Section E (i) Tx Room of Adminintration and Control Building	0 days	Sun 31/10/21	Sun 31/10/21
29	Section E (ii) - G/F,1/F, 2/F & Hoisting Well of Admin. & Control Building	0 days	Mon 28/2/22	Mon 28/2/22
30	Section E (iii) - Whole of Admin. And Control Building	0 days	Sat 30/4/22	Sat 30/4/22
31	Section F (i) - Gas Receiving Station and L12 Gas Receiving Station Equipment Room (GRS) Area Extension at Area F14	0 days	Thu 30/6/22	Thu 30/6/22
32	Setion F (ii) - Pipe and Cable rack and external work at Area F9A and F9B	0 days	Tue 31/5/22	Tue 31/5/22
33	Section F (iii) - No. 5 CW Equipment Room, pipe and cable rack, external works at Area F10	0 days	Thu 30/6/22	Thu 30/6/22
34	Section G (i) - External Work surrounding Area F11	0 days	Fri 30/9/22	Fri 30/9/22
35	Section G (ii) - External Works at Area F12 & F13	0 days	Fri 30/9/22	Fri 30/9/22
36	Section G (iii) - FS Modification works along South Seafront Road at Area F15	0 days	Fri 30/9/22	Fri 30/9/22
37	Section G (iv) - 275kV cable trenches and External Works at Area F16	0 days	Fri 30/9/22	Fri 30/9/22
38	Section G (v) - Shunt Reactor Compound and External Works at Area F17	0 days	Fri 30/9/22	Fri 30/9/22
39	Section G (vi) - 275kV cable trenches and External Works at Area F18	0 days	Wed 1/6/22	Wed 1/6/22
40	Section G (vii) - Flood Wall at No. 4 CW Intake Area along HUA at Area F20A	0 days	Thu 30/9/21	Thu 30/9/21
41	Seciton G (viii) - Flood wall at No. 5 CW Intake Area along HUA at Area F20B	0 days	Fri 30/9/22	Fri 30/9/22
42	Seciton G (ix) - Bund wall modification works at South Seafront Road at Area F21	0 days	Wed 30/6/21	Wed 30/6/21
43	Section G (x) - DAX Cable Diversion Works (from Part I to Part IV)	0 days	Sat 31/12/22	Sat 31/12/22
44	Section H - All remaining works shall be completed for reporting completion to BD and ready for OP inspection	0 days	Tue 28/2/23	Tue 28/2/23
45	**GENERAL & PRELIMINARY**	**228 days**	**Fri 4/12/20**	**Mon 19/7/21**
46	First Mobilization	18 days	Fri 4/12/20	Mon 21/12/20
47	Set up Temporary Site Office and Welfare Factiliites	90 days	Tue 22/12/20	Sun 21/3/21
48	Permit Applications & Statuary Submissions	120 days	Mon 22/3/21	Mon 19/7/21
49	Existing Utilities scanning & Excavation Permit	45 days	Tue 22/12/20	Thu 4/2/21
50	Tower Crane erections	60 days	Sun 27/12/20	Wed 24/2/21
51	**TECHNICAL SUBMISSION AND APPROVAL**	**314 days**	**Thu 10/12/20**	**Wed 20/10/21**
52	BD Approval & Consent (If required)	0 days	Thu 10/12/20	Thu 10/12/20
53	Submission and Approval of Master Programme	14 days	Fri 11/12/20	Thu 24/12/20
54	Work Execuation Overal Plan submission & approval	14 days	Fri 11/12/20	Thu 24/12/20
55	Material Submissions and approval	300 days	Fri 25/12/20	Wed 20/10/21
56	Method Statement submission and approval	300 days	Fri 25/12/20	Wed 20/10/21
57	BIM Model, CSD & CBWD Submission & approval	120 days	Fri 25/12/20	Fri 23/4/21
58	Structure Steelwork Connection Design Submission & BD approval	45 days	Tue 29/12/20	Thu 11/2/21
59	Structure Steelwork Shop Drawing & Approval	30 days	Fri 12/2/21	Sat 13/3/21
60	Metal Cladding, louvre & windows submission & BD approval	45 days	Tue 29/12/20	Thu 11/2/21
61	Metal Cladding, louvre & windows shop drawing submission	45 days	Fri 12/2/21	Sun 28/3/21
62	Order, Off Site Fabrication and Delivery (S. Steel & Cladding & louvres)	120 days	Mon 29/3/21	Mon 26/7/21
63	ELS Submission and BD approval	90 days	Fri 11/12/20	Wed 10/3/21
64	No. 5 Chimney windshield temporary work submission, approval & fabrication	60 days	Fri 11/12/20	Mon 8/2/21
65	Steel Flue Assessment Report and Design Drawings submission & approval	60 days	Tue 9/2/21	Fri 9/4/21
66	Folding Shutters Shop Drawing Submission & Approval	30 days	Thu 11/2/21	Fri 12/3/21
67	Fabrication & Delivery of Folding Shutters	180 days	Sat 13/3/21	Wed 8/9/21
68	Sewage Pump System Design submission & approval	45 days	Tue 23/2/21	Thu 8/4/21
69	Fabrication & Delivery of Sewage Pump	180 days	Fri 9/4/21	Tue 5/10/21
70	Other material submission & approval & delivery	180 days	Sat 24/4/21	Wed 20/10/21
71	Other material submission & approval & delivery	180 days	Sat 24/4/21	Wed 20/10/21
72	**CONSTRUCTION**	**1123 days**	**Fri 4/12/20**	**Sun 31/12/23**
73	**Coordination with the Employer's Specialist Contractors**	**421 days**	**Mon 22/3/21**	**Mon 16/5/22**
74	Installation of Puddle Pipes at C.W. outlet Culvert	7 days	Mon 22/3/21	Sun 28/3/21
75	Installation of Puddle Pipes at C.W. Inlet Culvert	7 days	Tue 11/5/21	Mon 17/5/21
76	Template setting at L12 Turbo Block Foundation	45 days	Thu 28/10/21	Sat 11/12/21
77	Template setting of holding down bolts at HRSG column base	45 days	Sun 6/6/21	Tue 20/7/21
78	I-beam / channel base installation on top of transformer foundations at Transformer Area	45 days	Tue 1/6/21	Thu 15/7/21
79	Overhead crane erection at turbine hall using access through a temporary opening at L12 MSB roof between GL12-G to 12-H and 12-2 to 12-6	38 days	Fri 1/10/21	Sun 7/11/21
80	Condenser assembly and erection using access through a temporary façade opening at L12 MSB below 1/F along GL 12-6 from GL12-B to 12-C including a clear space below 1/F between GL 12-B to 12-C	122 days	Thu 16/12/21	Sat 16/4/22
81	Installation of power train equipment including air inlet duct using access through a temporary façade opening at L12 MSB below 1/F along GL 12-6 from GL12-F to 12-H including a clear space below 1/F of the above area	121 days	Sun 16/1/22	Mon 16/5/22
82	Installation of embedded materials such as holding down bolts for equipment foundations - Commencement	0 days	Thu 15/4/21	Thu 15/4/21
83	**Section A1 (i) - Area south of L12 MSB and L12 HRSG from GL12-F eastwards leading to Chimney Road at Area F1 & F2**	**301 days**	**Fri 4/12/20**	**Thu 30/9/21**
84	Area Possession & Clearance	30 days	Fri 4/12/20	Sat 2/1/21
85	Subletting / Fabrication / Delivery (both for Area F1 and Area F2)	60 days	Sun 17/1/21	Wed 17/3/21
86	Excavation for CW Inlet Culvert (Type D Construction Area)	14 days	Mon 8/3/21	Sun 21/3/21
87	Installation CW Inlet Culvert pipe + testing	30 days	Mon 22/3/21	Tue 20/4/21
88	Construction of Thrust Box & Manholes,etc	14 days	Wed 21/4/21	Tue 4/5/21
89	Backfill	14 days	Wed 5/5/21	Tue 18/5/21
90	Construction UG Utilities 2m deep below further surface	30 days	Thu 19/8/21	Fri 17/9/21
91	Temporary Paving and handover for plant erection	13 days	Sat 18/9/21	Thu 30/9/21
92	**Section A1 (ii) - Supporting structures for overhead cranes of L12 MSB including the associated roof structure except the roof deferred workss**	**301 days**	**Fri 4/12/20**	**Thu 30/9/21**
93	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
94	Subletting / Fabrication / Delivery	210 days	Sun 17/1/21	Sat 14/8/21
95	Complete structural steel erection	0 days	Mon 6/9/21	Mon 6/9/21
96	Install Crane Girders	18 days	Tue 7/9/21	Fri 24/9/21
97	Construction of roof slab (except defer work)	21 days	Tue 7/9/21	Mon 27/9/21
98	Touch up and handover for install overhead cranes	3 days	Tue 28/9/21	Thu 30/9/21
99	**Section A2 (i) External Works including CW Inlet Culvert at Area F8A**	**301 days**	**Fri 4/12/20**	**Thu 30/9/21**
100	BD consent for Sheetpile installation	30 days	Fri 4/12/20	Sat 2/1/21
101	Subletting / Fabrication / Delivery (both for Area F8A-F8B)	30 days	Fri 18/12/20	Sat 16/1/21
102	Area Possession & Clearance	14 days	Sat 2/1/21	Fri 15/1/21
103	Install Sheet pile	55 days	Sat 16/1/21	Thu 11/3/21
104	BD Consent for ELS	28 days	Fri 12/3/21	Thu 8/4/21
105	ELS and install CW Inlet Pipe (NW to N direction)	60 days	Fri 9/4/21	Mon 7/6/21
106	Construction of Thrust Box & Manholes,etc	36 days	Tue 8/6/21	Tue 13/7/21
107	Backfill, UG Utilities and Road Paving	79 days	Wed 14/7/21	Thu 30/9/21
108	**Section A2 (ii) External Works including CW Intet Culvert at Area F8B**	**483 days**	**Fri 4/12/20**	**Thu 31/3/22**
109	Area Possession & Clearance	30 days	Mon 1/2/21	Tue 2/3/21
110	BD consent for Sheetpile installation	30 days	Fri 4/12/20	Sat 2/1/21
111	Install Sheet pile	90 days	Fri 2/4/21	Wed 30/6/21



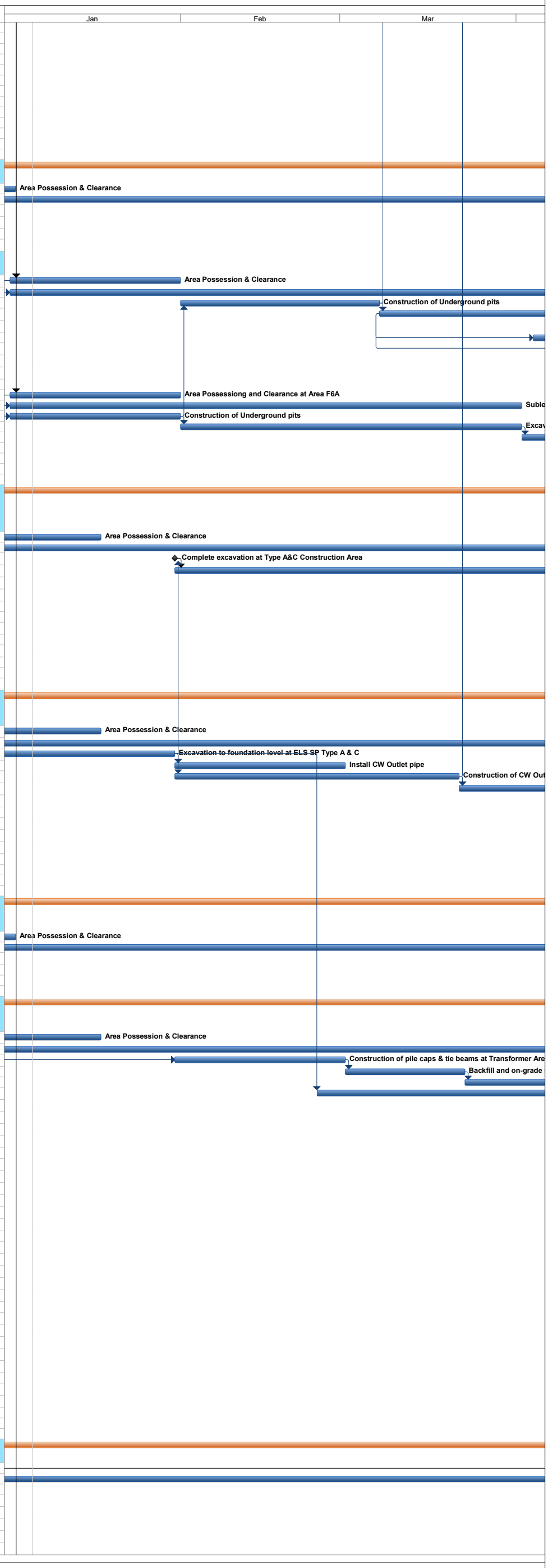
REVISED MASTER PROGRAMME
4 JAN 2021 Rev. 1-A

Task — Split — Milestone ◆ — Summary

Contract No. 19/83002 Lamma Power Station Extension Civil and Building Works for Unit L12

MASTER PROGRAMME

ID	Task Name	Duration	Start	Finish
112	BD Consent for ELS	28 days	Thu 1/7/21	Wed 28/7/21
113	ELS and install CW Inlet Pipe	90 days	Thu 29/7/21	Tue 26/10/21
114	Construction of Thrust Box & Manholes,etc	60 days	Wed 27/10/21	Sat 25/12/21
115	Backfill, UG Utilities and Road Paving	96 days	Sun 26/12/21	Thu 31/3/22
116	**Section A2 (iii) External Works including CW Inlet Culvert at Area F8C**	**182 days**	**Fri 1/10/21**	**Thu 31/3/22**
117	Area Possession & Clearance	30 days	Fri 1/10/21	Sat 30/10/21
118	Subletting / Fabrication / Delivery (for Area F8C)	60 days	Fri 1/10/21	Mon 29/11/21
119	BD consent for Sheetpile installation	30 days	Fri 1/10/21	Sat 30/10/21
120	Install Sheet pile	34 days	Sun 31/10/21	Fri 3/12/21
121	BD Consent for ELS	28 days	Sat 4/12/21	Fri 31/12/21
122	ELS and install CW Inlet Pipe	40 days	Sat 1/1/22	Wed 9/2/22
123	Construction of Thrust Box & Manholes,etc	30 days	Thu 10/2/22	Fri 11/3/22
124	Backfill, UG Utilities and Road Paving	20 days	Sat 12/3/22	Thu 31/3/22
125	**Section B1 - Area south of L12 MSB from GL12-F westwards leading to Station Road at Area F3**	**377 days**	**Fri 4/12/20**	**Wed 15/12/21**
126	Area Possession & Clearance	30 days	Fri 4/12/20	Sat 2/1/21
127	Subletting / Fabrication / Delivery	120 days	Fri 25/12/20	Fri 23/4/21
128	Complete CW Pipe Installation & Thrust box	45 days	Fri 7/5/21	Sun 20/6/21
129	Backfill	14 days	Mon 21/6/21	Sun 4/7/21
130	Construction of Storm Drain & Manholes	80 days	Tue 7/9/21	Thu 25/11/21
131	Temp Paving and handover for Condenser Move in	20 days	Fri 26/11/21	Wed 15/12/21
132	**Section B2 - (i) Southern part of L12 HRSG area and its surrounding at Area F6B including the foundations for Gas Exhaust Duct**	**243 days**	**Fri 1/1/21**	**Tue 31/8/21**
133	Area Possession & Clearance	30 days	Sat 2/1/21	Sun 31/1/21
134	Subletting / Fabrication / Delivery (for F6B Civil and E&M)	120 days	Sat 2/1/21	Sat 1/5/21
135	Construction of Underground pits	35 days	Mon 1/2/21	Sun 7/3/21
136	Excavation & Construct Pile Caps & Tie Beams & Piers	60 days	Mon 8/3/21	Thu 6/5/21
137	Construction HRSG & Gas Duct foundations	45 days	Fri 7/5/21	Sun 20/6/21
138	Construction of HRSG Equipment Room incl. ABWF & BS (except T&C)	150 days	Sun 4/4/21	Tue 31/8/21
139	Construction underground utilities within HRSG	45 days	Wed 28/4/21	Fri 11/6/21
140	Backfill & Construction on-grade slabs & RC plinths on top	60 days	Sat 12/6/21	Tue 10/8/21
141	Backfill and Temporary paving	21 days	Wed 11/8/21	Tue 31/8/21
142	**Section B2 (ii) - Remaining northern part of LI2 HRSG area and its surrounding at Area F6A and F6C**	**319 days**	**Fri 1/1/21**	**Mon 15/11/21**
143	Area Possessiong and Clearance at Area F6A	30 days	Sat 2/1/21	Sun 31/1/21
144	Subletting / Fabrication / Delivery (for Area F6A and F6C civil)	90 days	Sat 2/1/21	Thu 1/4/21
145	Construction of Underground pits	30 days	Sat 2/1/21	Sun 31/1/21
146	Excavation & Construct Pile Caps & Tie Beams & Piers	60 days	Mon 1/2/21	Thu 1/4/21
147	Construction underground utilities within HRSG	21 days	Fri 2/4/21	Thu 22/4/21
148	Backfill & Construction on-grade slabs & RC plinths on top	21 days	Fri 23/4/21	Thu 13/5/21
149	Construct RC Walls	90 days	Fri 4/6/21	Wed 1/9/21
150	Construction of Underground utilities at F6C	60 days	Thu 2/9/21	Sun 31/10/21
151	Backfill and Temporary paving	15 days	Mon 1/11/21	Mon 15/11/21
152	**Section B2 - (iii) L12 Turbo Block foundation including the L12 MSB ground floor together with the equipment foundations between GL 12-F to 12-H and 12-1 to 12-6 for the installation of power generator, air inlet duct and lube oil reservoir**	**408 days**	**Fri 4/12/20**	**Sat 15/1/22**
153	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
154	Subletting / Fabrication / Delivery (Civil+ABWF+BS for MSBL12)	150 days	Fri 25/12/20	Sun 23/5/21
155	Complete excavation at Type A&C Construction Area	0 days	Sat 30/1/21	Sat 30/1/21
156	Excavation & Pile Caps & Tie Beams + Slabs (Turbo Block North)	75 days	Sun 31/1/21	Thu 15/4/21
157	Backfill and construction turbine block & equipment foundation	40 days	Tue 1/6/21	Sat 10/7/21
158	Excavation & Pile Caps & Tie Beams + Slabs (Turbo Block South)	45 days	Sat 17/4/21	Mon 31/5/21
159	Construction of internal drainage & on-grade slab	30 days	Sun 11/7/21	Mon 9/8/21
160	Construction turbine block columns and upper portion for plant embed installation	21 days	Tue 7/9/21	Mon 27/9/21
161	Concrete Turbine upper part foundation & clear falsework	30 days	Tue 28/9/21	Wed 27/10/21
162	Construction of Lube Oil Room	45 days	Thu 28/10/21	Sat 11/12/21
163	Concrete RC walls	50 days	Tue 7/9/21	Tue 26/10/21
164	ABFW Works	30 days	Thu 4/11/21	Fri 3/12/21
165	Building Services Works	45 days	Fri 19/11/21	Sun 2/1/22
166	Remove temporary falsework and scaffolding for installation of power generator	13 days	Mon 3/1/22	Sat 15/1/22
167	**Section B2 - (iv) G/F of L12 MSB including the Condenser Pit, Circulating Water Pipe Pit and equipment foundations between GL 12-B to 12-C and 12-1 to 12-6 for the installation of condenser**	**377 days**	**Fri 4/12/20**	**Wed 15/12/21**
168	**Area Possession & Clearance**	**45 days**	**Fri 4/12/20**	**Sun 17/1/21**
169	Subletting / Fabrication / Delivery (for MSB L12 civil)	150 days	Fri 25/12/20	Sun 23/5/21
170	**Excavation to foundation level at ELS SP Type A & C**	**30 days**	**Fri 1/1/21**	**Sat 30/1/21**
171	Install CW Outlet pipe	30 days	Sun 31/1/21	Mon 1/3/21
172	Construction of CW Outlet Box + lowest tie beam & caps	50 days	Sun 31/1/21	Sun 21/3/21
173	Construction of pile caps & tie beams & sump pits up to +2.5mPD	26 days	Mon 22/3/21	Fri 16/4/21
174	Backfill & Construction of CW Inlet Box + tie beams	24 days	Sat 17/4/21	Mon 10/5/21
175	Construction of pile caps & tie beams at SunShadeCover Area	18 days	Tue 11/5/21	Fri 28/5/21
176	Backfill and Construction ground beams & trenches & equipment foundations	14 days	Tue 11/5/21	Mon 24/5/21
177	Construction of indoor underground drainage	14 days	Tue 25/5/21	Mon 7/6/21
178	Backfill & construction on-grade slabs	18 days	Tue 8/6/21	Fri 25/6/21
179	Construction Column casting and RC walls	50 days	Thu 29/7/21	Thu 16/9/21
180	ABFW Works	16 days	Fri 17/9/21	Sat 2/10/21
181	Building Services Works	45 days	Sun 3/10/21	Tue 16/11/21
182	Mis. Works and Ready for condenser move in	29 days	Wed 17/11/21	Wed 15/12/21
183	**Section C - (i) Roads and external grounds surrounding L12 MSB and L12 HRSG in addition to the southern & eastern areas mentioned above in Area F5**	**408 days**	**Fri 4/12/20**	**Sat 15/1/22**
184	Area Possession & Clearance	30 days	Fri 4/12/20	Sat 2/1/21
185	Subletting / Fabrication / Delivery	210 days	Fri 25/12/20	Thu 22/7/21
186	Complete substructure & Steel Erection works for MSB	0 days	Wed 28/7/21	Wed 28/7/21
187	Construction all utilities deeper than 2m from future road level	60 days	Thu 29/7/21	Sun 26/9/21
188	Construction of cable trenches	90 days	Mon 27/9/21	Sat 25/12/21
189	Backfill and lay temporary paving	21 days	Sun 26/12/21	Sat 15/1/22
190	**Section C - (ii) Whole of L12 MSB including the pipe and cable rack along south façade of L12 MSB with all underground utilities at Area F4 including C.W. Inlet and Outlet Culvert except the deferred works**	**408 days**	**Fri 4/12/20**	**Sat 15/1/22**
191	**Area Possession & Clearance**	**45 days**	**Fri 4/12/20**	**Sun 17/1/21**
192	Subletting / Fabrication / Delivery	120 days	Fri 25/12/20	Fri 23/4/21
193	**Construction of pile caps & tie beams at Transformer Area**	**30 days**	**Sun 31/1/21**	**Mon 1/3/21**
194	Backfill and on-grade slab at transformer Area	21 days	Tue 2/3/21	Mon 22/3/21
195	Construction of Fire Walls at Transformer Area	45 days	Tue 23/3/21	Thu 6/5/21
196	Excavation & Construction Blow Down Sum pit (SP Type B)	50 days	Thu 25/2/21	Thu 15/4/21
197	Preaparation for S.Steelwork Erection	7 days	Fri 23/4/21	Thu 29/4/21
198	Structural Delivery & Erection (Turhine Hall North fr G.L. 1-3/H->B)	35 days	Fri 30/4/21	Thu 3/6/21
199	Structural Delivery & Erection (Equipment Floors)	55 days	Fri 4/6/21	Wed 28/7/21
200	Structural Delivery & Erection (Turbine Hall South + East Elevation)	40 days	Thu 29/7/21	Mon 6/9/21
201	Joint Tightening and touch up coating	145 days	Fri 4/6/21	Tue 26/10/21
202	External Scaffolding Erection	150 days	Fri 4/6/21	Sun 31/10/21
203	Construction 1/F RC Slab	14 days	Thu 29/7/21	Wed 11/8/21
204	Construction 2/F RC Slab	18 days	Thu 12/8/21	Sun 29/8/21
205	Construction 3/F RC Slab	18 days	Mon 30/8/21	Thu 16/9/21
206	Construction 4/F RC Slab	18 days	Fri 17/9/21	Mon 4/10/21
207	Construction 5/F RC Slab	18 days	Tue 5/10/21	Fri 22/10/21
208	Construction 6/F RC Slab	14 days	Sat 23/10/21	Fri 5/11/21
209	Construction Upper Roof RC Slab	10 days	Sat 6/11/21	Mon 15/11/21
210	Construction Main Roof RC Slab	25 days	Tue 7/9/21	Fri 1/10/21
211	Construction Defer Roof RC Slab (G.L. G-H)	14 days	Mon 8/11/21	Sun 21/11/21
212	Construction of Staircase ST-01 & lift shaft & machine room	150 days	Fri 4/6/21	Sun 31/10/21
213	Construction M/F RC Slab	14 days	Tue 3/8/21	Mon 16/8/21
214	Lift Installation	75 days	Mon 1/11/21	Fri 14/1/22
215	Construction of Staircase ST-02 except defer work	75 days	Fri 17/9/21	Tue 30/11/21
216	Construction of RC plinth, kerbs & parapet Walls	75 days	Sat 2/10/21	Wed 15/12/21
217	Erection of Skylight & Roof Features	56 days	Sat 2/10/21	Fri 26/11/21
218	Waterproofing & Flooring at Roof	50 days	Sat 27/11/21	Sat 15/1/22
219	ABFW Works	120 days	Thu 12/8/21	Thu 9/12/21
220	Building Services Works	135 days	Thu 2/9/21	Fri 14/1/22
221	Metal Cladding, Windows and Louvres incl. roof feature	145 days	Fri 25/6/21	Tue 16/11/21
222	Removal of external scaffolding	95 days	Tue 24/8/21	Fri 26/11/21
223	Installation of Catwalk at south elevation	21 days	Fri 26/11/21	Thu 16/12/21
224	Cladding, ABWF & BS Works	30 days	Fri 17/12/21	Sat 15/1/22
225	Removal of tempoary works & clearance for plant erection contractor	30 days	Fri 17/12/21	Sat 15/1/22
226	**Section C - (iii) Link Bridge between L11 and L12 MSB includin their associated A&A at L11 MSB**	**408 days**	**Fri 4/12/20**	**Sat 15/1/22**
227	BD Consent	0 days	Fri 4/12/20	Fri 4/12/20
228	Subletting / Fabrication / Delivery (For BS and ABWF)	250 days	Fri 25/12/20	Tue 31/8/21
229	Clearing Works and plant set-up	30 days	Mon 16/8/21	Tue 14/9/21
230	Dismantle of north scaffold for link bridge erection	0 days	Tue 24/8/21	Tue 24/8/21
231	A&A works at South of L11 MSB	30 days	Tue 24/8/21	Wed 22/9/21
232	Erection of link bridge structural steel	30 days	Thu 23/9/21	Fri 22/10/21
233	Casting of bridge deck	11 days	Sat 23/10/21	Tue 2/11/21
234	Metal roofing installation	24 days	Wed 3/11/21	Fri 26/11/21



REVISED MASTER PROGRAMME
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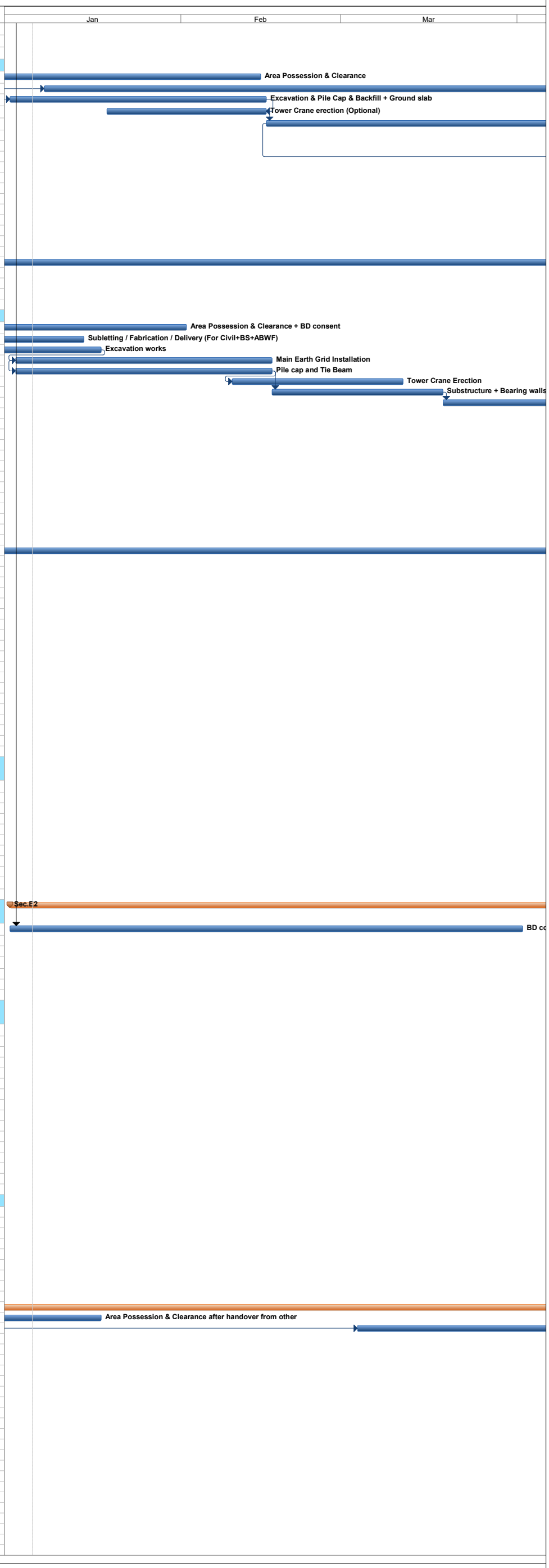
Task — Split ..... Milestone ◆ Summary

Contract No. 19/83002 Lamma Power Station Extension Civil and Building Works for Unit L12

MASTER PROGRAMME

ID	Task Name	Duration	Start	Finish
235	ABWF work	30 days	Sat 27/11/21	Sun 26/12/21
236	BS Works	20 days	Mon 27/12/21	Sat 15/1/22
237	Ready for power cable laying work by others	0 days	Sat 15/1/22	Sat 15/1/22
238	**Section D - (ii) No. 5 Chimney with L12 Steel Flue Liner**	**485 days**	**Fri 1/1/21**	**Sat 30/4/22**
239	Area Possession & Clearance	45 days	Fri 1/1/21	Sun 14/2/21
240	Subletting / Fabrication / Delivery (For Civil and BS for Microwave Antenna and Equipment)	120 days	Fri 8/1/21	Fri 7/5/21
241	Excavation & Pile Cap & Backfill + Ground slab	45 days	Sat 2/1/21	Mon 15/2/21
242	Tower Crane erection (Optional)	28 days	Tue 19/1/21	Mon 15/2/21
243	Construction of Wind Shiled + clearance for internal floors and flue	150 days	Tue 16/2/21	Thu 15/7/21
244	Structural steel fabrication & Delivery for floors and staircase	90 days	Sat 10/4/21	Thu 8/7/21
245	Erection of steel floors	60 days	Wed 9/6/21	Sat 7/8/21
246	Construction of G/F room incl. Microwave Antenna Rm	45 days	Mon 17/5/21	Wed 30/6/21
247	Construction of 1/F RC slab	14 days	Sun 8/8/21	Sat 21/8/21
248	Construction of 2/F RC slab	14 days	Sun 22/8/21	Sat 4/9/21
249	Construction of 3/F RC slab	16 days	Sun 5/9/21	Mon 20/9/21
250	Construction of 4/F RC slab	16 days	Tue 21/9/21	Wed 6/10/21
251	Construction of 5/F RC slab	18 days	Thu 7/10/21	Sun 24/10/21
252	Construction of Roof RC slab	18 days	Mon 25/10/21	Thu 11/11/21
253	Steel Flue fabrication and delivery	145 days	Fri 9/7/21	Tue 30/11/21
254	Set up for steel flue installation	14 days	Wed 1/12/21	Tue 14/12/21
255	Lift & install steel flue liner + cladding works	90 days	Wed 15/12/21	Mon 14/3/22
256	Section D (i) - ABWF and BS Works at Microwave Antenna Room and Chimney Windshield for installation of n	209 days	Fri 4/12/20	Wed 30/6/21
257	Remaining ABWF & BS Works	100 days	Fri 12/11/21	Sat 19/2/22
258	Lift installation	90 days	Fri 12/11/21	Wed 9/2/22
259	Installation Louvre & Doors	30 days	Tue 15/3/22	Wed 13/4/22
260	Mis works, Demobilization and ready for gas duct connection	17 days	Thu 14/4/22	Sat 30/4/22
261	**Section E - (iii) Administration and Control Building**	**513 days**	**Fri 4/12/20**	**Sat 30/4/22**
262	Area Possession & Clearance + BD consent	60 days	Fri 4/12/20	Mon 1/2/21
263	Subletting / Fabrication / Delivery (For Civil+BS+ABWF)	21 days	Fri 25/12/20	Thu 14/1/21
264	Excavation works	45 days	Fri 4/12/20	Sun 17/1/21
265	Main Earth Grid Installation	45 days	Sun 3/1/21	Tue 16/2/21
266	Pile cap and Tie Beam	45 days	Sun 3/1/21	Tue 16/2/21
267	Tower Crane Erection	30 days	Wed 10/2/21	Thu 11/3/21
268	Substructure + Bearing walls + On grade slabs	30 days	Wed 17/2/21	Thu 18/3/21
269	Construction of RC up to 1/F incl. staircases	50 days	Fri 19/3/21	Fri 7/5/21
270	Construction of RC up to 2/F incl. staircases	55 days	Sat 8/5/21	Thu 1/7/21
271	Construction of RC up to 3/F incl. staircases	55 days	Fri 2/7/21	Wed 25/8/21
272	Tempoary Hoist erection	14 days	Thu 26/8/21	Wed 8/9/21
273	Construction of RC up to 4/F incl. staircases	30 days	Thu 26/8/21	Fri 24/9/21
274	Construction of RC up to R/F incl. staircases	30 days	Sat 25/9/21	Sun 24/10/21
275	Construction of RC up to lift machine room	21 days	Mon 25/10/21	Sun 14/11/21
276	Construction of RC up to UR/F	21 days	Mon 15/11/21	Sun 5/12/21
277	External Wall Finish, Cladding + Windows and Louvres + Features	100 days	Sat 25/9/21	Sun 2/1/22
278	Removal of external scaffolding	45 days	Mon 3/1/22	Wed 16/2/22
279	Waterproofing & screeding	60 days	Mon 6/12/21	Thu 3/2/22
280	ABWF at G/F	120 days	Sat 29/5/21	Sat 25/9/21
281	**Section E (i) Complete Transformer Room for move in**	**60 days**	**Thu 2/9/21**	**Sun 31/10/21**
282	Clearing Works and plant set-up	21 days	Sun 31/10/21	Sat 20/11/21
283	Subletting / Fabrication / Delivery (For NSC Lift)	180 days	Fri 25/12/20	Tue 22/6/21
284	ABWF at 1/F	100 days	Mon 26/7/21	Tue 2/11/21
285	ABWF at 2/F	100 days	Sat 18/9/21	Sun 26/12/21
286	ABWF at 3/F	120 days	Mon 25/10/21	Mon 21/2/22
287	ABWF at 4/F	90 days	Wed 24/11/21	Mon 21/2/22
288	ABWF at R/F	60 days	Wed 15/12/21	Sat 12/2/22
289	ABWF at UR/F + Lift Machine Room	45 days	Wed 5/1/22	Fri 18/2/22
290	Bridge Erection & Connection	50 days	Mon 7/2/22	Mon 28/3/22
291	Building Services Works	160 days	Wed 3/11/21	Mon 11/4/22
292	Submission of WW046 for completion	60 days	Wed 17/11/21	Sat 15/1/22
293	Installation of Raised floors	60 days	Fri 7/1/22	Mon 7/3/22
294	False ceiling after BS works	60 days	Tue 25/1/22	Fri 25/3/22
295	Section E (ii) Handover G/F, 1/F, 2/F & Hoisting Well	0 days	Mon 28/2/22	Mon 28/2/22
296	Subletting / Fabrication / Delivery (For BS+ABWF)	149 days	Tue 14/9/21	Wed 9/2/22
297	Construction of New UG Grey Water Tank	60 days	Mon 7/2/22	Thu 7/4/22
298	Removal of Tower Crane	7 days	Thu 10/3/22	Wed 16/3/22
299	External utiliites and road work	45 days	Mon 24/1/22	Wed 9/3/22
300	Submission of WW046 for completion	30 days	Tue 8/2/22	Wed 9/3/22
301	Subimsion of FS inspection	14 days	Tue 12/4/22	Mon 25/4/22
302	Submisision for OP Inspection	14 days	Sun 17/4/22	Sat 30/4/22
303	**Section F (i) - Gas Receiving Station and L12 Gas Receiving Station Equipment Room (GRS) Area Extension at Area F14**	**426 days**	**Sat 1/5/21**	**Thu 30/6/22**
304	Area Possession & Clearance + BD consent	90 days	Sat 1/5/21	Thu 29/7/21
305	Subletting / Fabrication / Delivery	60 days	Sat 22/5/21	Tue 20/7/21
306	Plate load test	30 days	Sat 1/5/21	Sun 30/5/21
307	Construction Equipment room extension	145 days	Mon 31/5/21	Fri 22/10/21
308	Modification of existing drainage	45 days	Sat 23/10/21	Mon 6/12/21
309	Excavation & earthing for Skid foundations	21 days	Tue 7/12/21	Mon 27/12/21
310	Construction of Skid foundation	45 days	Tue 28/12/21	Thu 10/2/22
311	Construct underground utilities and drainage	45 days	Fri 11/2/22	Sun 27/3/22
312	Backfill and road works	60 days	Mon 28/3/22	Thu 26/5/22
313	Relocate / install new fencing for completion	21 days	Fri 27/5/22	Thu 16/6/22
314	Mis. Work and ready for OP inspection	14 days	Fri 17/6/22	Thu 30/6/22
315	**Section F (ii) - Pipe and Cable rack and external work at Area F9A and F9B**	**515 days**	**Sat 2/1/21**	**Tue 31/5/22**
316	BD consent + Site Possession at Area F9A & F9B	90 days	Sat 2/1/21	Thu 1/4/21
317	Excavation & Plate load test	45 days	Fri 1/10/21	Sun 14/11/21
318	Construction new footing for pipe rack	45 days	Mon 15/11/21	Wed 29/12/21
319	Underground utiilites and road works for completion	72 days	Thu 30/12/21	Fri 11/3/22
320	Structural Steel fabrication & Delivery	90 days	Sun 12/12/21	Fri 11/3/22
321	Ercetion of new pipe rack	60 days	Sat 12/3/22	Tue 10/5/22
322	Mis. Work and ready for OP inspection	21 days	Wed 11/5/22	Tue 31/5/22
323	**Section F (iii) - No. 5 CW Equipment Room, pipe and cable rack, external works at Area F10**	**273 days**	**Fri 1/10/21**	**Thu 30/6/22**
324	Area Possession & Clearance + BD consent	90 days	Fri 1/10/21	Wed 29/12/21
325	Subletting / Fabrication / Delivery For ABWF + BS	150 days	Fri 1/10/21	Sun 27/2/22
326	Excavation & Plate load test	30 days	Sat 16/10/21	Sun 14/11/21
327	Construction new footing for equipment room	45 days	Mon 15/11/21	Wed 29/12/21
328	Superstructure for equipment room	90 days	Thu 30/12/21	Tue 29/3/22
329	ABWF Works	70 days	Wed 30/3/22	Tue 7/6/22
330	BS Works	90 days	Sat 2/4/22	Thu 30/6/22
331	Construction RC Wall & plinths & drainage at Chlorinator area	45 days	Wed 30/3/22	Fri 13/5/22
332	External wall finish & remove scaffolding	30 days	Sat 14/5/22	Sun 12/6/22
333	Excavation & Plate load test for pipe rack extension	30 days	Sat 16/10/21	Sun 14/11/21
334	Construction new footing for pipe rack	45 days	Mon 15/11/21	Wed 29/12/21
335	Underground utiilites and road works for completion	60 days	Thu 30/12/21	Sun 27/2/22
336	Structural Steel fabrication & Delivery	90 days	Tue 30/11/21	Sun 27/2/22
337	Backfilling and prepare for steel erection	8 days	Mon 28/2/22	Mon 7/3/22
338	Ercetion of new pipe rack	70 days	Tue 8/3/22	Mon 16/5/22
339	Mis. Work and ready for OP inspection	15 days	Tue 17/5/22	Tue 31/5/22
340	**Section G (i) - External Work surrounding Area F11**	**153 days**	**Sun 1/5/22**	**Fri 30/9/22**
341	Area Possession & Clearance after handover from No. 5 Intake Contractor	30 days	Sun 1/5/22	Mon 30/5/22
342	Subletting / Fabrication / Delivery	30 days	Sun 1/5/22	Mon 30/5/22
343	Submission WWO046 for commencement	30 days	Sun 1/5/22	Mon 30/5/22
344	Construct Underground utilities and drainage	30 days	Sun 1/5/22	Mon 30/5/22
345	Install new FS Hydrant	20 days	Tue 31/5/22	Sun 19/6/22
346	Submission WWO046 for completeion	30 days	Mon 20/6/22	Tue 19/7/22
347	Construction Road extension	58 days	Mon 20/6/22	Tue 16/8/22
348	Construction road paving and install fencing	30 days	Wed 17/8/22	Thu 15/9/22
349	Ready for OP inspection	15 days	Fri 16/9/22	Fri 30/9/22
350	**Section G (ii) - External Works at Area F12 & F13**	**666 days**	**Fri 4/12/20**	**Fri 30/9/22**
351	Area Possession & Clearance after handover from other	45 days	Fri 4/12/20	Sun 17/1/21
352	Subletting / Fabrication / Delivery	180 days	Thu 4/3/21	Mon 30/8/21
353	Excavation	21 days	Sat 23/10/21	Fri 12/11/21
354	Submission WWO046 for commencement	30 days	Sat 13/11/21	Sun 12/12/21
355	Construct Underground utilities and drainage	90 days	Mon 13/12/21	Sat 12/3/22
356	Install new FS Hydrant	30 days	Sun 13/3/22	Mon 11/4/22
357	Submission WWO046 for completion	30 days	Tue 12/4/22	Wed 11/5/22
358	Construction Road extension	127 days	Thu 12/5/22	Thu 15/9/22
359	Complete with Mis. Works for completion	15 days	Fri 16/9/22	Fri 30/9/22
360	**Section G (iii) - FS Modification works along South Seafront Road at Area F15**	**183 days**	**Fri 1/4/22**	**Fri 30/9/22**
361	Area Possession & Clearance after handover from other	45 days	Fri 1/4/22	Sun 15/5/22
362	Subletting / Fabrication / Delivery	21 days	Fri 1/4/22	Thu 21/4/22
363	Temporary Traffice Arrangement approval	14 days	Fri 1/4/22	Thu 14/4/22
364	Utilities scanning and expose existing FS	14 days	Fri 15/4/22	Thu 28/4/22
365	Determine new FS alignment	21 days	Fri 29/4/22	Thu 19/5/22
366	Submission to FSD	14 days	Fri 20/5/22	Thu 2/6/22
367	Modification of FS	60 days	Fri 3/6/22	Mon 1/8/22
368	Backfill and reinstatment + report to FSD	60 days	Tue 2/8/22	Fri 30/9/22
369	**Section G (iv) - 275kV cable trenches and External Works at Area F16**	**518 days**	**Sat 1/5/21**	**Fri 30/9/22**
370	Area Possession & Clearance	60 days	Sat 1/5/21	Tue 29/6/21
371	Subletting / Fabrication / Delivery	210 days	Wed 17/11/21	Tue 14/6/22
372	Temporary Traffice Arrangement approval	60 days	Sat 1/5/21	Tue 29/6/21
373	Removal of aboveground services	60 days	Wed 30/6/21	Sat 28/8/21



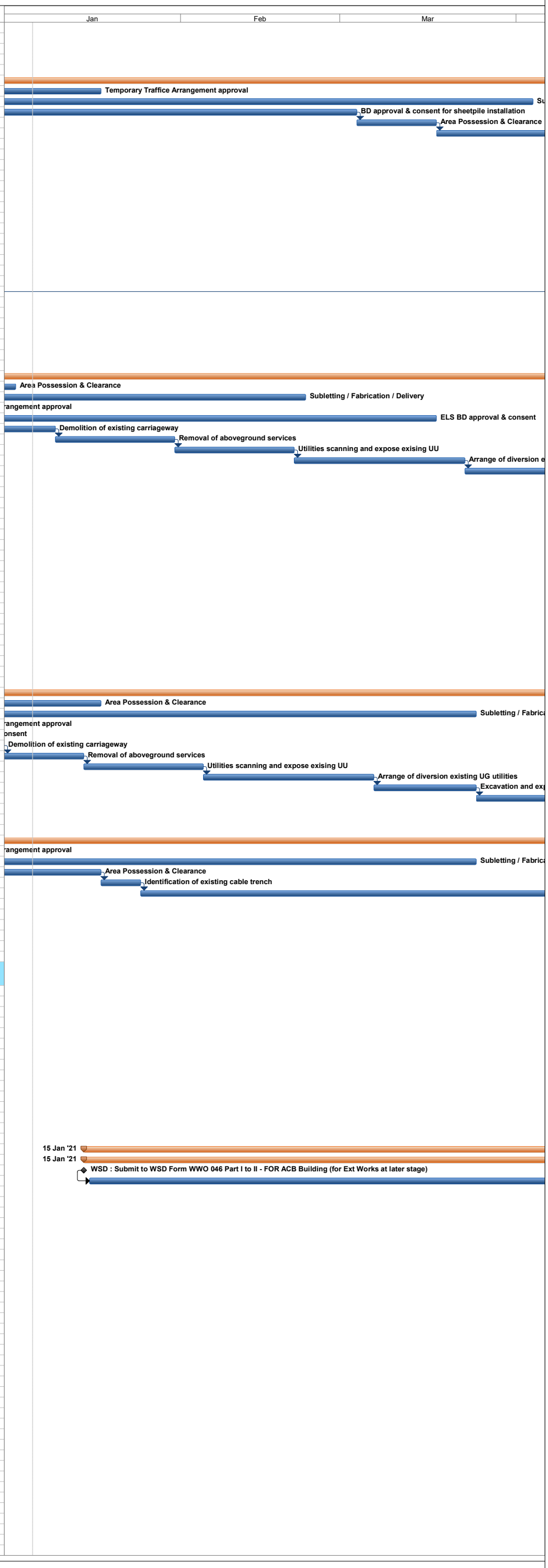
REVISED MASTER PROGRAMME
4 JAN 2021 Rev. 1-A

Task Split Milestone ◆ Summary

Contract No. 19/83002 Lamma Power Station Extension Civil and Building Works for Unit L12

MASTER PROGRAMME

ID	Task Name	Duration	Start	Finish
374	Utilities scanning and expose exising UU	30 days	Sun 29/8/21	Mon 27/9/21
375	Arrange of diversion existing UG utilities	90 days	Tue 28/9/21	Sun 26/12/21
376	Construct new cable trenches	173 days	Mon 27/12/21	Fri 17/6/22
377	Realigment / install new UG utilities	60 days	Sat 18/6/22	Tue 16/8/22
378	backfill and reinstate & ready for cable laying by others	45 days	Wed 17/8/22	Fri 30/9/22
379	**Section G (v) - Shunt Reactor Compound and External Works at Area F17**	**666 days**	**Fri 4/12/20**	**Fri 30/9/22**
380	Temporary Traffice Arrangement approval	45 days	Fri 4/12/20	Sun 17/1/21
381	Subletting / Fabrication / Delivery	100 days	Fri 25/12/20	Sat 3/4/21
382	BD approval & consent for sheetpile installation	90 days	Fri 4/12/20	Wed 3/3/21
383	Area Possession & Clearance	14 days	Thu 4/3/21	Wed 17/3/21
384	Removal of aboveground services	21 days	Thu 18/3/21	Wed 7/4/21
385	Utilities scanning and expose exising UU	15 days	Thu 8/4/21	Thu 22/4/21
386	Arrange of diversion existing UG utilities	45 days	Fri 23/4/21	Sun 6/6/21
387	Install pipe piles	61 days	Sun 23/5/21	Thu 22/7/21
388	BA14 for pipepile and BD consent for ELS	28 days	Fri 23/7/21	Thu 19/8/21
389	Excavation & install earthing	35 days	Fri 20/8/21	Thu 23/9/21
390	Construct Pile Caps and Tie Beams	45 days	Fri 24/9/21	Sun 7/11/21
391	Backfill & Erect scaffold	21 days	Mon 8/11/21	Sun 28/11/21
392	Construction of SRC Walls	75 days	Mon 29/11/21	Fri 11/2/22
393	Wall finish and remove scaffolding	24 days	Sat 12/2/22	Mon 7/3/22
394	Construct new cable trenches	60 days	Tue 8/3/22	Fri 6/5/22
395	Realigment / install new UG utilities	117 days	Sat 7/5/22	Wed 31/8/22
396	Backfill and reinstate & ready for cable laying by others	30 days	Thu 1/9/22	Fri 30/9/22
397	**Section G (vi) - 275kV cable trenches and External Works at Area F18**	**397 days**	**Sat 1/5/21**	**Wed 1/6/22**
398	Temporary Traffice Arrangement approval	45 days	Sat 1/5/21	Mon 14/6/21
399	Subletting / Fabrication / Delivery	60 days	Tue 15/6/21	Fri 13/8/21
400	Area Possession & Clearance	15 days	Sat 1/5/21	Sat 15/5/21
401	Removal of aboveground services	30 days	Sun 16/5/21	Mon 14/6/21
402	Utilities scanning and expose exising UU	45 days	Tue 15/6/21	Thu 29/7/21
403	Arrange of diversion existing UG utilities	60 days	Fri 30/7/21	Mon 27/9/21
404	Construct new cable trenches	172 days	Tue 28/9/21	Fri 18/3/22
405	Realigment / install new UG utilities	45 days	Sat 19/3/22	Mon 2/5/22
406	backfill and reinstate & ready for cable laying by others	30 days	Tue 3/5/22	Wed 1/6/22
407	**Section G (vii) - Flood wall at No. 5 CW Intake Area along HUA at Area F20A**	**301 days**	**Fri 4/12/20**	**Thu 30/9/21**
408	Area Possession & Clearance	30 days	Fri 4/12/20	Sat 2/1/21
409	Subletting / Fabrication / Delivery	60 days	Fri 25/12/20	Mon 22/2/21
410	Temporary Traffice Arrangement approval	14 days	Fri 4/12/20	Thu 17/12/20
411	ELS BD approval & consent	90 days	Fri 18/12/20	Wed 17/3/21
412	Demolition of existing carriageway	30 days	Fri 11/12/20	Sat 9/1/21
413	Removal of aboveground services	21 days	Sun 10/1/21	Sat 30/1/21
414	Utilities scanning and expose exising UU	21 days	Sun 31/1/21	Sat 20/2/21
415	Arrange of diversion existing UG utilities	30 days	Sun 21/2/21	Mon 22/3/21
416	Install Sheet piles	45 days	Tue 23/3/21	Thu 6/5/21
417	BA14 for sheetpile and BD consent for ELS	28 days	Fri 7/5/21	Thu 3/6/21
418	Excavation and construction of new Flood wall	65 days	Fri 4/6/21	Sat 7/8/21
419	Realigment / install new UG utilities	30 days	Sun 8/8/21	Mon 6/9/21
420	backfill and construct new carriageway	18 days	Tue 7/9/21	Fri 24/9/21
421	Mis. Work for completion	6 days	Sat 25/9/21	Thu 30/9/21
422	**Section G (viii) - Flood wall at No. 5 CW Intake Area along HUA at Area F20B**	**365 days**	**Fri 1/10/21**	**Fri 30/9/22**
423	Area Possession & Clearance	45 days	Fri 1/10/21	Sun 14/11/21
424	Subletting / Fabrication / Delivery	90 days	Fri 22/10/21	Wed 19/1/22
425	Temporary Traffice Arrangement approval	14 days	Fri 1/10/21	Thu 14/10/21
426	ELS BD approval & consent	90 days	Fri 15/10/21	Wed 12/1/22
427	Demolition of existing carriageway	60 days	Fri 1/10/21	Mon 29/11/21
428	Removal of aboveground services	21 days	Tue 30/11/21	Mon 20/12/21
429	Utilities scanning and expose exising UU	21 days	Tue 21/12/21	Mon 10/1/22
430	Arrange of diversion existing UG utilities	30 days	Tue 11/1/22	Wed 9/2/22
431	Install Sheetpiles	55 days	Thu 10/2/22	Tue 5/4/22
432	BA14 for sheetpile and BD consent for ELS	28 days	Wed 6/4/22	Tue 3/5/22
433	Excavation and construction of new Flood wall	90 days	Wed 4/5/22	Mon 1/8/22
434	Realigment / install new UG utilities	30 days	Tue 2/8/22	Wed 31/8/22
435	backfill and construct new carriageway	21 days	Thu 1/9/22	Wed 21/9/22
436	Mis. Work for completion	9 days	Thu 22/9/22	Fri 30/9/22
437	**Section G (ix) - Bund wall modification works at South Seafront Road at Area F21**	**209 days**	**Fri 4/12/20**	**Wed 30/6/21**
438	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
439	Subletting / Fabrication / Delivery	90 days	Fri 25/12/20	Wed 24/3/21
440	Temporary Traffice Arrangement approval	14 days	Fri 4/12/20	Thu 17/12/20
441	ELS BD approval & consent	0 days	Thu 17/12/20	Thu 17/12/20
442	Demolition of existing carriageway	14 days	Fri 18/12/20	Thu 31/12/20
443	Removal of aboveground services	14 days	Fri 1/1/21	Thu 14/1/21
444	Utilities scanning and expose exising UU	21 days	Fri 15/1/21	Thu 4/2/21
445	Arrange of diversion existing UG utilities	30 days	Fri 5/2/21	Sat 6/3/21
446	Excavation and expose existing bund wall & demolish	18 days	Sun 7/3/21	Wed 24/3/21
447	Construction new bund wall for road junction	45 days	Thu 25/3/21	Sat 8/5/21
448	Realigment / install new UG utilities	30 days	Sun 9/5/21	Mon 7/6/21
449	backfill and construct new carriageway	18 days	Tue 8/6/21	Fri 25/6/21
450	Mis. Work for completion	5 days	Sat 26/6/21	Wed 30/6/21
451	**Section G (x) - DAX Cable Diversion Works (from Part I to Part IV)**	**758 days**	**Fri 4/12/20**	**Sat 31/12/22**
452	Temporary Traffice Arrangement approval	14 days	Fri 4/12/20	Thu 17/12/20
453	Subletting / Fabrication / Delivery	90 days	Fri 25/12/20	Wed 24/3/21
454	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
455	Identification of existing cable trench	7 days	Mon 18/1/21	Sun 24/1/21
456	Part 1 Re-excavation works incl.construction of joint bay	246 days	Mon 25/1/21	Mon 27/9/21
457	Part 2 Re-excavation works incl. joint bay	120 days	Mon 1/11/21	Mon 28/2/22
458	Part 3 Re-excavation works incl. joint bay	242 days	Mon 1/11/21	Thu 30/6/22
459	Part 4 Re-excavation works incl. joint bay & new oil tank pits	92 days	Sat 1/10/22	Sat 31/12/22
460	Backfill & Reinstatement Part 1	61 days	Mon 1/11/21	Fri 31/12/21
461	Backfill & Reinstatement Part 2	61 days	Sun 1/5/22	Thu 30/6/22
462	Backfill & Reinstatement Part 3	61 days	Thu 1/9/22	Mon 31/10/22
463	**Section H - All remaining works shall be completed for reporting completion to BD and ready for OP inspection (PS1.4.4)**	**478 days**	**Mon 8/11/21**	**Tue 28/2/23**
464	**Deferred works (MSB & HRSG) Listed in PS 1.4.4**	**281 days**	**Mon 8/11/21**	**Mon 15/8/22**
465	Construction ofL12 MSB roof between GL12-G to 12-H and 12-2 to 12-6 after the overhead crane installatior	38 days	Mon 8/11/21	Wed 15/12/21
466	Construction of walls ofL12 MSB below 1/F along GL 12-6 from GL12-B to 12-C and the associated staircas	92 days	Mon 16/5/22	Mon 15/8/22
467	Provision in associated with hoisting well	21 days	Mon 6/6/22	Sun 26/6/22
468	Construction of internal partition wall at 1/F ofL12 MSB along GL 12-C from GL 12-2 to 12-3 AND North Faç	30 days	Sat 16/4/22	Sun 15/5/22
469	Construction of metal fence and the associated Fire Services (F.S.) installations and installation of removabl	92 days	Mon 16/5/22	Mon 15/8/22
470	**Deferred works (DAX1 and DAX2) Listed in PS 1.4.4**	**334 days**	**Wed 1/2/23**	**Sun 31/12/23**
471	Backfilling of whole DAXl compartment inside existing joint bay "STJI2" and the new oil tank pit A located as	59 days	Wed 1/2/23	Fri 31/3/23
472	Re-excavation of whole DAX2 compartment inside existing joint bay "STJI2".	61 days	Tue 1/8/23	Sat 30/9/23
473	Backfilling of whole DAX2 compartment inside existing joint bay "STJI2" and the new oil tank pit B located as	61 days	Wed 1/11/23	Sun 31/12/23
474	**Deferred works (External Work) Listed in PS 1.4.4**	**121 days**	**Thu 1/12/22**	**Fri 31/3/23**
475	Final reinstatement of access roads and pavement surrounding and within L12 MSB and L12 HRSG area	62 days	Thu 1/12/22	Tue 31/1/23
476	Installation of trench cover and road reinstatement of gas pipe and cable trenches within Area F5, F14, F16,	90 days	Sun 1/1/23	Fri 31/3/23
477	Backfilling and road-reinstatement of 275kV cable trenches	90 days	Sun 1/1/23	Fri 31/3/23
478	All Remaining work ready for OP inspection	0 days	Tue 28/2/23	Tue 28/2/23
479	**STATUTORY SUBMISSION, INSPECTION & APPROVAL**	**865 days?**	**Fri 15/1/21**	**Mon 29/5/23**
480	**WSD Statutory Submission, Inspection and Approval WWO Part I to III Submission / Approval**	**256 days**	**Fri 15/1/21**	**Mon 27/9/21**
481	WSD : Submit to WSD Form WWO 046 Part I to II - FOR ACB Building (for Ext Works at later stage)	0 days	Fri 15/1/21	Fri 15/1/21
482	WSD: Vetting Form WWO 046 Part I and II Submission	90 days	Sat 16/1/21	Thu 15/4/21
483	WSD: Issued of Form WWO 046 Part III by WSD - FOR ACB Building	0 days	Fri 16/4/21	Fri 16/4/21
484	WSD: Prepare for 1st Amendment for Plumbing Plan	60 days	Fri 16/4/21	Mon 14/6/21
485	WSD: Submit to WSD 1st Amendment for Plumbing Plan	0 days	Mon 14/6/21	Mon 14/6/21
486	WSD: Vetting of Plumbing Plan by WSD	60 days	Tue 15/6/21	Fri 13/8/21
487	WSD: 1st Approval for Plumbing Plan by WSD	0 days	Fri 13/8/21	Fri 13/8/21
488	WSD: Prepare and Submit for Final Amendment for Plumbing Plan	45 days	Sat 14/8/21	Mon 27/9/21
489	WSD: Vetting and Final Approval for Plumbing Plan by WSD	0 days	Mon 27/9/21	Mon 27/9/21
490	**WSD Statutory Submission, Inspection and Approval WWO Part IV to V Fire Services Water Submission / A**	**34 days?**	**Tue 9/8/22**	**Sun 11/9/22**
491	WSD: Form WWO 046 Part IV Submission (FS)	0 days	Mon 4/10/21	Mon 4/10/21
492	WSD: WSD Recieved Form WWO046 Part IV and arrange for inspection (FS)	7 days	Tue 5/10/21	Mon 11/10/21
493	WSD: WSD Inspection (FS)	7 days	Sat 30/10/21	Fri 5/11/21
494	WSD: WWO 046 Part V Endorsement by WSD (FS)	12 days	Sat 6/11/21	Wed 17/11/21
495	WSD: WSD Processing Water Supply Connection Certificate (FS)	7 days	Thu 18/11/21	Wed 24/11/21
496	WSD: Issue by WSD Water Supply Connection Certificate (FS)	0 days?	Wed 24/11/21	Wed 24/11/21
497	**WSD Statutory Submission, Inspection and Approval WWO Part IV to V Potable /Flush Water Submission /**	**60 days**	**Mon 18/10/21**	**Fri 17/12/21**
498	WSD: Form WWO 046 Part IV Submission (Fresh/Flush)	0 days	Mon 18/10/21	Mon 18/10/21
499	WSD: WSD Acknowledge Form WWO 046	6 days	Tue 19/10/21	Sun 24/10/21
500	WSD: WSD Inspection with Testing to lead (Fresh/Fluhs)	12 days	Mon 25/10/21	Fri 5/11/21
501	WSD: Cleansing/Disinfecting Water Tanks / Piping System (Fresh/Flush)	6 days	Sat 6/11/21	Thu 11/11/21
502	WSD: Collection of Sample for Testing at Accredited Lab (Fresh/Flush)	12 days	Fri 12/11/21	Tue 23/11/21
503	WSD:Accredited Lab Testing Report of Sample to WSD	12 days	Wed 24/11/21	Sun 5/12/21
504	WSD: Vetting of Test Report by WSD	6 days	Mon 6/12/21	Sat 11/12/21
505	WSD: Issue of WWO 046 Part V (Fresh/Flush)	0 days	Sat 11/12/21	Sat 11/12/21
506	WSD: WSD Processing WW01005 Water Certification (Fresh/Flush)	6 days	Sun 12/12/21	Fri 17/12/21
507	WSD: Issue by WSD WWO 1005 Water Certification (Fresh/Flush)	0 days	Fri 17/12/21	Fri 17/12/21
508	**EMSD LIFT Statutory Submission, Inspection and Approval**	**45 days**	**Sat 5/2/22**	**Mon 21/3/22**
509	EMSD: Submission of Lift Form LE5 to EMSD	12 days	Sat 5/2/22	Wed 16/2/22
510	EMSD: EMSD Makes arrangement for Lift Installation	5 days	Thu 17/2/22	Mon 21/2/22
511	EMSD: EMSD Inspection to Lift Installation	14 days	Tue 22/2/22	Mon 7/3/22
512	EMSD: Processing Lift Certificate (Form LE6)	14 days	Tue 8/3/22	Mon 21/3/22
513	EMSD: Lift Issuance of Form 6 (Lift Certificate)	0 days	Mon 21/3/22	Mon 21/3/22
514	**HKE Transformer Final Inspection**	**120 days**	**Thu 30/6/22**	**Thu 27/10/22**
515	TX Room: Invite HKE For Transformer Room Inspection	7 days	Thu 30/6/22	Wed 6/7/22
516	TX Room: Give Access to Transformer Room for HKE Contractor	0 days	Wed 6/7/22	Wed 6/7/22
517	TX Room: Move-IN HKE Transformer Equipments	5 days	Thu 7/7/22	Mon 11/7/22



REVISED MASTER PROGRAMME
4 JAN 2021 Rev. 1-A

Task Split Milestone Summary

Contract No. 19/83002 Lamma Power Station Extension Civil and Building Works for Unit L12

MASTER PROGRAMME

ID	Task Name	Duration	Start	Finish
518	TX Room: Install HKE Transformer, MEP Works & Testing	90 days	Tue 12/7/22	Sun 9/10/22
519	TX Room: HKE Power Energization / Inspection	6 days	Mon 10/10/22	Sat 15/10/22
520	TX Room: Metering Installation	12 days	Sun 16/10/22	Thu 27/10/22
521	TX Room: HKE Power-ON Date	0 days	Thu 27/10/22	Thu 27/10/22
522	**DSD Drainage Completion Memo**	**65 days**	**Mon 29/8/22**	**Tue 1/11/22**
523	DSD: CCTV Survey Report on Completed Drainage	30 days	Mon 29/8/22	Tue 27/9/22
524	DSD: Submitted CCTV Report & Form HPB1 of Completed Drainage to DSD For Technical Audit	7 days	Wed 28/9/22	Tue 4/10/22
525	DSD: Completed Drainage System including TMC Inspection/Technical Audit by DSD	14 days	Wed 5/10/22	Tue 18/10/22
526	DSD: Preparation of Drainage Connection Completion Memo by DSD	14 days	Wed 19/10/22	Tue 1/11/22
527	DSD: Issue of Drainage Connection Completion Memo by DSD	0 days	Tue 1/11/22	Tue 1/11/22
528	**EPD Submission, Inspection and Approval**	**60 days**	**Thu 30/6/22**	**Mon 29/8/22**
529	EPD: License Application to EPD under APCO (Cap 311) for Generator Sets	0 days	Thu 30/6/22	Thu 30/6/22
530	EPD: Vetting of Application by EPD under APCO (Cap 311) for Generator Sets	60 days	Fri 1/7/22	Mon 29/8/22
531	EPD: Approval from EPD under APCO (Cap 311) for Generator Sets Installation	0 days	Mon 29/8/22	Mon 29/8/22
532	**FSD VAC Statutory Submission, Inspection and Approval**	**150 days**	**Sat 16/7/22**	**Mon 12/12/22**
533	Preparation of FSD VAC Drawings and Submission to HEC	60 days	Sat 16/7/22	Tue 13/9/22
534	HEC: Review and Approval	30 days	Wed 14/9/22	Thu 13/10/22
535	Preparation of VAC Drawings and Submission to FSD	30 days	Fri 14/10/22	Sat 12/11/22
536	FSD: Review and Approval	30 days	Sun 13/11/22	Mon 12/12/22
537	**FSD Statutory Submission, Inspection and Approval**	**91 days**	**Tue 28/2/23**	**Mon 29/5/23**
538	Testing and Commissioning (Individual System - FSI Related)	45 days	Tue 28/2/23	Thu 13/4/23
539	FSD: All Sections FS Ingration Test by NSC_BS	15 days	Fri 14/4/23	Fri 28/4/23
540	FSD: Completion of FS Integration Test by NSC_BS for FS314/501	0 days	Fri 28/4/23	Fri 28/4/23
541	FSD: Submit Form 213/314 & Form 501 Request for Inspection	0 days	Fri 28/4/23	Fri 28/4/23
542	FSD: FSD Makes Arrangement for Inspection	7 days	Sat 29/4/23	Fri 5/5/23
543	FSD: FSD Inspection	12 days	Sat 6/5/23	Wed 17/5/23
544	FSD: Completion of FS Inspection	0 days	Wed 17/5/23	Wed 17/5/23
545	FSD: FSD Processing FS Certicate Form 172	12 days	Thu 18/5/23	Mon 29/5/23
546	FSD: Issue of Fire Services FS Certificate Form 172	0 days	Mon 29/5/23	Mon 29/5/23
547	**PRACTICAL COMPLETION**	**216 days**	**Tue 30/5/23**	**Sun 31/12/23**
548	**BD Inspection**	**97 days**	**Tue 30/5/23**	**Sun 3/9/23**
549	BD: Application Form BA13 for OP Application	21 days	Tue 30/5/23	Mon 19/6/23
550	BD: BD Inspection Date	15 days	Tue 20/6/23	Tue 4/7/23
551	BD: Reinspection date with defects and rectification works	60 days	Wed 5/7/23	Sat 2/9/23
552	BD: Obtain Occupation Permit (OP) from BD	1 day	Sun 3/9/23	Sun 3/9/23
553	**As-Built Drawings & Handover Documentation**	**120 days**	**Wed 14/6/23**	**Wed 11/10/23**
554	Prepare and Submit As-Built Drawings & Handover Documentation	45 days	Wed 14/6/23	Fri 28/7/23
555	Review and Approval	45 days	Sat 29/7/23	Mon 11/9/23
556	As-Built Drawings & Handover Documentation - Revision by MC	30 days	Tue 12/9/23	Wed 11/10/23
557	Revised As-Built Drawings & Handover Documentation - Final Submission	0 days	Wed 11/10/23	Wed 11/10/23
558	**Completion of the Whole Contract Works**	**119 days**	**Mon 4/9/23**	**Sun 31/12/23**
559	1st Client Inspection for Review and Comments	30 days	Mon 4/9/23	Tue 3/10/23
560	Defects and Rectification works	60 days	Wed 4/10/23	Sat 2/12/23
561	2nd Client Inspection	14 days	Sun 3/12/23	Sat 16/12/23
562	Minor Defects Rectification Works and Final Inspection	15 days	Sun 17/12/23	Sun 31/12/23
563	PRACTICAL COMPLETION	0 days	Sun 31/12/23	Sun 31/12/23

REVISED MASTER PROGRAMME
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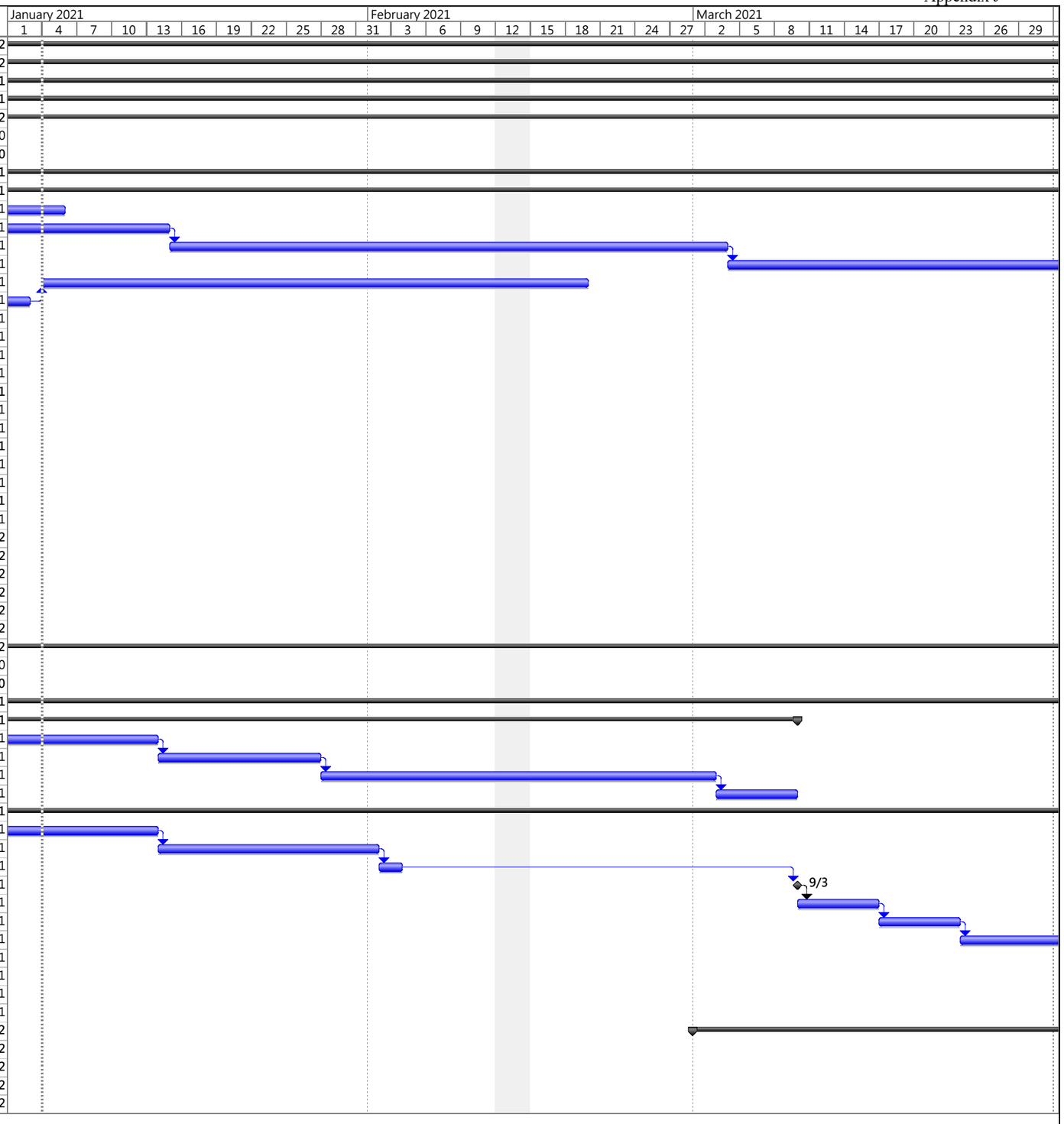
Task — Split ..... Milestone ◆ Summary

ID	Task Name	Duration	Start	Finish
1	**19-83014 - Civil Works for No. 5 C.W. Intake and Cable Bridge at Lamma Power Stat**	**557 days**	**Mon 5/10/20**	**Thu 8/9/22**
2	**Contract Details**	**502 days**	**Mon 5/10/20**	**Thu 7/7/22**
15	**Submission**	**308 days**	**Wed 28/10/20**	**Wed 10/11/21**
36	**Procurement**	**166 days**	**Mon 19/10/20**	**Thu 13/5/21**
45	**No.5 C.W. Intake**	**557 days**	**Mon 5/10/20**	**Thu 8/9/22**
46	Erect of Hoarding and Door Gate	12 days	Mon 5/10/20	Sat 17/10/20
47	**Install Monitoing Instrumentation**	**16 days**	**Sat 17/10/20**	**Fri 6/11/20**
54	**ELS works for No. C.W. Intake**	**300 days**	**Tue 8/12/20**	**Sat 11/12/21**
55	**Installation of pipe pile wall**	**104 days**	**Tue 8/12/20**	**Mon 19/4/21**
56	Temporary diversion of existing drainage system (from MH807 to MH	12 days	Sat 19/12/20	Tue 5/1/21
57	PP1-PP30 (30 nos)	20 days	Sat 19/12/20	Thu 14/1/21
58	PP31-PP85 (55 nos)	38 days	Fri 15/1/21	Wed 3/3/21
59	PP86-PP127 (42 nos)	28 days	Thu 4/3/21	Fri 9/4/21
60	PP128-PP183 (56 nos)	38 days	Mon 4/1/21	Fri 19/2/21
61	PP184-PP214 (31 nos)	20 days	Tue 8/12/20	Sat 2/1/21
62	Submission of BA14, as-built plan and record	2 days	Sat 10/4/21	Mon 12/4/21
63	BD Excavation Consent	0 days	Mon 19/4/21	Mon 19/4/21
64	Excavate upto +4.50mPD	6 days	Tue 20/4/21	Mon 26/4/21
65	Installation the 1st row of waling (WT1) and strut (CS1)	12 days	Tue 27/4/21	Tue 11/5/21
66	**Installation of 1st row of Tie Back**	**42 days**	**Tue 27/4/21**	**Thu 17/6/21**
73	Excavate upto +2.70mPD	6 days	Fri 18/6/21	Thu 24/6/21
74	Installation the 2nd row of waling (WT2) and strut (CS2)	12 days	Fri 25/6/21	Fri 9/7/21
75	**Installation of 2nd row of Tie Back**	**42 days**	**Fri 25/6/21**	**Fri 13/8/21**
82	Excavate uoto +1.00mPD	6 days	Sat 14/8/21	Fri 20/8/21
83	Installation the 3rd row of waling (WT3) and strut (CS3)	12 days	Sat 21/8/21	Fri 3/9/21
84	**Installation of 3rd row of Tie Back (TBC)**	**42 days**	**Sat 21/8/21**	**Mon 11/10/21**
91	Excavate upto -7.50mPD	52 days	Tue 12/10/21	Sat 11/12/21
92	**Temporary removal of sea wall**	**80 days**	**Sat 9/10/21**	**Fri 14/1/22**
97	**Construction of No. 5 C.W. Intake Chamber**	**291 days**	**Thu 29/7/21**	**Tue 9/8/22**
120	**Reinstatement of sea wall**	**104 days**	**Thu 3/3/22**	**Thu 28/7/22**
124	**Backfilling Works and Strut removal**	**56 days**	**Thu 24/2/22**	**Thu 5/5/22**
131	**Steel Gantry Frame at No. 5 C.W. Intake Chamber**	**36 days**	**Fri 29/7/22**	**Thu 8/9/22**
134	**E&M Works**	**36 days**	**Fri 29/7/22**	**Thu 8/9/22**
138	**Cable Bridge**	**444 days**	**Wed 11/11/20**	**Mon 16/5/22**
139	Erect of Hoarding and Door Gate	12 days	Wed 11/11/20	Tue 24/11/20
140	**Install Monitoing Instrumentation**	**2 days**	**Wed 25/11/20**	**Thu 26/11/20**
147	**Pile Cap Construction**	**164 days**	**Wed 30/12/20**	**Thu 22/7/21**
148	**LPS Pile Cap (PC5)**	**56 days**	**Wed 30/12/20**	**Tue 9/3/21**
149	Excavation to F.E.L. by open cut (From +4.50mPD to +1.95mPD)	12 days	Wed 30/12/20	Wed 13/1/21
150	Socket H-pile head treatment (14 nos)	12 days	Thu 14/1/21	Wed 27/1/21
151	Construction of Pile Cap PC5	26 days	Thu 28/1/21	Tue 2/3/21
152	Backfilling to pile cap level	6 days	Wed 3/3/21	Tue 9/3/21
153	**LMX Pile Cap (PC6)**	**164 days**	**Wed 30/12/20**	**Thu 22/7/21**
154	Expose existing 275kV cable trench by hand dig method	12 days	Wed 30/12/20	Wed 13/1/21
155	Install pipe pile (P1-P47)	16 days	Thu 14/1/21	Mon 1/2/21
156	Submission of BA14, as-built plan and record	2 days	Tue 2/2/21	Wed 3/2/21
157	BD Excavation Consent	0 days	Tue 9/3/21	Tue 9/3/21
158	Excavate to 500mm below strut level	6 days	Wed 10/3/21	Tue 16/3/21
159	Install waling system (W1)	6 days	Wed 17/3/21	Tue 23/3/21
160	Excavate to F.E.L.	12 days	Wed 24/3/21	Sat 10/4/21
161	Timming to COL for Dia 2180mm Bored Pile (8nos)	26 days	Mon 12/4/21	Wed 12/5/21
162	Constrcution of Pile Cap PC6	52 days	Thu 13/5/21	Thu 15/7/21
163	Backfilling to pile cap level	6 days	Fri 16/7/21	Thu 22/7/21
164	Exisitng Seawall modification works (USS)	26 days	Fri 16/7/21	Sat 14/8/21
165	**Construction of Cable Bridge**	**356 days**	**Mon 1/3/21**	**Mon 16/5/22**
190	**Construction of Abutment at LPS**	**114 days**	**Tue 30/11/21**	**Fri 22/4/22**
197	**Construction of Abutment at LMX**	**124 days**	**Tue 30/11/21**	**Thu 5/5/22**
204	**Stormwater Drainage**	**40 days**	**Sat 19/3/22**	**Wed 11/5/22**
206	**E&M works**	**40 days**	**Sat 19/3/22**	**Wed 11/5/22**



Project: 19-83014 - No. 5 Intake and Cable Br
Date: 16 Dec 2020
Rev. 1

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Monthly Waste Flow Table for December 2020

Project: Lamma Power Station Extension - Civil and Building Works for Unit L11

Contractor: Paul Y. Construction Company, Limited

Record by: Ben Lam

Year of Record: 2018, 2019 & 2020

MM.YYYY	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of Non-inert C&D Materials Generated Monthly					
	Excavated Materials			Non-excavated Materials										
	Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip) (1)	Metals (aluminum can) (1)	Paper / cardboard packaging (1)	Plastics (1) & (4)	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000L)	(in '000kg)
Jul 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aug 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 2018	3160.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oct 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.87
Dec 2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.67
Jan 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.66	0.00	0.00	0.00	0.60	0.00
Mar 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.05	0.00	0.00	0.00	0.00	0.00
Apr 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.08	0.00	0.00	0.00	0.00	19.09
May 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.63	0.00	0.00	0.00	0.00	59.75
Jun 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.64
Jul 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.66
Aug 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sep 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.31
Oct 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.109	0.00	0.00	4.76
Nov 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	4.87
Dec 2019	0.00	0.00	0.00	0.00	0.00	10226.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.19
Jan 2020	0.00	0.00	0.00	0.00	0.00	7981.09	0.00	0.00	0.00	0.00	0.157	0.00	0.00	26.89
Feb 2020	0.00	0.00	0.00	0.00	0.00	8782.98	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
Mar 2020	0.00	0.00	0.00	0.00	0.00	20252.12	0.00	0.00	0.00	0.00	0.000	0.00	0.00	78.96
Apr 2020	0.00	0.00	0.00	0.00	0.00	12976.86	0.00	0.00	8.30	0.00	0.000	0.00	0.00	68.75
May 2020	0.00	0.00	0.00	0.00	0.00	20203.01	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00
Jun 2020	0.00	0.00	0.00	0.00	0.00	28030.33	0.00	0.00	0.00	0.00	0.000	0.00	0.00	58.49
Jul 2020	0.00	0.00	0.00	0.00	0.00	12481.37	0.00	0.00	0.00	0.00	0.000	0.00	0.00	33.88
Aug 2020	0.00	0.00	0.00	0.00	0.00	11179.56	0.00	0.00	0.00	0.00	0.000	0.00	0.60	73.73
Sep 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.53	0.00	0.286	0.00	0.00	64.93
Oct 2020	0.00	0.00	0.00	0.00	0.00	10762.20	0.00	0.00	7.12	0.00	0.297	0.00	0.00	83.34
Nov 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.46	0.00	0.000	0.00	0.20	61.21
Dec 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	59.98
Total	3160.23	0.00	0.00	0.00	0.00	142875.75	0.00	0.00	74.83	0.00	0.849	0.00	2.00	780.97

Total Inert C&D Waste Materials Generated	Non-inert C&D Materials		
	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste
146035.98 tonnes	75.68 tonnes	780.97 tonnes	2000 Liters

Where (A) Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 146035.98 tonnes of inert C&D material were generated from the Project, of which 142875.75 tonnes were reused in this and other contracts, and the remaining 3160.23 tonnes were disposed as public fill to Fill Banks / Sorting Facilities.

(b) Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.

(c) 0 kg of metals, 0 kg of papers/ cardboard packing and 0 kg of plastics were sent to recyclers for recycling during the reporting period.

(d) Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at Landfill.

Notes:

(1) metal, paper & plastic were collected by recycler
(2) The performance target of waste recycling are specified in the Contract.
(3) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.
(5) Broken concrete for recycling into aggregates.
(6) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.

Monthly Waste Flow Table for December 2020

Project: LAMMA POWER STATION EXTENSION – Unit 11 Complete Erection, Inspection, Testing & Commissioning of Power Block Facilities

Contractor: Taihei Dengyo Kaisha, Ltd.

Record by: Stephen Sin

Year of Record: 2019, 2020

MM.YYYY	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of Non-inert C&D Materials Generated Monthly					
	Excavated Materials			Non-excavated Materials										
	Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip) (1)	Metals (aluminum can) (1)	Paper / cardboard packaging (1)	Plastics (1) & (4)	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in L)	(in '000kg)
Nov 2019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dec 2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Jan 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Feb 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mar 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.35
Apr 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.61
May 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.39
June 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.03
July 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.32
August 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2600	10.38
September 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.20
October 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.02
November 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2400	26.18
December 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.38
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5000	130.86

Total Inert C&D Waste Materials Generated	**Non-inert C&D Materials**		
	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste
0.00 tonnes	0.00 tonnes	130.86 tonnes	5000 Liters

Where (A) Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 0.00 tonnes of inert C&D material were generated from the Project, of which 0 tonnes were reused in this and other contracts, and the remaining 0.00 tonnes were disposed in Public Fill and Sorting Facilities.

(b) Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.

(c) 0 kg of metals, 0 kg of papers/ cardboard packing and 0 kg of plastics were sent to recyclers for recycling during the reporting period.

(d) Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at Landfill.

Notes:

(1) metal, paper & plastic were collected by recycler
(2) The performance target of waste recycling are specified in the Contractt.
(3) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.
(5) Broken concrete for recycling into aggregates.
(6) Disposal of inert waste to public fill or sorting facilities will **NOT be considered as recycled waste**.

Monthly Waste Flow Table for December 2020

Project: Lamma Power Station Extension Civil and Building Works for Unit L12

Contractor: Paul Y. Construction Company, Limited

Record by: Ben Lam

Year of Record: 2020

MM.YYYY	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of Non-inert C&D Materials Generated Monthly					
	Excavated Materials			Non-excavated Materials										
	Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip) (1)	Metals (aluminum can) (1)	Paper / cardboard packaging (1)	Plastics (1) & (4)	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000L)	(in '000kg)
Dec 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00

Total Inert C&D Waste Materials Generated	Non-inert C&D Materials		
	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste
0.00 tonnes	0.00 tonnes	0.00 tonnes	0 Liters

Where (A) Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 0.00 tonnes of inert C&D material were generated from the Project, of which 0.00 tonnes were reused in this and other contracts, and the remaining 0.00 tonnes were disposed as public fill to Fill Banks / Sorting Facilities.

(b) Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.

(c) 0 kg of metals, 0 kg of papers/ cardboard packing and 0 kg of plastics were sent to recyclers for recycling during the reporting period.

(d) Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at Landfill.

Notes:

(1) metal, paper & plastic were collected by recycler
(2) The performance target of waste recycling are specified in the Contract.
(3) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.
(5) Broken concrete for recycling into aggregates.
(6) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.

Monthly Waste Flow Table for December 2020

Project: Civil Works for No. 5 C.W. Intake and Cable Bridge at Lamma Power Station Extension

Contractor: Paul Y. Construction Company, Limited

Record by: Ben Lam

Year of Record: 2020

MM.YYYY	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of Non-inert C&D Materials Generated Monthly					
	Excavated Materials			Non-excavated Materials										
	Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities	Metals (steel bar / metal strip) (1)	Metals (aluminum can) (1)	Paper / cardboard packaging (1)	Plastics (1) & (4)	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000L)	(in '000kg)
Oct 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nov 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dec 2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00

Total Inert C&D Waste Materials Generated	Non-inert C&D Materials		
	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste
0.00 tonnes	0.00 tonnes	0.00 tonnes	0 Liters

Where (A) Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 0.00 tonnes of inert C&D material were generated from the Project, of which 0.00 tonnes were reused in this and other contracts, and the remaining 0.00 tonnes were disposed as public fill to Fill Banks / Sorting Facilities.

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