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 2021

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

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 2021)
Date	14 January 2022
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EXECUTIVE SUMMARY

This is the 140th 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 2021.

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. The Gas-in and Synchronization for L11 were carried out in mid-October and mid-November 2021 respectively to facilitate commissioning activities.

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	Main Station Building external works and pipe connection in jacking pit
Unit L11 Mechanical Erection	Testing and commissioning
Unit L11 Electrical, Instrumentation & Control Erection	Testing and commissioning
Unit L12 Civil and Building Works	Construction of Main Station Building, construction of No. 5 Chimney, construction of superstructure for ACB, installation of pipe and backfilling works for No. 5 C.W. Culvert, installation of precast beam for Cable Bridge (North & South), construction of pile cap for shunt reactor compound extension and soil nailing for No. 5 C.W. Intake.
Unit L12 Mechanical Erection	Condenser installation, HRSG installation and turbine block installation
Unit L12 Electrical, Instrumentation & Control Erection	Cable installation

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

EPD officials from Regional Office (South) visited Lamma Power Station on 7/12/2021. There was no adverse comment from EPD regarding the construction site.

Independent Environmental Checker (IEC) conducted a site inspection on 23/12/2021. The site conditions were generally satisfactory.

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-RS0436-21	01/07/21	31/12/21	Contractor	15/06/21
Construction Noise Permit	GW-RS0600-21	08/08/21	07/02/22	Contractor	06/08/21
Construction Noise Permit	GW-RS0790-21	23/10/21	21/04/22	Contractor	21/10/21
WPCO Discharge Licence	WT00034006-2019	08/08/19	31/08/24	Contractor	22/08/19
WPCO Discharge Licence	WT00037613-2021	15/04/21	30/04/26	Contractor	15/04/21
WPCO Discharge Licence	WT00037665-2021	06/05/21	31/05/26	Contractor	06/05/21
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

Description	Permit No.	Valid Period		Issued To	Date of Issuance
		From	To		
Waste Disposal Billing Account	Account No.: 7039272	08/01/21	-	Contractor	08/01/21

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:

Unit L11 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 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 monitoring the noise level during construction and to ensure compliance with the CNP's already obtained;
- 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 L12 Mechanical Erection

- 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 Electrical, Instrumentation & Control Erection

- 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.

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 2021.

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, Main Station Building external works and pipe connection in jacking pit. Construction activities for Unit L11 mechanical erection were testing and commissioning. Construction activity for Unit L11 electrical, instrumentation & control erection was testing and commissioning. Construction activities for Unit L12 civil and building works were, construction of Main Station Building, construction of No.5 Chimney, construction of superstructure for ACB, installation of pipe and

backfilling works for No. 5 C.W. Culvert, and installation of precast beam for Cable Bridge (North & South), construction of pile cap for shunt reactor compound extension and soil nailing for No. 5 C.W. Intake. Construction activities for Unit L12 mechanical erection were condenser installation, HRSG installation and turbine block installation. Construction activity for Unit L12 electrical, instrumentation & control erection was cable installation. 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.	Main Station Building external works and pipe connection in jacking pit	**Air** – All regulated machine attached with valid exception/approval NRMM labels. – Water truck and water sprinkler system was used. – Excavated slope and soil stock covered with cement or tarpaulin. – Backfilled surface was compacted. – Wheel washing facility was provided. **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. The frequency would be from every other day to weekly basis depends on the volume of sediment accumulated in order to maintain sufficient volume for wastewater treatment. **Waste Management** – Excavated soil was temporary stored for backfilling. – Scrape metal would be recycled. – Timber would be reused as much as possible.
Unit L11 Mechanical Erection		
2.	Testing and commissioning	**Air** – Dust suppression measures implemented according to the EMP.

Item	Construction Activities	Environmental Mitigation Measures
		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		
3.	Testing and commissioning	**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		
4.	<u>Construction of Main Station Building</u> Construction of No.5 Chimney <u>ACB</u> Construction of superstructure <u>No.5 C.W. Culvert</u> installation of pipe and backfilling works	**Air** – All regulated machine attached with valid exception/approval NRMM labels. – Water truck, water sprinkler system and mist cannon would be used. – Water spraying for concrete breaking works. – Soil stock would be covered with cement or tarpaulin or keep the entire surface wet. Wheel washing facility was provided. **Noise** – Works conducted during restricted hours should comply with the valid CNP. – Noise emission label was provided for air compressor. **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. The frequency would be in weekly basis depends on the volume of sediment accumulated in order to maintain sufficient volume for wastewater treatment.

Item	Construction Activities	Environmental Mitigation Measures
		Waste Management – Excavated soil was temporary stored for backfilling and reuse in other projects. – Scrape metal would be recycled. – Chemical waste should be collected by licensed collector.
5.	Cable Bridge (North & South): Installation of precast beam <u>Shunt Reactor Compound Extension</u> Construction of pile cap <u>No. 5 C.W. Intake</u> Soil nailing	**Air** – All regulated machine attached with valid exception/approval NRMM labels. – Noise emission level was provided for air compressor. – Using canvas to cover 3 sides and top of the grouting station. – Water truck, water sprinkler system and mist cannon were used. – Excavated soil slop covered with tarpaulin. – Wheel washing facilities was provided. – Water spraying on haul road and during concrete breaking. **Waste Management** – Excavated soil would be stored for backfilling. **Wastewater** - Wastewater would be treated in desilting tanks before discharge.
Unit L12 Mechanical Erection		
6	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 L12 Electrical, Instrumentation & Control Erection		
7	Cable installation	**Air**

Item	Construction Activities	Environmental Mitigation Measures
		– 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.

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.

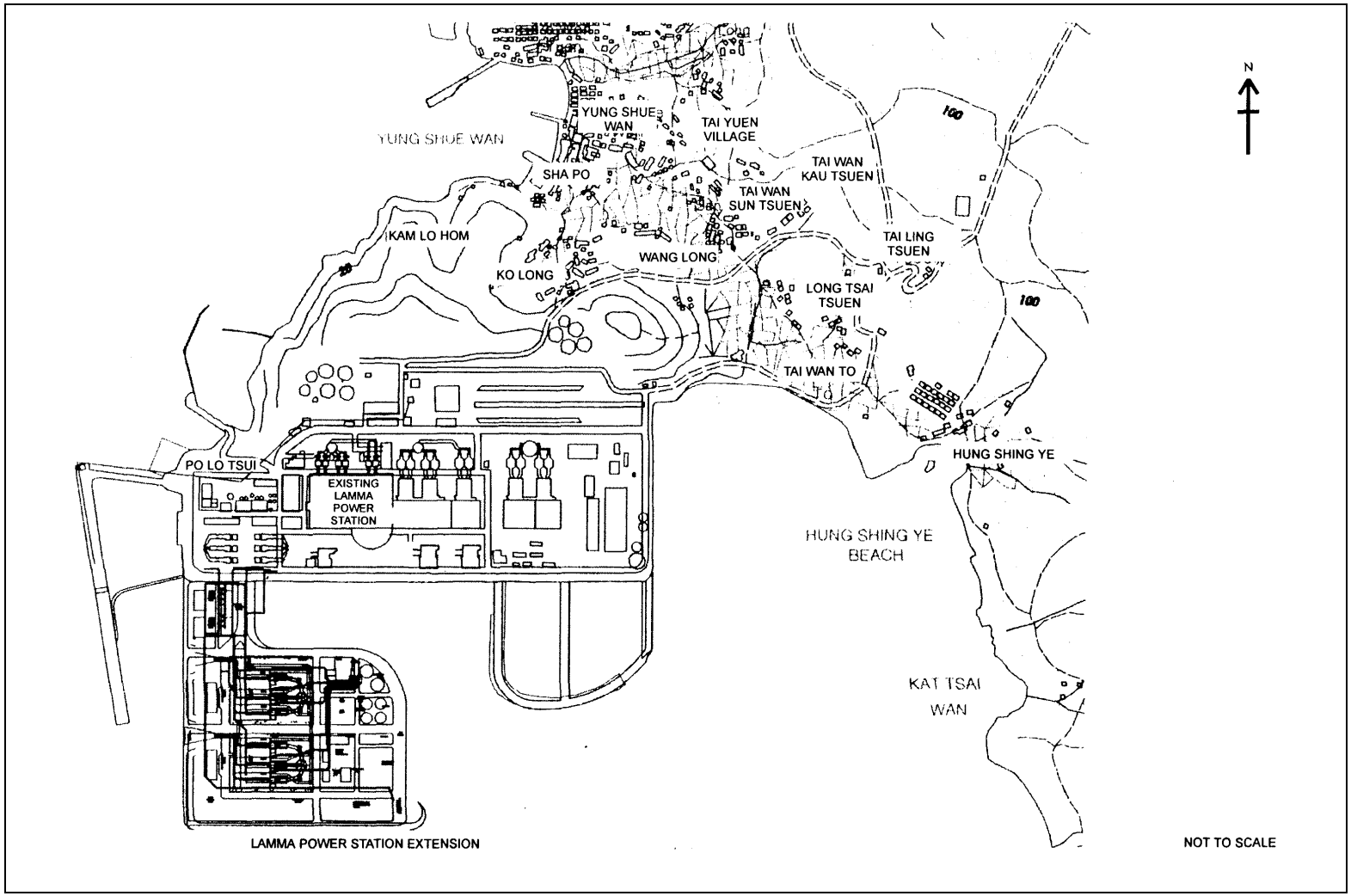


Figure 1.1 Layout of Work Site

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.

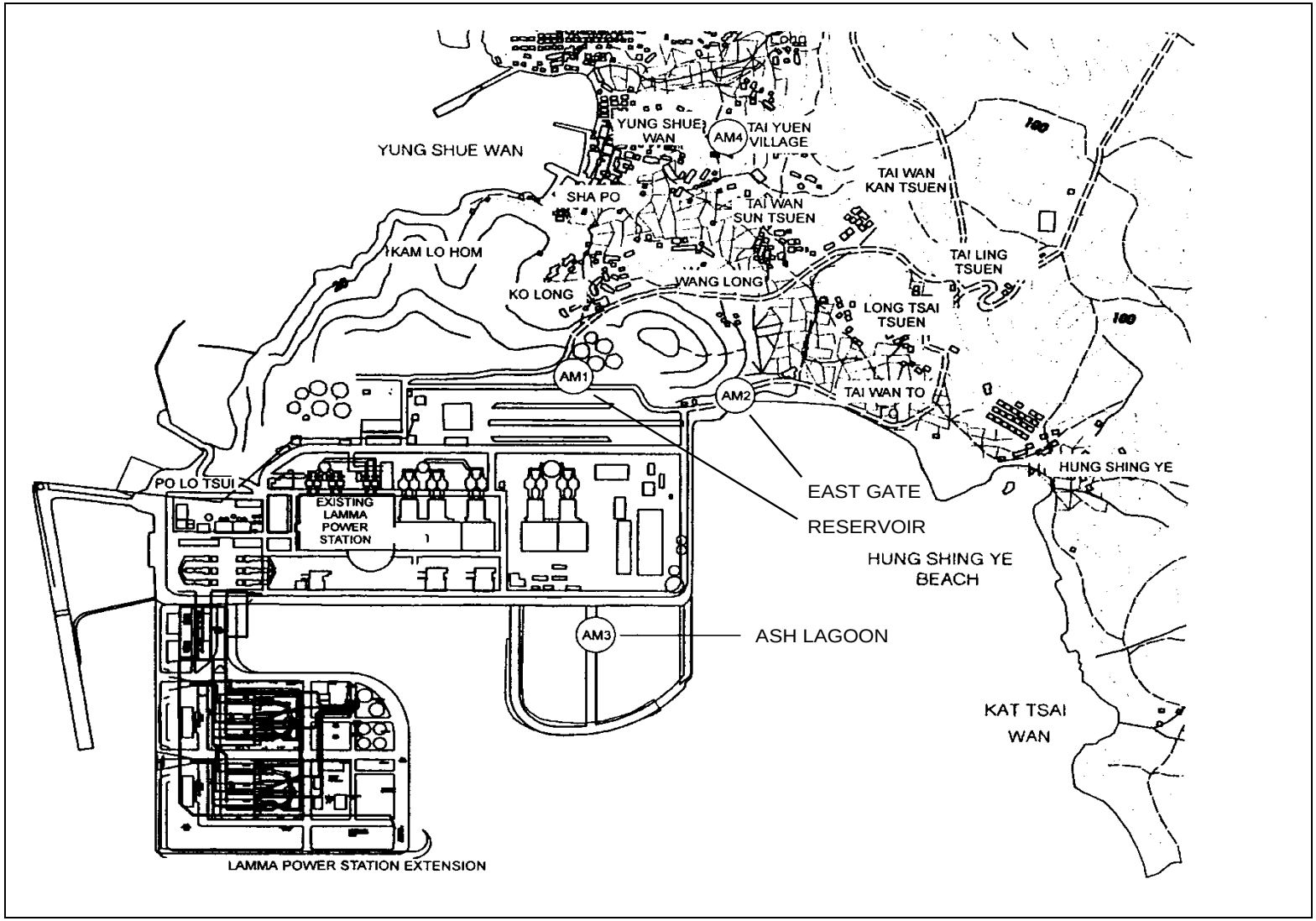


Figure 2.1 Location of Air Quality Monitoring Stations

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 2021. The next calibrations for the two noise monitoring stations were scheduled in March 2022.

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.

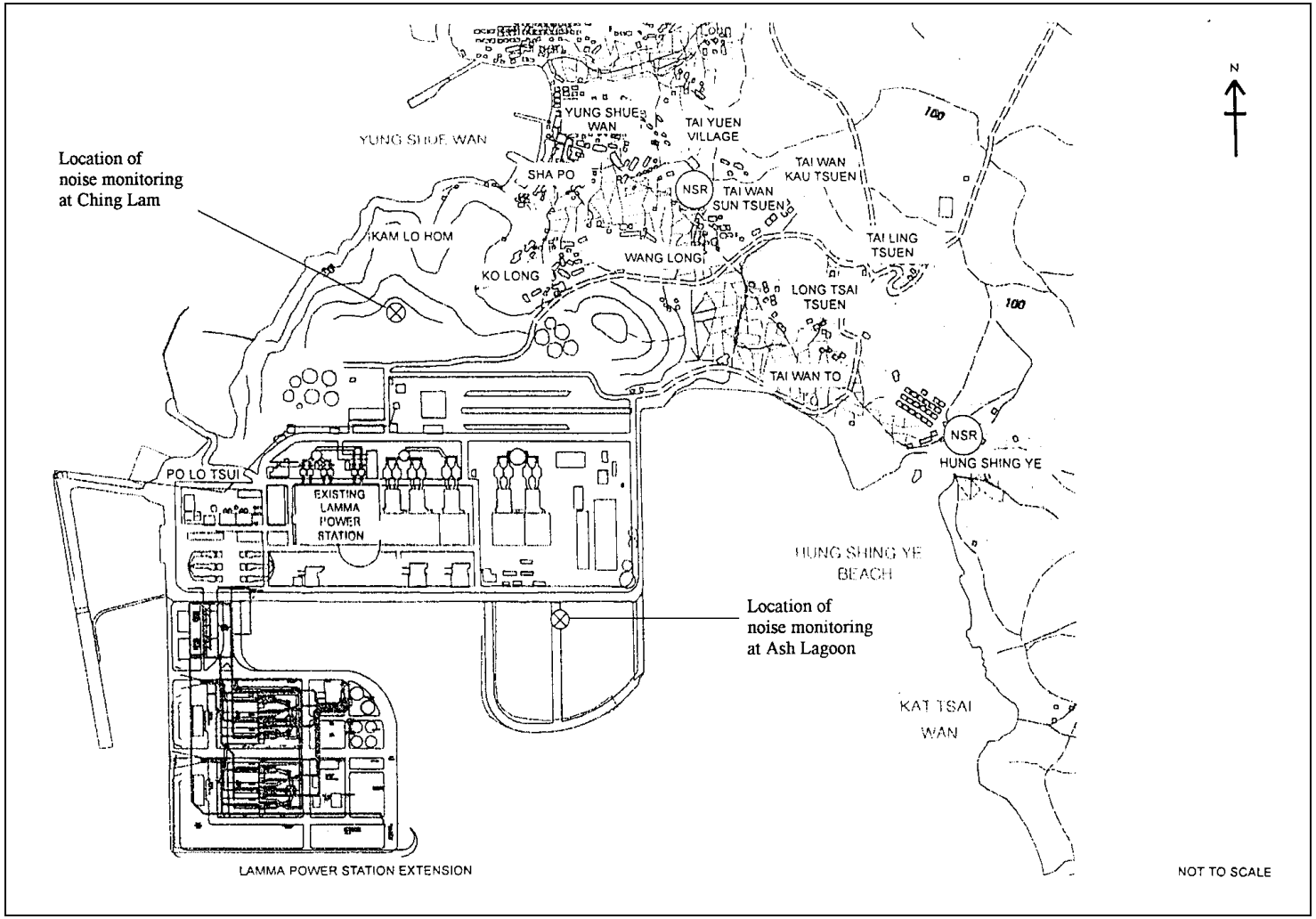


Figure 3.1 Location of Noise Monitoring Stations

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)	01/12/2021-31/12/2021	0	0	
2	Ambient TSP (1-hour)	01/12/2021-31/12/2021	0	0	
Noise					
1	Noise level at the critical NSR's predicted by the noise alarm monitoring system	01/12/2021-31/12/2021	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 2021 are shown in Table 4.2.

Table 4.2 Estimated Amounts of Waste in December 2021

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	10.36 Tonnes	78.41 Tonnes	40,000 Litres

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

4.4 Site Environmental Audit

EPD officials from Regional Office (South) visited Lamma Power Station on 7/12/2021. There was no adverse comment from EPD regarding the construction site.

Independent Environmental Checker (IEC) conducted a site inspection on 23/12/2021. The site conditions were generally satisfactory.

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-RS0436-21	01/07/21	31/12/21	Power Block Facilities works for Unit L11. Operation of PME during restricted hours	Valid
Construction Noise Permit	GW-RS0600-21	08/08/21	07/02/22	Civil and Building Works for Unit L12. Operation of PME during restricted hours	Valid
Construction Noise Permit	GW-RS0790-21	23/10/21	21/04/22	Construction site of Unit L12. 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
WPCO Discharge Licence##	WT00037613-2021	15/04/21	30/04/26	Civil and Building Works for No.5 C.W. Intake and Cable Bridge	Valid

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
WPCO Discharge Licence###	WT00037665-2021	06/05/21	31/05/26	Civil and Building Works for Unit L12	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
Waste Disposal Billing Account	Account No.: 7038672	27/10/20	-	Civil works for Unit L12 No.5 C.W. intake and cable bridge	Valid
Waste Disposal Billing Account	Account No.: 7039272	08/01/21	-	Civil and building works for Unit L12	Valid

Notes: #, ## and ### - Water quality monitoring was carried out in November 2021 and the results of which would be 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 2021, no complaint against the construction activities was received.

Table 4.4 Environmental Complaints Received in December 2021

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

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 L12 Mechanical Erection

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.

Unit L12 Electrical, Instrumentation & Control Erection

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.

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

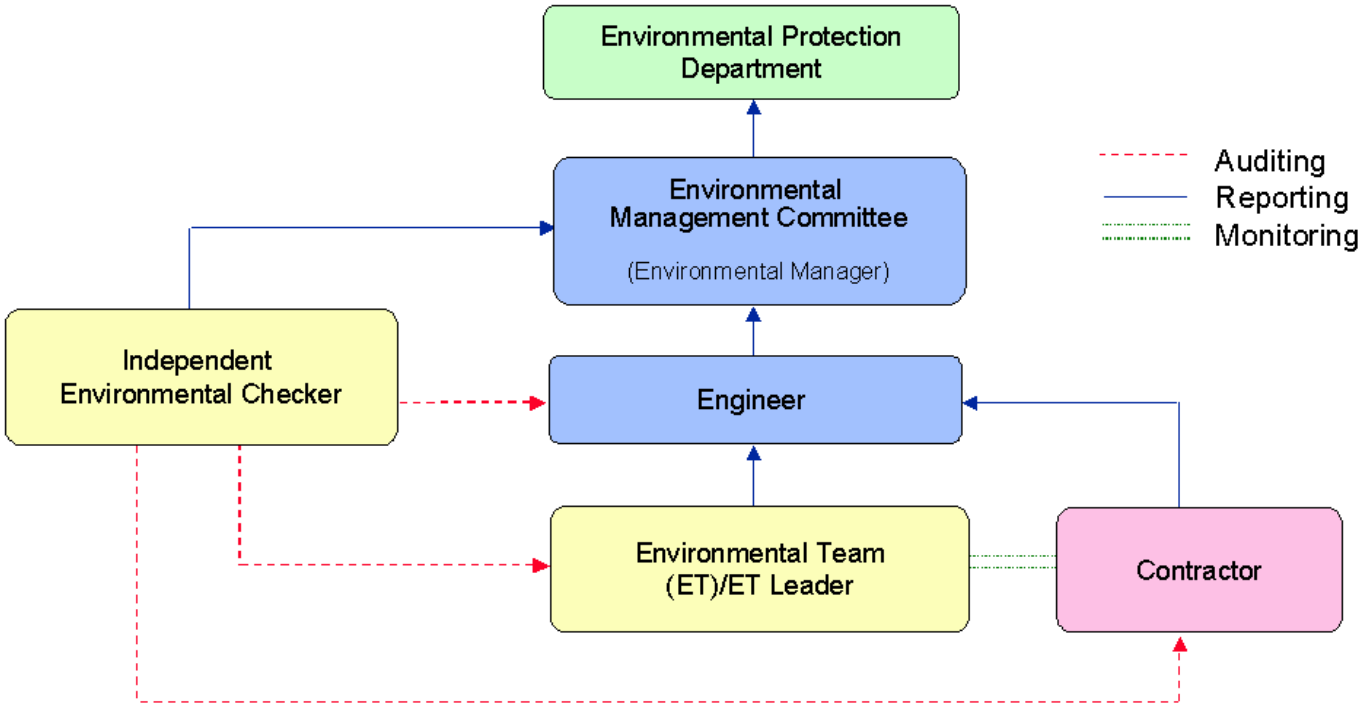


Figure A.1 Organisation of EM&A Programme at Construction Phase

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 2021 to March 2022)

24hr TSP Monitoring	1hr TSP Monitoring
2/December/2021	2/December/2021 1500hr to 1800hr
8/December/2021	8/December/2021 1500hr to 1800hr
14/December/2021	14/December/2021 1500hr to 1800hr
20/December/2021	20/December/2021 1500hr to 1800hr
26/December/2021	26/December/2021 1500hr to 1800hr
1/January/2022	1/January/2022 1500hr to 1800hr
7/January/2022	7/January/2022 1500hr to 1800hr
13/January/2022	13/January/2022 1500hr to 1800hr
19/January/2022	19/January/2022 1500hr to 1800hr
25/January/2022	25/January/2022 1500hr to 1800hr
31/January/2022	31/January/2022 1500hr to 1800hr
6/February/2022	6/February/2022 1500hr to 1800hr
12/February/2022	12/February/2022 1500hr to 1800hr
18/February/2022	18/February/2022 1500hr to 1800hr
24/February/2022	24/February/2022 1500hr to 1800hr
2/March/2022	2/March/2022 1500hr to 1800hr
8/March/2022	8/March/2022 1500hr to 1800hr
14/March/2022	14/March/2022 1500hr to 1800hr
20/March/2022	20/March/2022 1500hr to 1800hr
26/March/2022	26/March/2022 1500hr to 1800hr

APPENDIX D AIR QUALITY MONITORING RESULTS

Site: Lamma Power Station Extension

Month: December 2021

24 hour TSP Measurement:-

Date	TSP concentration (μg/m³)				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. (%)
2/12/2021	54	64	44	56	25.2	10	42
8/12/2021	49	46	39	54	42.5	80	67
14/12/2021	60	71	54	25	21.8	70	72
20/12/2021	32	32	30	14	45.5	50	78
26/12/2021	41	40	42	22	35.0	10	78

1 hour TSP Measurement:-

Date	Time	TSP concentration (μg/m³)		
		Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)
2/12/2021	15:00 - 15:59	52	92	56
	16:00 - 16:59	56	63	66
	17:00 - 17:59	66	48	46
8/12/2021	15:00 - 15:59	51	38	37
	16:00 - 16:59	57	41	40
	17:00 - 17:59	69	49	51
14/12/2021	15:00 - 15:59	68	64	60
	16:00 - 16:59	62	60	52
	17:00 - 17:59	64	64	51
20/12/2021	15:00 - 15:59	23	19	19
	16:00 - 16:59	18	22	14
	17:00 - 17:59	22	22	14
26/12/2021	15:00 - 15:59	34	53	45
	16:00 - 16:59	30	51	34
	17:00 - 17:59	26	42	25

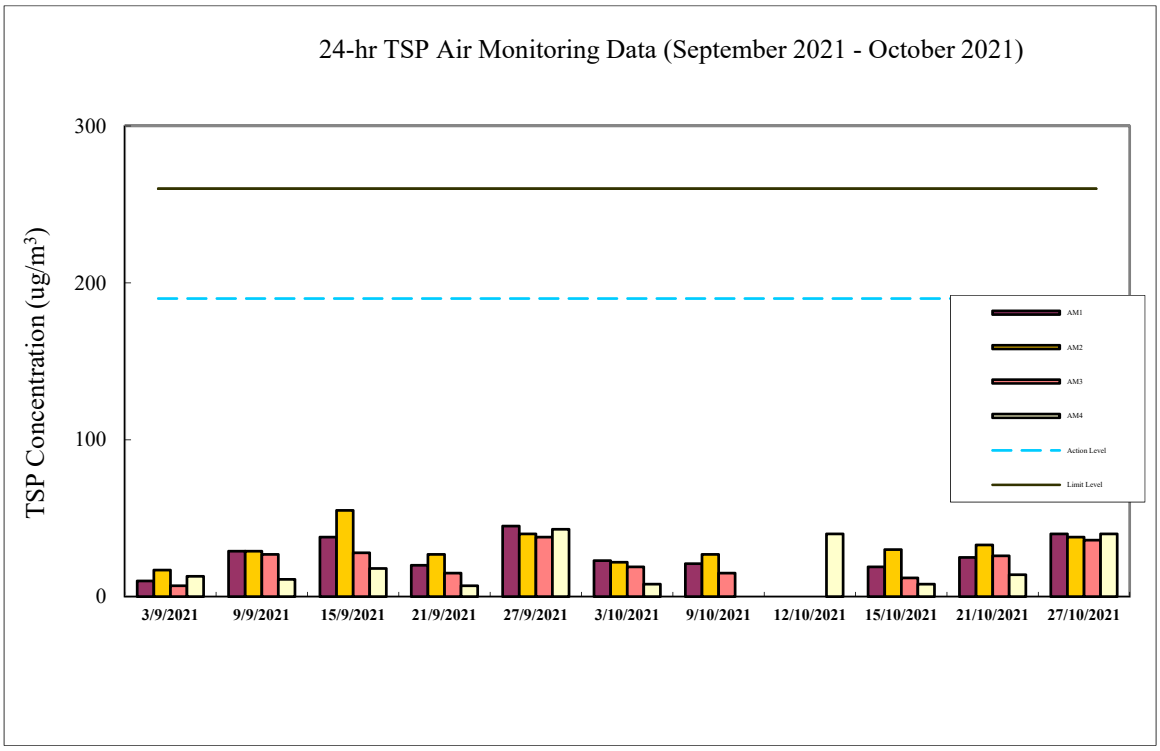
	1-hr TSP (μg/m³)	24-hr TSP (μg/m³)
Action Level	340	190
Limit Level	500	260

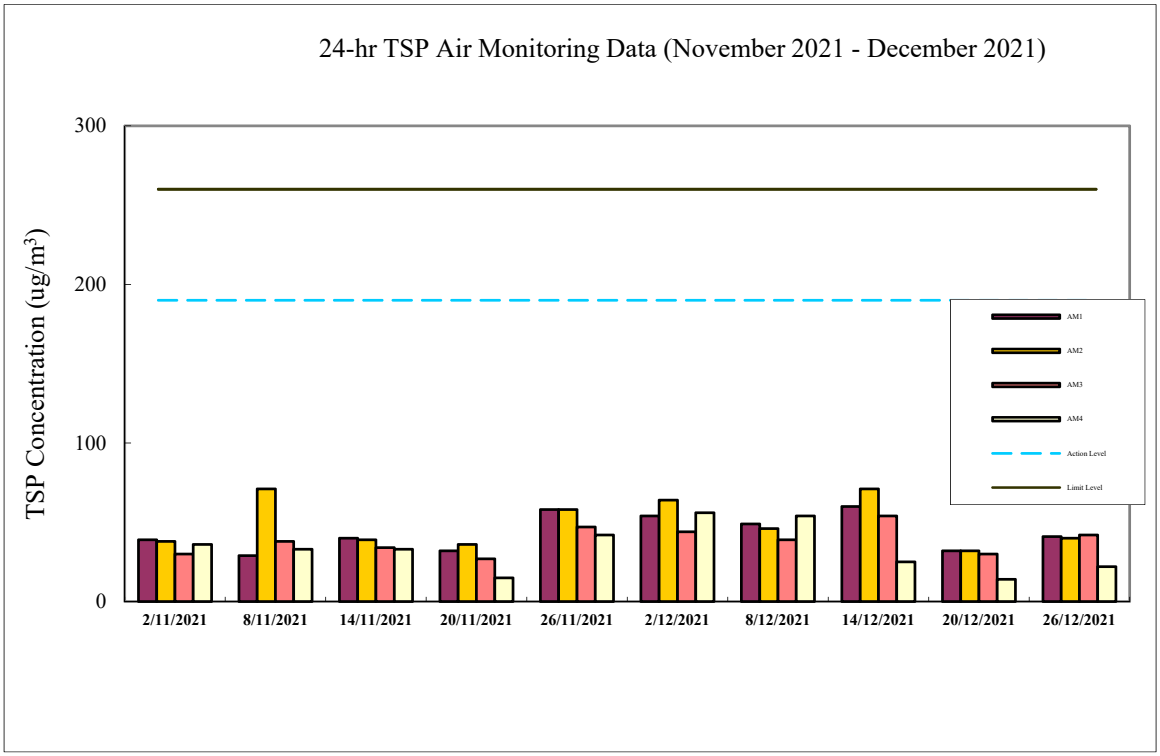
Calibration: Calibration details are shown in appendix F.

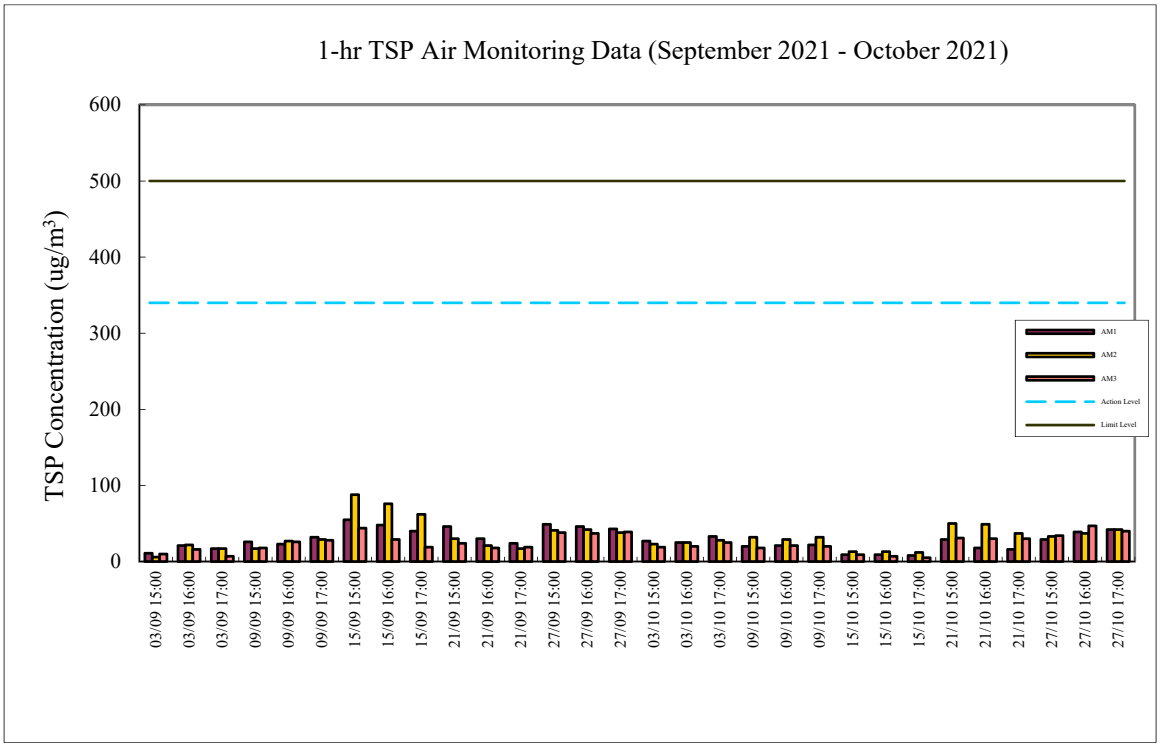
Equipment used:

Location	1-hr TSP	24-hr TSP

Reservoir, East Gate and Ash Lagoon	TEOM	TEOM
Tai Yuen Village	-	MINIVOL Portable Sampler






1-hr TSP Air Monitoring Data (September 2021 - October 2021)
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
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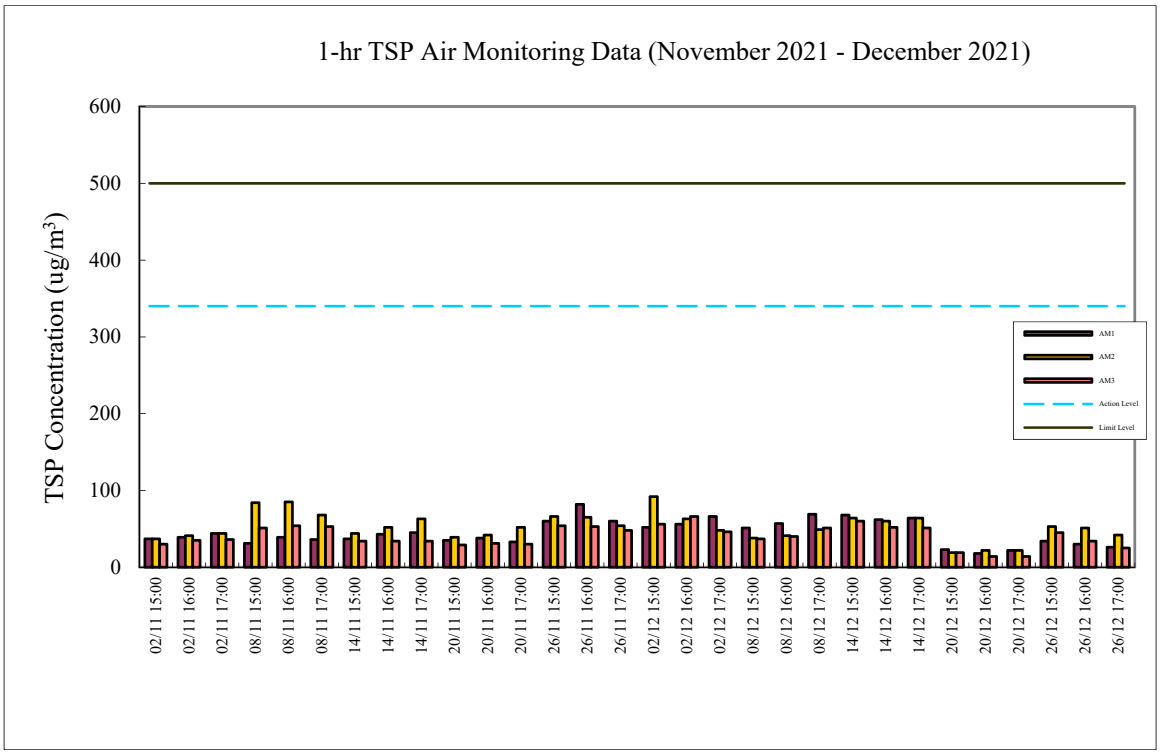
21/10 17:00
27/10 15:00
27/10 16:00
27/10 17:00


1-hr TSP Air Monitoring Data (November 2021 - December 2021)
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 2021

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)
03/09/2021 (Ching Lam)
B&K 4231 calibrator (21/10/2021)

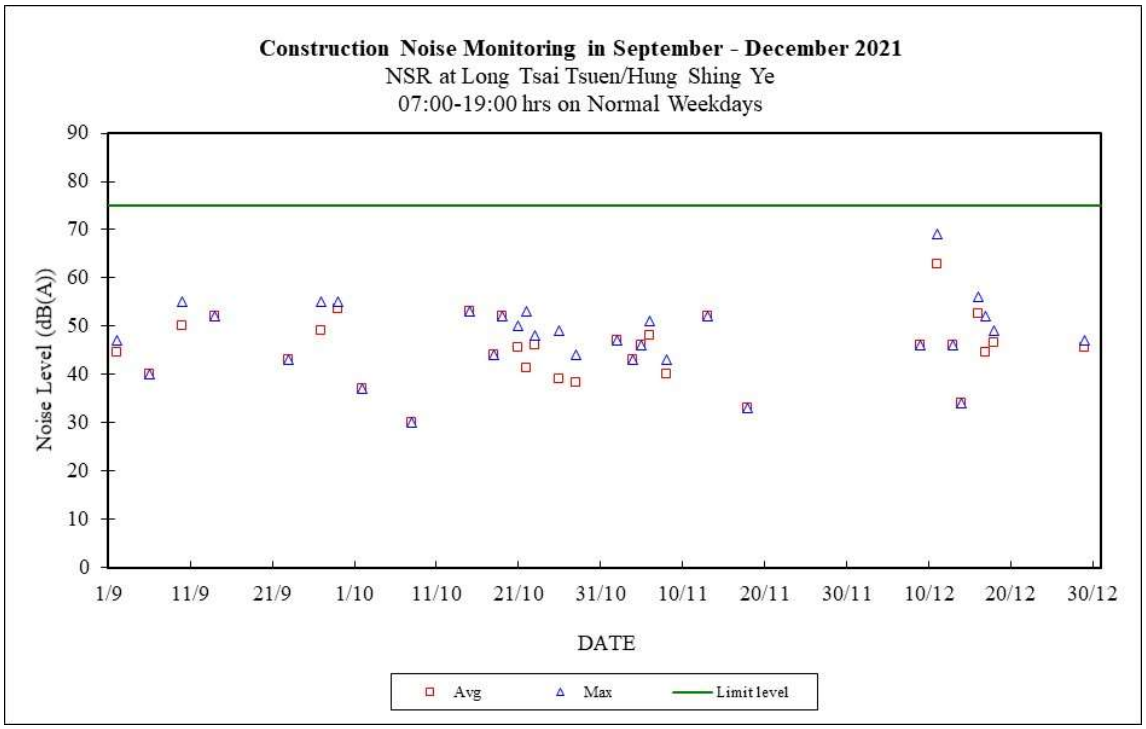
Date	Time	Calculated Noise Level at NSR at Long Tsai Tsuen/Hung Shing Ye (dB(A))		Limit Noise Level (dB(A))	Calculated Noise Level at NSR at the school within Tai Wan San Tsuen (dB(A))		Limit Noise Level (dB(A))
		Max	Avg		Max	Avg	
01/12/2021	07:00-19:00	---	---	75	53	49	70
01/12/2021	19:00-23:00	---	---	60	---	---	60
01/12/2021	23:00-07:00	44	41	45	38	34	45
02/12/2021	07:00-19:00	---	---	75	48	46	65
02/12/2021	19:00-23:00	---	---	60	36	32	60
02/12/2021	23:00-07:00	45	43	45	43	38	45
03/12/2021	07:00-19:00	---	---	75	38	37	65
03/12/2021	19:00-23:00	---	---	60	37	33	60
03/12/2021	23:00-07:00	---	---	45	35	35	45
04/12/2021	07:00-19:00	---	---	75	42	39	70
04/12/2021	19:00-23:00	---	---	60	41	35	60
04/12/2021	23:00-07:00	---	---	45	43	37	45
05/12/2021	07:00-23:00	49	41	60	46	34	60
05/12/2021	23:00-07:00	43	41	45	42	37	45
06/12/2021	07:00-19:00	---	---	75	41	35	65
06/12/2021	19:00-23:00	---	---	60	42	39	60
06/12/2021	23:00-07:00	45	41	45	43	37	45
07/12/2021	07:00-19:00	---	---	75	45	33	65
07/12/2021	19:00-23:00	---	---	60	41	37	60
07/12/2021	23:00-07:00	42	37	45	42	36	45
08/12/2021	07:00-19:00	---	---	75	43	38	70
08/12/2021	19:00-23:00	---	---	60	40	35	60
08/12/2021	23:00-07:00	42	38	45	40	33	45
09/12/2021	07:00-19:00	46	46	75	65	55	70
09/12/2021	19:00-23:00	42	42	60	38	38	60
09/12/2021	23:00-07:00	43	40	45	42	36	45
10/12/2021	07:00-19:00	---	---	75	58	47	70
10/12/2021	19:00-23:00	---	---	60	41	32	60
10/12/2021	23:00-07:00	42	38	45	41	34	45
11/12/2021	07:00-19:00	69	63	75	52	50	70
11/12/2021	19:00-23:00	---	---	60	38	30	60
11/12/2021	23:00-07:00	---	---	45	41	34	45
12/12/2021	07:00-23:00	45	41	60	45	38	60
12/12/2021	23:00-07:00	45	41	45	40	35	45
13/12/2021	07:00-19:00	46	46	75	50	44	70
13/12/2021	19:00-23:00	---	---	60	48	36	60

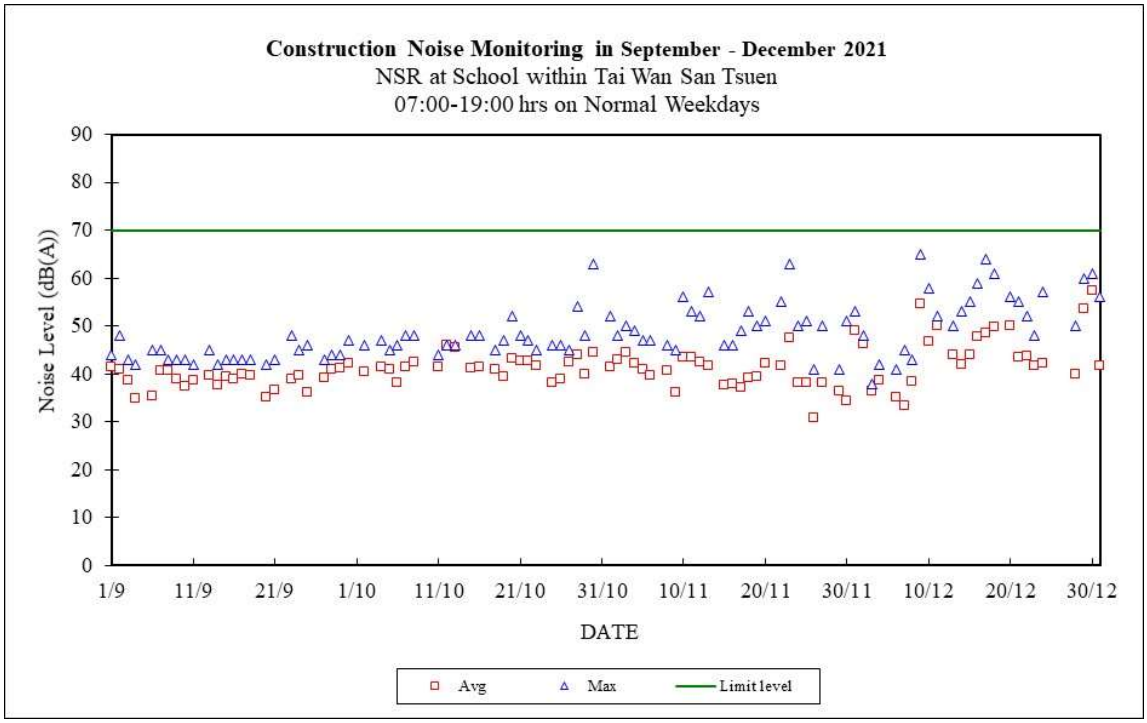
13/12/2021	23:00-07:00	44	39	45	44	34	45
14/12/2021	07:00-19:00	34	34	75	53	42	70
14/12/2021	19:00-23:00	52	52	60	26	26	60
14/12/2021	23:00-07:00	44	36	45	44	35	45
15/12/2021	07:00-19:00	---	---	75	55	44	70
15/12/2021	19:00-23:00	---	---	60	48	40	60
15/12/2021	23:00-07:00	43	38	45	43	38	45
16/12/2021	07:00-19:00	56	53	75	59	48	70
16/12/2021	19:00-23:00	46	39	60	51	36	60
16/12/2021	23:00-07:00	45	38	45	40	29	45
17/12/2021	07:00-19:00	52	45	75	64	49	70
17/12/2021	19:00-23:00	---	---	60	35	31	60
17/12/2021	23:00-07:00	44	37	45	42	37	45
18/12/2021	07:00-19:00	49	47	75	61	50	70
18/12/2021	19:00-23:00	---	---	60	---	---	60
18/12/2021	23:00-07:00	36	36	45	37	33	45
19/12/2021	07:00-23:00	---	---	60	52	41	60
19/12/2021	23:00-07:00	43	37	45	42	38	45
20/12/2021	07:00-19:00	---	---	75	56	50	70
20/12/2021	19:00-23:00	---	---	60	33	28	60
20/12/2021	23:00-07:00	45	38	45	45	39	45
21/12/2021	07:00-19:00	---	---	75	55	44	70
21/12/2021	19:00-23:00	---	---	60	38	35	60
21/12/2021	23:00-07:00	44	40	45	43	35	45
22/12/2021	07:00-19:00	---	---	75	52	44	70
22/12/2021	19:00-23:00	---	---	60	47	44	60
22/12/2021	23:00-07:00	38	34	45	43	38	45
23/12/2021	07:00-19:00	---	---	75	48	42	70
23/12/2021	19:00-23:00	---	---	60	42	39	60
23/12/2021	23:00-07:00	44	40	45	43	38	45
24/12/2021	07:00-19:00	---	---	75	57	42	70
24/12/2021	19:00-23:00	---	---	60	50	38	60
24/12/2021	23:00-07:00	44	38	45	44	38	45
25/12/2021	07:00-23:00	47	40	60	49	36	60
25/12/2021	23:00-07:00	45	40	45	42	35	45
26/12/2021	07:00-23:00	53	46	60	41	35	60
26/12/2021	23:00-07:00	43	38	45	43	39	45
27/12/2021	07:00-23:00	57	43	60	57	36	60
27/12/2021	23:00-07:00	45	40	45	43	37	45
28/12/2021	07:00-19:00	---	---	75	50	40	70
28/12/2021	19:00-23:00	---	---	60	40	34	60
28/12/2021	23:00-07:00	45	36	45	44	37	45
29/12/2021	07:00-19:00	47	46	75	60	54	70
29/12/2021	19:00-23:00	48	44	60	36	31	60
29/12/2021	23:00-07:00	45	40	45	44	36	45
30/12/2021	07:00-19:00	---	---	75	61	57	70
30/12/2021	19:00-23:00	---	---	60	40	34	60
30/12/2021	23:00-07:00	36	33	45	43	34	45
31/12/2021	07:00-19:00	---	---	75	56	42	70
31/12/2021	19:00-23:00	---	---	60	45	40	60
31/12/2021	23:00-07:00	32	32	45	44	40	45

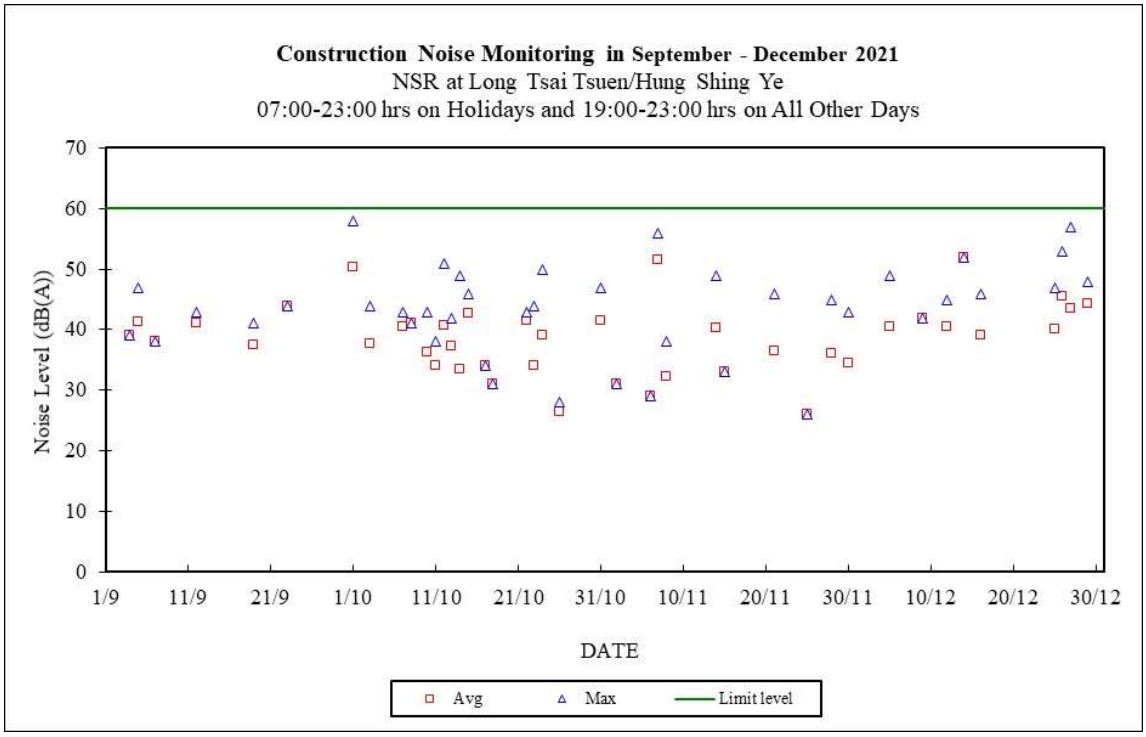
Note:

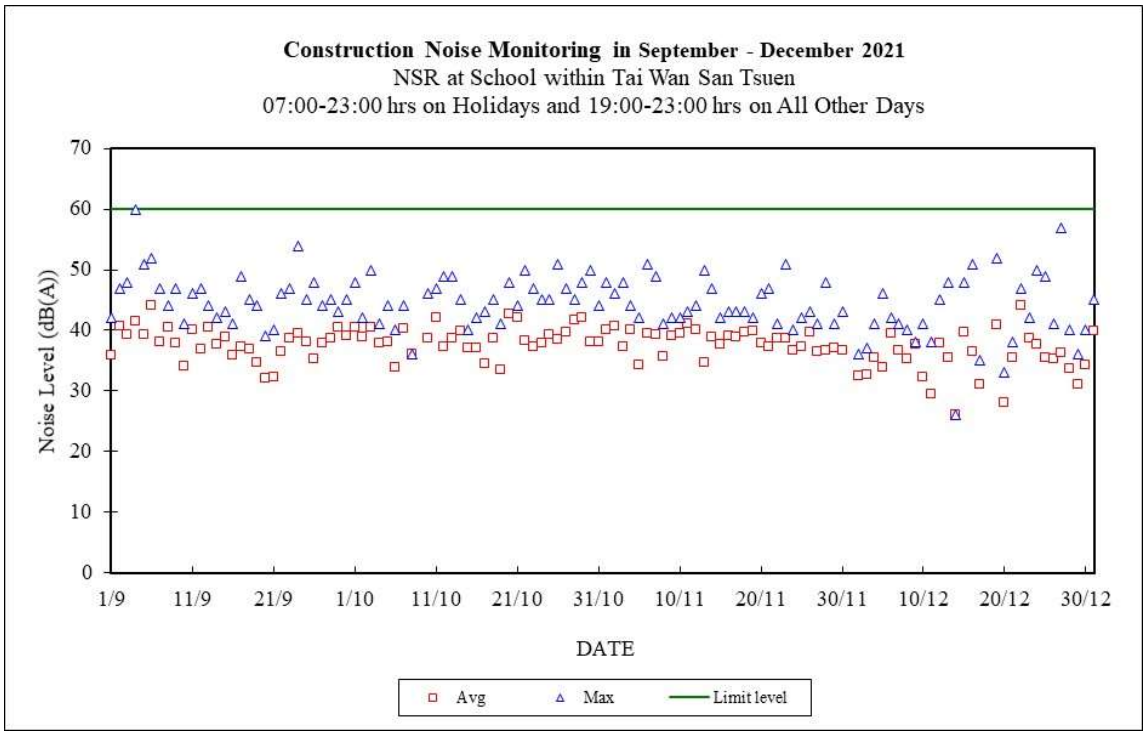
a. "---" represents the measured noise monitoring data lower than the established notional background level/discarded under strong wind.

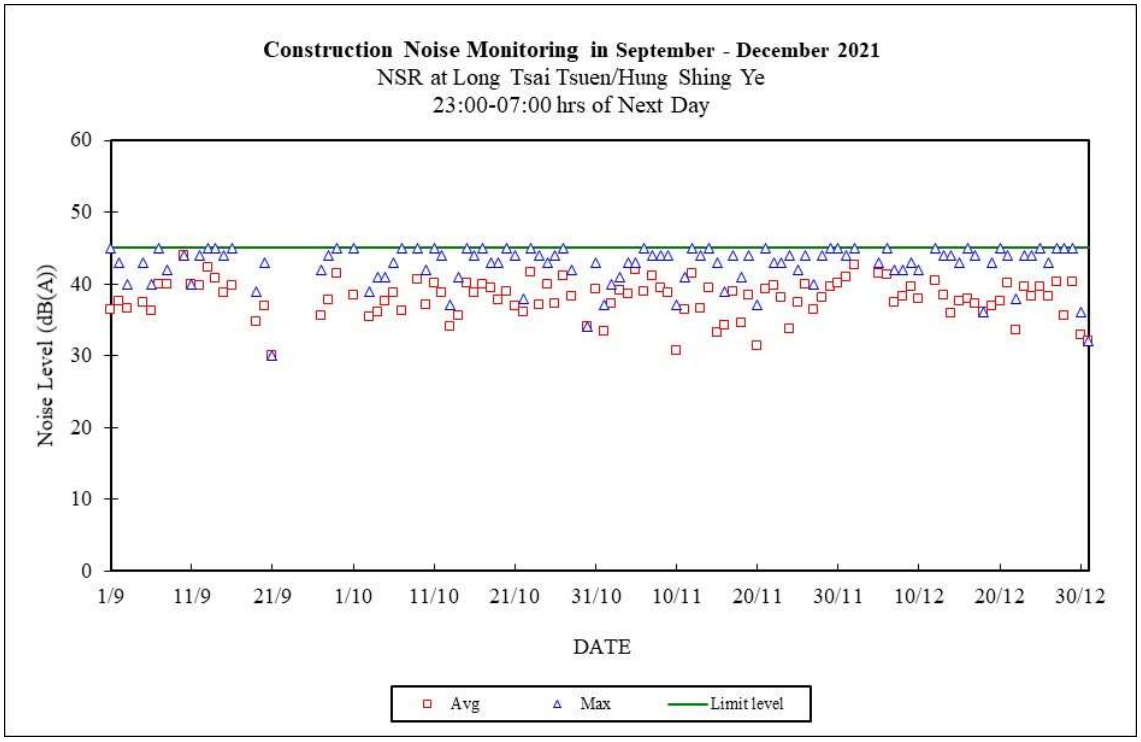
b. Continuous noise monitoring was also carried out at holidays & evening-time (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days) and night-time (23:00-07:00 hrs of next day).

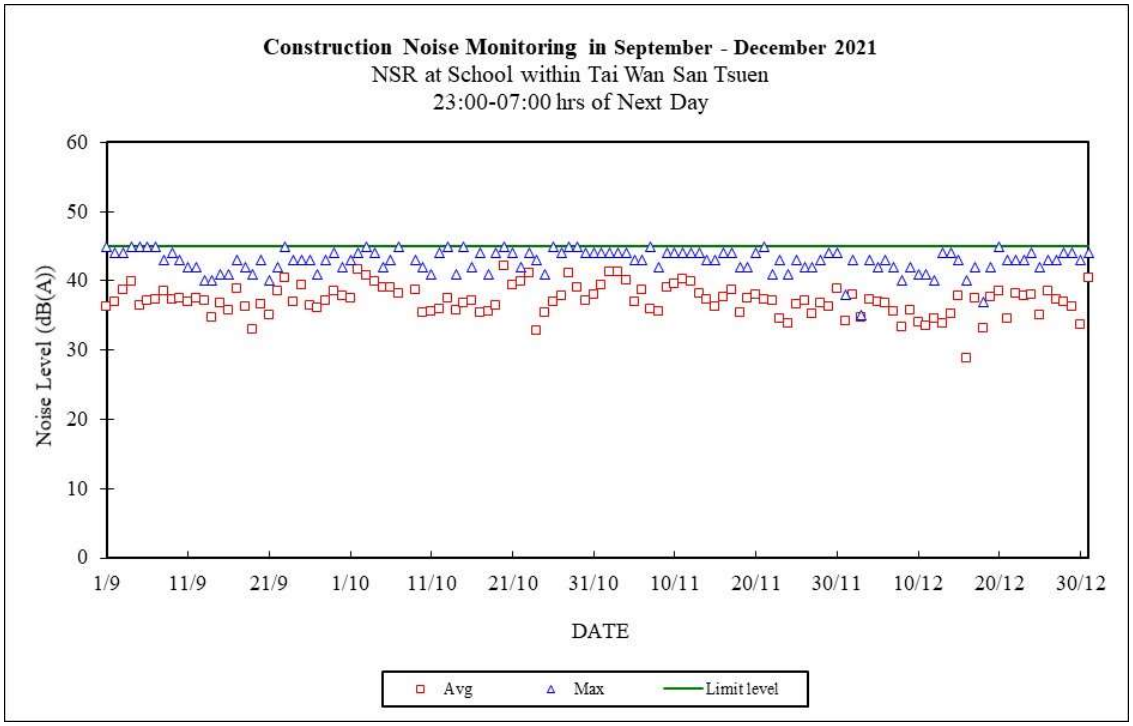

Construction Noise Monitoring in September - December 2021
NSR at Long Tsai Tsuen/Hung Shing Ye
07:00-19:00 hrs on Normal Weekdays
Noise Level (dB(A))
90
80
70
60
50
40
30
20
10
0
1/9
11/9
21/9
1/10
11/10
21/10
31/10
10/11
20/11
30/11
10/12
20/12
30/12
DATE
Avg
Max
Limit level


Construction Noise Monitoring in September - December 2021
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 2021
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 2021
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 2021
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 2021
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: 2021

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)
2/12/2021	267.487	4	3.04	13.25
8/12/2021	266.787	4	3.04	13.17
14/12/2021	266.071	4	3.00	13.14
20/12/2021	265.500	4	3.09	13.07
26/12/2021	265.060	4	3.11	13.21

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)
2/12/2021	250.925	4	2.87	14.03
8/12/2021	249.798	4	3.09	14.06
14/12/2021	249.098	4	2.71	13.80
20/12/2021	248.422	4	2.78	14.14
26/12/2021	247.959	4	2.72	14.38

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)
2/12/2021	255.571	4	3.00	13.67
8/12/2021	255.038	4	3.00	13.68
14/12/2021	254.462	4	2.60	13.68
20/12/2021	254.364	4	3.00	13.68
26/12/2021	253.903	4	3.00	13.68

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
15/12/2021 / 10:00	WM TAM

Equipment / Item

Equipment / Item	Serial No. / No.
MINIVOL	5580
Used filter paper no.	MR74
New filter paper no.	MR75

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: 5.066
After: 5.019

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)
01/12/2021	Passed	-0.12	Passed	-0.15
02/12/2021	Passed	-0.12	Passed	-0.15
03/12/2021	Passed	-0.15	Passed	-0.13
04/12/2021	Passed	-0.12	Passed	-0.15
05/12/2021	Passed	-0.13	Passed	-0.11
06/12/2021	Passed	-0.13	Passed	-0.13
07/12/2021	Passed	-0.11	Passed	-0.14
08/12/2021	Passed	-0.12	Passed	-0.14
09/12/2021	Passed	-0.13	Passed	-0.10
10/12/2021	Passed	-0.12	Passed	-0.14
11/12/2021	Passed	-0.12	Passed	-0.13
12/12/2021	Passed	-0.13	Passed	-0.16
13/12/2021	Passed	-0.12	Passed	-0.12
14/12/2021	Passed	-0.11	Passed	-0.13
15/12/2021	Passed	-0.11	Passed	-0.12
16/12/2021	Passed	-0.12	Passed	-0.11
17/12/2021	Passed	-0.15	Passed	-0.15
18/12/2021	Passed	-0.13	Passed	-0.15
19/12/2021	Passed	-0.15	Passed	-0.20
20/12/2021	Passed	-0.16	Passed	-0.17
21/12/2021	Passed	-0.12	Passed	-0.14
22/12/2021	Passed	-0.13	Passed	-0.11
23/12/2021	Passed	-0.12	Passed	-0.13
24/12/2021	Passed	-0.14	Passed	-0.14
25/12/2021	Passed	-0.18	Passed	-0.21
26/12/2021	Passed	-0.19	Passed	-0.20
27/12/2021	Passed	-0.16	Passed	-0.17
28/12/2021	Passed	-0.13	Passed	-0.17
29/12/2021	Passed	-0.13	Passed	-0.16
30/12/2021	Passed	-0.14	Passed	-0.16
31/12/2021	Passed	-0.15	Passed	-0.17

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

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

Appendix H Summary of Site Audit Findings

L11 Civil and Building Works

Dates of Inspection: 7/12/2021, 14/12/2021, 23/12/2021 and 28/12/2021.

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: 2/12/2021, 9/12/2021, 16/12/2021, 23/12/2021 and 30/12/2021.

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: 7/12/2021, 14/12/2021, 23/12/2021 and 28/12/2021.

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 Mechanical, Electrical, Instrumentation & Control Erection Works

Dates of Inspection: 2/12/2021, 9/12/2021, 16/12/2021, 23/12/2021 and 30/12/2021.

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.	N/A
	• The materials which may generate airborne dust emissions shall be wetted by water spray system.	N/A
	• All receiving hoppers shall be enclosed on three sides up to 3m above unloading point.	N/A
	• All conveyor transfer points shall be totally enclosed.	N/A
	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	

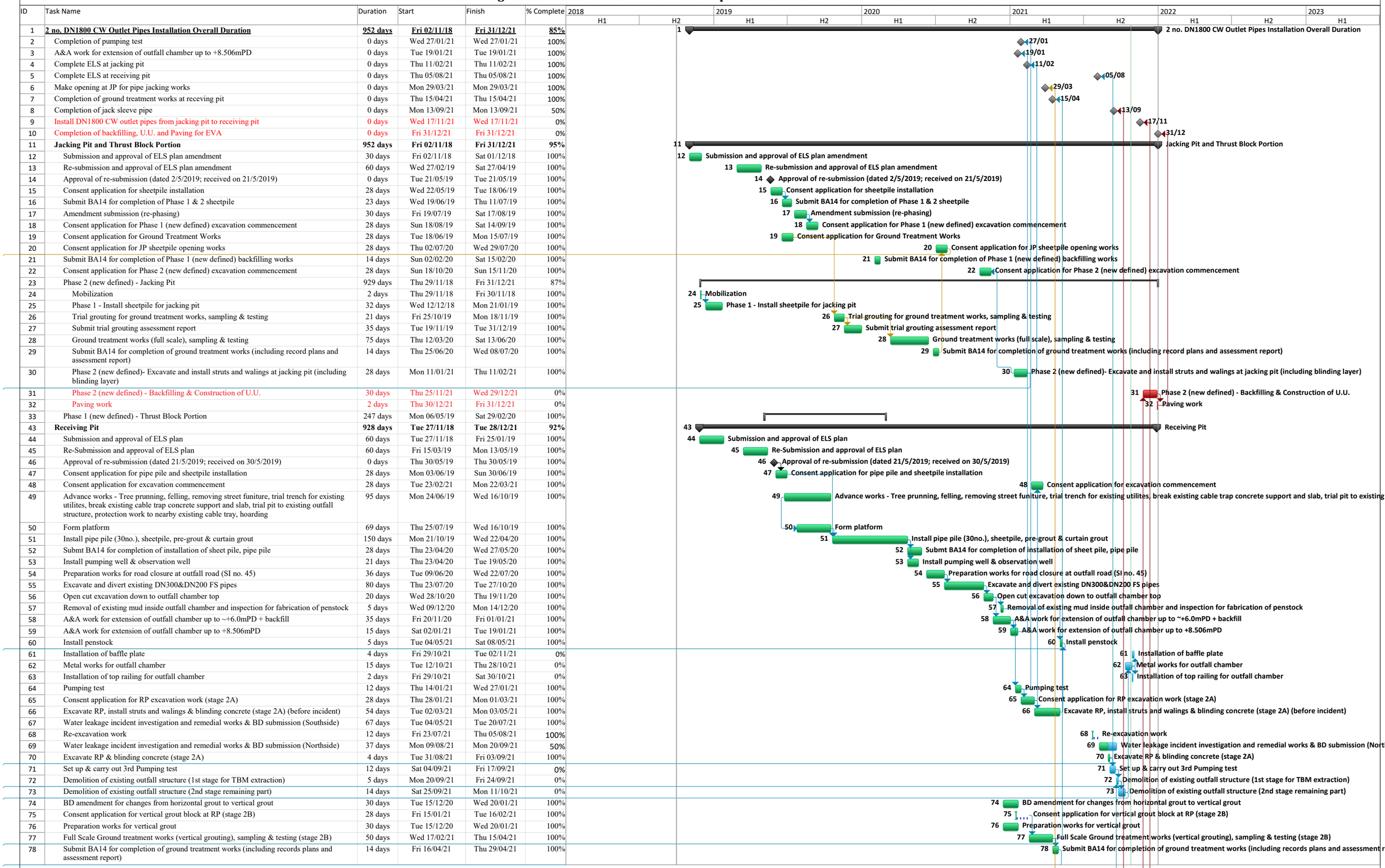
EM&A Log Ref.	Mitigation Measures	Implementation Status
G1	All percussive piling works shall be conducted on reclaimed land to avoid noise impact to marine mammals**	N/A
G2	All construction related vessels shall approach the extension site from the north and via the East Lamma Channel to avoid disturbance 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

Revised Works Programme for 2no. DN1800 CW Outlet Pipes Installation - Culvert Outfall No. 4 + GRS Works

ID	Task Name	Duration	Start	Finish	% Complete
1	**2 no. DN1800 CW Outlet Pipes Installation Overall Duration**	**952 days**	**Fri 02/11/18**	**Fri 31/12/21**	**85%**
2	Completion of pumping test	0 days	Wed 27/01/21	Wed 27/01/21	100%
3	A&A work for extension of outfall chamber up to +8.506mPD	0 days	Tue 19/01/21	Tue 19/01/21	100%
4	Complete ELS at jacking pit	0 days	Thu 11/02/21	Thu 11/02/21	100%
5	Complete ELS at receiving pit	0 days	Thu 05/08/21	Thu 05/08/21	100%
6	Make opening at JP for pipe jacking works	0 days	Mon 29/03/21	Mon 29/03/21	100%
7	Completion of ground treatment works at receving pit	0 days	Thu 15/04/21	Thu 15/04/21	100%
8	Completion of jack sleeve pipe	0 days	Mon 13/09/21	Mon 13/09/21	50%
9	Install DN1800 CW outlet pipes from jacking pit to receiving pit	0 days	Wed 17/11/21	Wed 17/11/21	0%
10	Completion of backfilling, U.U. and Paving for EVA	0 days	Fri 31/12/21	Fri 31/12/21	0%
11	**Jacking Pit and Thrust Block Portion**	**952 days**	**Fri 02/11/18**	**Fri 31/12/21**	**95%**
12	Submission and approval of ELS plan amendment	30 days	Fri 02/11/18	Sat 01/12/18	100%
13	Re-submission and approval of ELS plan amendment	60 days	Wed 27/02/19	Sat 27/04/19	100%
14	Approval of re-submission (dated 2/5/2019; received on 21/5/2019)	0 days	Tue 21/05/19	Tue 21/05/19	100%
15	Consent application for sheetpile installation	28 days	Wed 22/05/19	Tue 18/06/19	100%
16	Submit BA14 for completion of Phase 1 & 2 sheetpile	23 days	Wed 19/06/19	Thu 11/07/19	100%
17	Amendment submission (re-phasing)	30 days	Fri 19/07/19	Sat 17/08/19	100%
18	Consent application for Phase 1 (new defined) excavation commencement	28 days	Sun 18/08/19	Sat 14/09/19	100%
19	Consent application for Ground Treatment Works	28 days	Tue 18/06/19	Mon 15/07/19	100%
20	Consent application for JP sheetpile opening works	28 days	Thu 02/07/20	Wed 29/07/20	100%
21	Submit BA14 for completion of Phase 1 (new defined) backfilling works	14 days	Sun 02/02/20	Sat 15/02/20	100%
22	Consent application for Phase 2 (new defined) excavation commencement	28 days	Sun 18/10/20	Sun 15/11/20	100%
23	Phase 2 (new defined) - Jacking Pit	929 days	Thu 29/11/18	Fri 31/12/21	87%
24	Mobilization	2 days	Thu 29/11/18	Fri 30/11/18	100%
25	Phase 1 - Install sheetpile for jacking pit	32 days	Wed 12/12/18	Mon 21/01/19	100%
26	Trial grouting for ground treatment works, sampling & testing	21 days	Fri 25/10/19	Mon 18/11/19	100%
27	Submit trial grouting assessment report	35 days	Tue 19/11/19	Tue 31/12/19	100%
28	Ground treatment works (full scale), sampling & testing	75 days	Thu 12/03/20	Sat 13/06/20	100%
29	Submit BA14 for completion of ground treatment works (including record plans and assessment report)	14 days	Thu 25/06/20	Wed 08/07/20	100%
30	Phase 2 (new defined)- Excavate and install struts and walings at jacking pit (including blinding layer)	28 days	Mon 11/01/21	Thu 11/02/21	100%
31	Phase 2 (new defined) - Backfilling & Construction of U.U.	30 days	Thu 25/11/21	Wed 29/12/21	0%
32	Paving work	2 days	Thu 30/12/21	Fri 31/12/21	0%
33	Phase 1 (new defined) - Thrust Block Portion	247 days	Mon 06/05/19	Sat 29/02/20	100%
43	**Receiving Pit**	**928 days**	**Tue 27/11/18**	**Tue 28/12/21**	**92%**
44	Submission and approval of ELS plan	60 days	Tue 27/11/18	Fri 25/01/19	100%
45	Re-Submission and approval of ELS plan	60 days	Fri 15/03/19	Mon 13/05/19	100%
46	Approval of re-submission (dated 21/5/2019; received on 30/5/2019)	0 days	Thu 30/05/19	Thu 30/05/19	100%
47	Consent application for pipe pile and sheetpile installation	28 days	Mon 03/06/19	Sun 30/06/19	100%
48	Consent application for excavation commencement	28 days	Tue 23/02/21	Mon 22/03/21	100%
49	Advance works - Tree prunning, felling, removing street funiture, trial trench for existing utilites, break existing cable trap concrete support and slab, trial pit to existing outfall structure, protection work to nearby existing cable tray, hoarding	95 days	Mon 24/06/19	Wed 16/10/19	100%
50	Form platform	69 days	Thu 25/07/19	Wed 16/10/19	100%
51	Install pipe pile (30no.), sheetpile, pre-grout & curtain grout	150 days	Mon 21/10/19	Wed 22/04/20	100%
52	Submt BA14 for completion of installation of sheet pile, pipe pile	28 days	Thu 23/04/20	Wed 27/05/20	100%
53	Install pumping well & observation well	21 days	Thu 23/04/20	Tue 19/05/20	100%
54	Preparation works for road closure at outfall road (SI no. 45)	36 days	Tue 09/06/20	Wed 22/07/20	100%
55	Excavate and divert existing DN300&DN200 FS pipes	80 days	Thu 23/07/20	Tue 27/10/20	100%
56	Open cut excavation down to outfall chamber top	20 days	Wed 28/10/20	Thu 19/11/20	100%
57	Removal of existing mud inside outfall chamber and inspection for fabrication of penstock	5 days	Wed 09/12/20	Mon 14/12/20	100%
58	A&A work for extension of outfall chamber up to ~+6.0mPD + backfill	35 days	Fri 20/11/20	Fri 01/01/21	100%
59	A&A work for extension of outfall chamber up to +8.506mPD	15 days	Sat 02/01/21	Tue 19/01/21	100%
60	Install penstock	5 days	Tue 04/05/21	Sat 08/05/21	100%
61	Installation of baffle plate	4 days	Fri 29/10/21	Tue 02/11/21	0%
62	Metal works for outfall chamber	15 days	Tue 12/10/21	Thu 28/10/21	0%
63	Installation of top railing for outfall chamber	2 days	Fri 29/10/21	Sat 30/10/21	0%
64	Pumping test	12 days	Thu 14/01/21	Wed 27/01/21	100%
65	Consent application for RP excavation work (stage 2A)	28 days	Thu 28/01/21	Mon 01/03/21	100%
66	Excavate RP, install struts and walings & blinding concrete (stage 2A) (before incident)	54 days	Tue 02/03/21	Mon 03/05/21	100%
67	Water leakage incident investigation and remedial works & BD submission (Southside)	67 days	Tue 04/05/21	Tue 20/07/21	100%
68	Re-excavation work	12 days	Fri 23/07/21	Thu 05/08/21	100%
69	Water leakage incident investigation and remedial works & BD submission (Northside)	37 days	Mon 09/08/21	Mon 20/09/21	50%
70	Excavate RP & blinding concrete (stage 2A)	4 days	Tue 31/08/21	Fri 03/09/21	100%
71	Set up & carry out 3rd Pumping test	12 days	Sat 04/09/21	Fri 17/09/21	0%
72	Demolition of existing outfall structure (1st stage for TBM extraction)	5 days	Mon 20/09/21	Fri 24/09/21	0%
73	Demolition of existing outfall structure (2nd stage remaining part)	14 days	Sat 25/09/21	Mon 11/10/21	0%
74	BD amendment for changes from horizontal grout to vertical grout	30 days	Tue 15/12/20	Wed 20/01/21	100%
75	Consent application for vertical grout block at RP (stage 2B)	28 days	Fri 15/01/21	Tue 16/02/21	100%
76	Preparation works for vertical grout	30 days	Tue 15/12/20	Wed 20/01/21	100%
77	Full Scale Ground treatment works (vertical grouting), sampling & testing (stage 2B)	50 days	Wed 17/02/21	Thu 15/04/21	100%
78	Submit BA14 for completion of ground treatment works (including records plans and assessment report)	14 days	Fri 16/04/21	Thu 29/04/21	100%



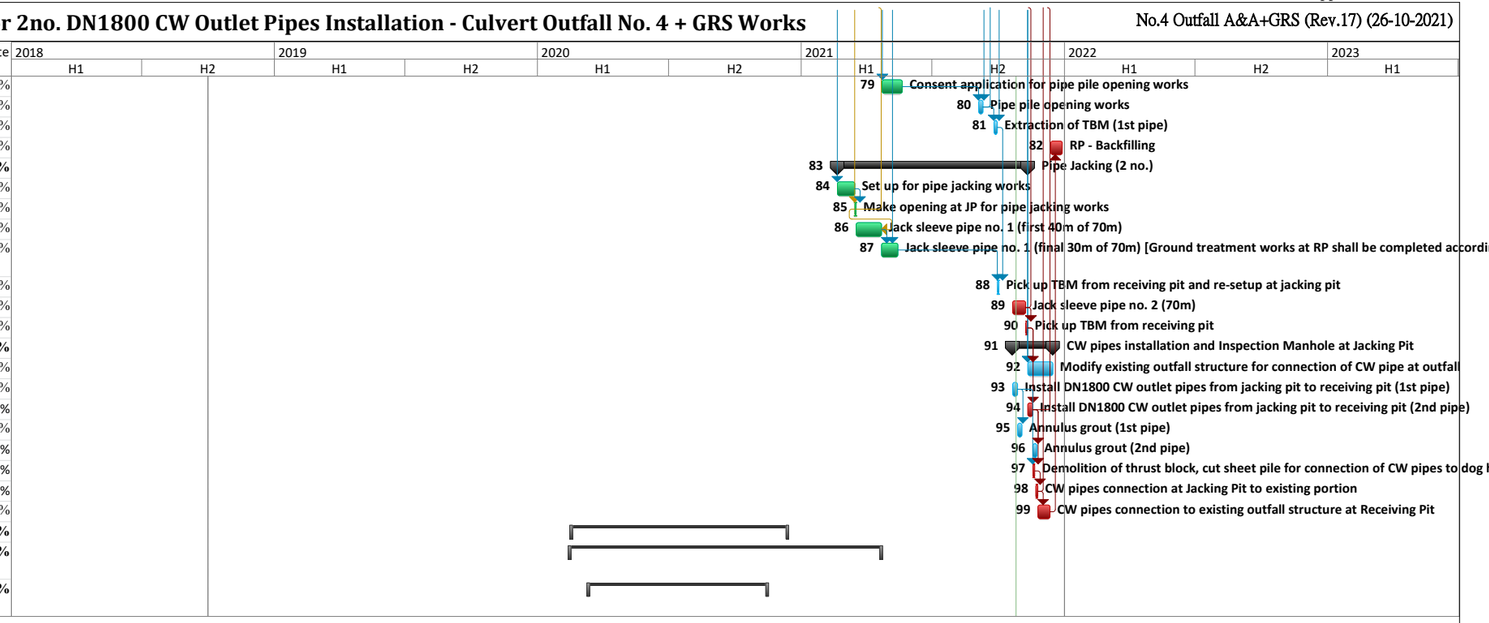
Paul Y Construction Co., Ltd.

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

Revised Works Programme for 2no. DN1800 CW Outlet Pipes Installation - Culvert Outfall No. 4 + GRS Works

No.4 Outfall A&A+GRS (Rev.17) (26-10-2021)

ID	Task Name	Duration	Start	Finish	% Complete
79	Consent application for pipe pile opening works	28 days	Fri 23/04/21	Thu 20/05/21	100%
80	Pipe pile opening works	5 days	Sat 04/09/21	Thu 09/09/21	0%
81	Extraction of TBM (1st pipe)	4 days	Sat 25/09/21	Wed 29/09/21	0%
82	RP - Backfilling	14 days	Mon 13/12/21	Tue 28/12/21	0%
83	**Pipe Jacking (2 no.)**	**226 days**	**Sat 20/02/21**	**Wed 10/11/21**	**78%**
84	Set up for pipe jacking works	20 days	Sat 20/02/21	Mon 15/03/21	100%
85	Make opening at JP for pipe jacking works	2 days	Tue 16/03/21	Wed 17/03/21	100%
86	Jack sleeve pipe no. 1 (first 40m of 70m)	30 days	Thu 18/03/21	Wed 21/04/21	100%
87	Jack sleeve pipe no. 1 (final 30m of 70m) [Ground treatment works at RP shall be completed according to JP approval plan.]	20 days	Thu 22/04/21	Fri 14/05/21	100%
88	Pick up TBM from receiving pit and re-setup at jacking pit	2 days	Thu 30/09/21	Fri 01/10/21	0%
89	Jack sleeve pipe no. 2 (70m)	15 days	Thu 21/10/21	Sun 07/11/21	0%
90	Pick up TBM from receiving pit	3 days	Mon 08/11/21	Wed 10/11/21	0%
91	**CW pipes installation and Inspection Manhole at Jacking Pit**	**48 days**	**Thu 21/10/21**	**Wed 15/12/21**	**0%**
92	Modify existing outfall structure for connection of CW pipe at outfall	30 days	Thu 11/11/21	Wed 15/12/21	0%
93	Install DN1800 CW outlet pipes from jacking pit to receiving pit (1st pipe)	6 days	Thu 28/10/21	Wed 03/11/21	0%
94	Install DN1800 CW outlet pipes from jacking pit to receiving pit (2nd pipe)	6 days	Thu 11/11/21	Wed 17/11/21	0%
95	Annulus grout (1st pipe)	5 days	Thu 04/11/21	Tue 09/11/21	0%
96	Annulus grout (2nd pipe)	5 days	Thu 18/11/21	Tue 23/11/21	0%
97	Demolition of thrust block, cut sheet pile for connection of CW pipes to dog house at Jacking	3 days	Thu 18/11/21	Sat 20/11/21	0%
98	CW pipes connection at Jacking Pit to existing portion	3 days	Mon 22/11/21	Wed 24/11/21	0%
99	CW pipes connection to existing outfall structure at Receiving Pit	15 days	Thu 25/11/21	Sat 11/12/21	0%
100	**Gas pipe support foundation and pipe trench and associated external works at Area E14**	**247 days**	**Mon 17/02/20**	**Sat 12/12/20**	**72%**
109	**L12&L13 Outlet culvert(Connection to Jacking Pit) at Area E15(A) and associated external works at area E15(B)**	**357 days**	**Sat 15/02/20**	**Wed 21/04/21**	**59%**
117	**Gas Receiving Station and L11 Gas Receiving Station Equipment Room(GRS) area extension at Area E16**	**202 days**	**Thu 12/03/20**	**Sat 14/11/20**	**90%**



Paul Y Construction Co., Ltd.

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

Construction Schedule of Unit-11

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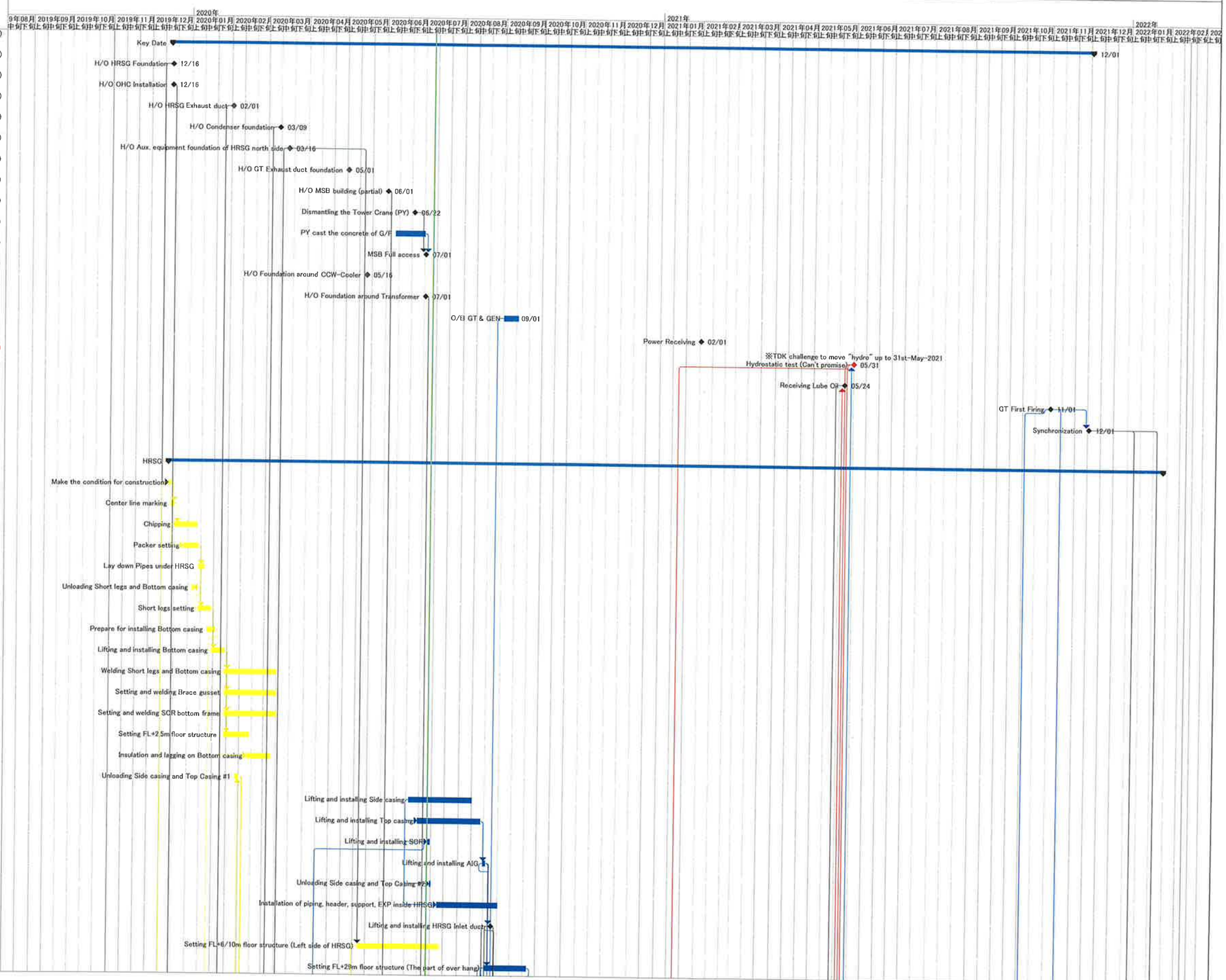
ID		タスク名	期間	開始日	終了日
1		Key Date	613日	19/12/16 (月)	21/12/01 (水)
2		H/O HRSG Foundation	1日	19/12/16 (月)	19/12/16 (月)
3		H/O OHC Installation	1日	19/12/16 (月)	19/12/16 (月)
4		H/O HRSG Exhaust duct	1日	20/02/01 (土)	20/02/01 (土)
5		H/O Condenser foundation	1日	20/03/09 (月)	20/03/09 (月)
6		H/O Aux. equipment 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)

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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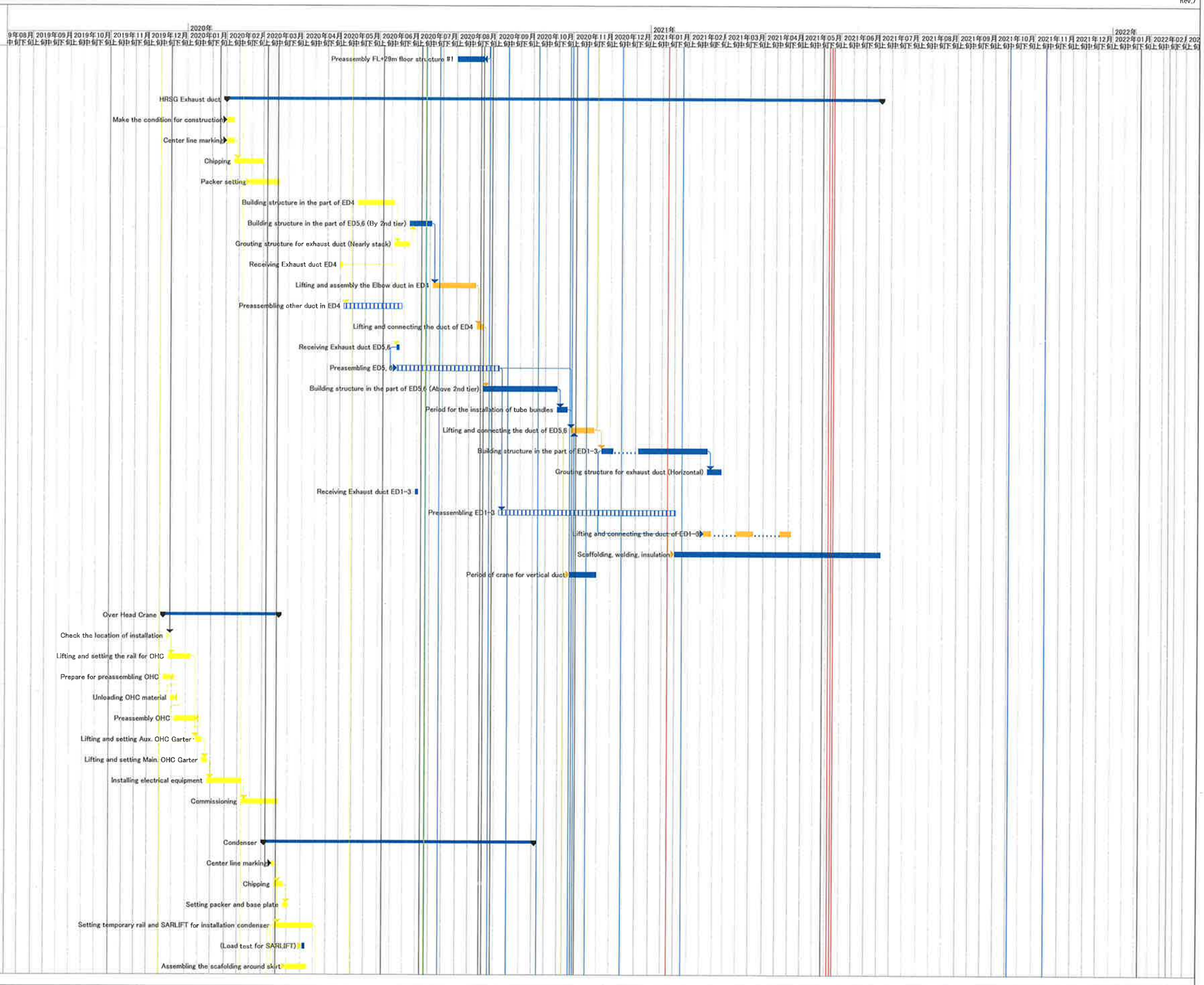
ID	タスク名	期間	開始日	終了日
91	Preassembly FL+29m floor structure #1	18日	20/08/01 (土)	20/08/22 (土)
92				
93	HRSG Exhaust duct	445日	20/02/01 (土)	21/07/02 (金)
94	Make the condition for construction	5日	20/02/01 (土)	20/02/06 (木)
95	Center line marking	5日	20/02/01 (土)	20/02/06 (木)
96	Chipping	20日	20/02/07 (金)	20/02/29 (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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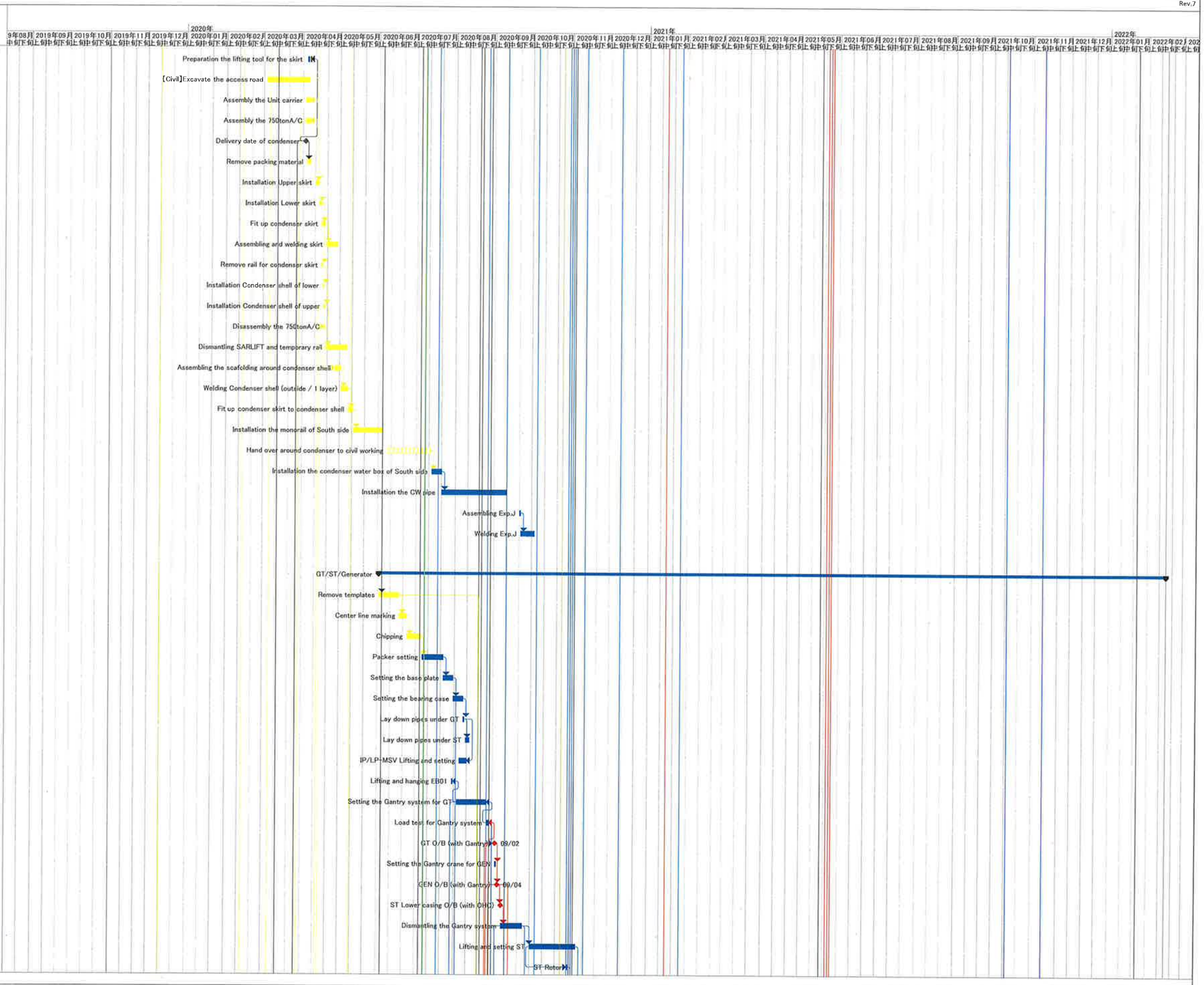
ID	タスク名	期間	開始日	終了日
136	Preparation the lifting tool for the skirt	2日	20/04/05 (日)	20/04/06 (月)
137	【Civil】Excavate the access road	30日	20/03/03 (火)	20/04/05 (日)
138	Assembly the Unit carrier	4日	20/04/03 (金)	20/04/06 (月)
139	Assembly the 750tonA/C	4日	20/04/03 (金)	20/04/06 (月)
140	Delivery date of condenser	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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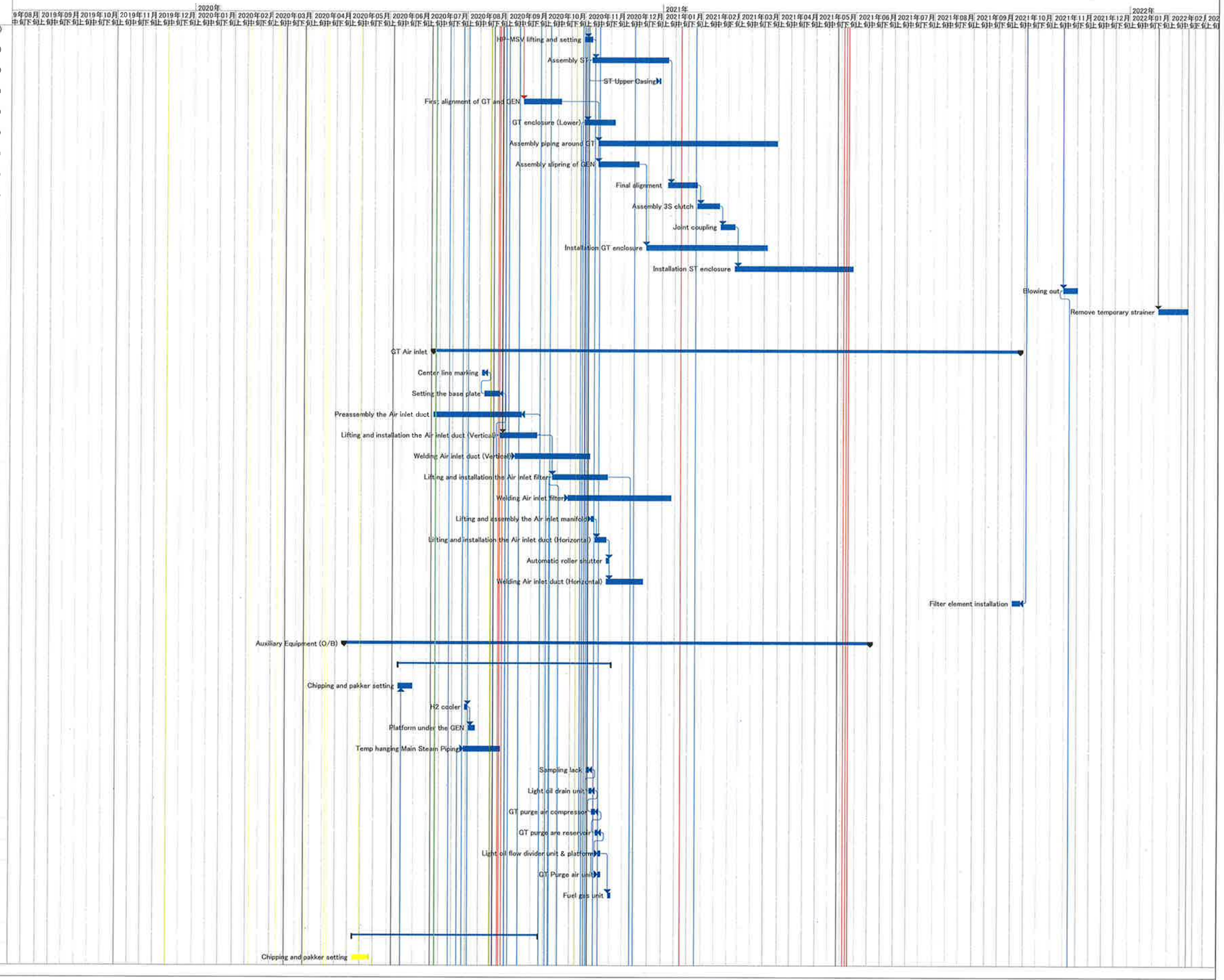
181	HP-MSV lifting and setting	5日	20/10/31 (土)	20/11/05 (木)
182	Assembly ST	51日	20/11/06 (金)	21/01/04 (月)
183	ST Upper Casing	1日	20/12/29 (火)	20/12/29 (火)
184	First alignment of GT and GEN	25日	20/09/14 (月)	20/10/12 (月)
185	GT enclosure (Lower)	20日	20/10/31 (土)	20/11/23 (月)
186	Assembly piping around 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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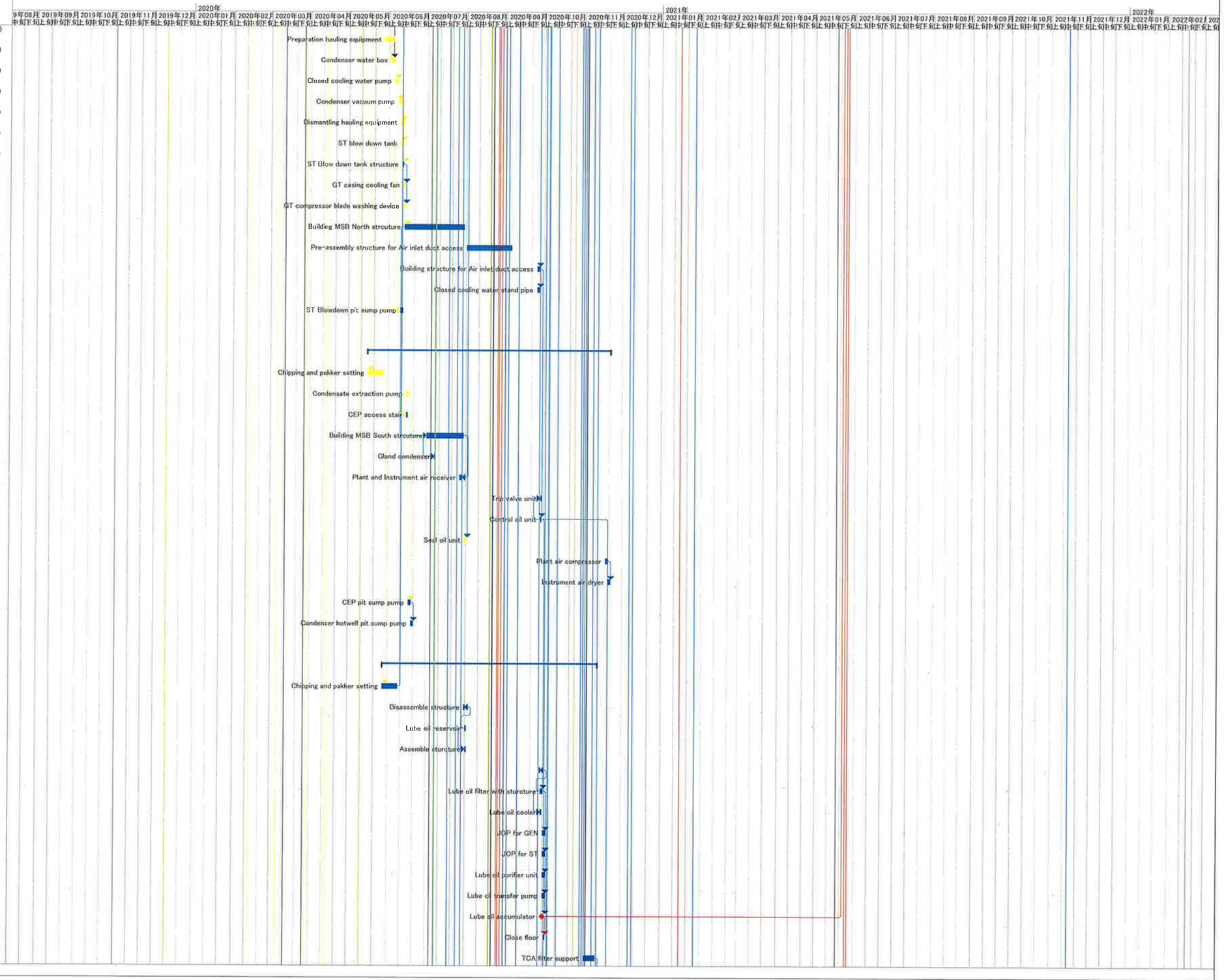
226	Preparation hauling equipment	4日	20/05/28 (木)	20/06/02 (火)
227	Condenser water box	3日	20/06/02 (火)	20/06/04 (木)
228	Closed cooling water pump	2日	20/06/05 (金)	20/06/06 (土)
229	Condenser vacuum pump	2日	20/06/08 (月)	20/06/09 (火)
230	Dismantling hauling equipment	2日	20/06/10 (水)	20/06/11 (木)
231	ST blow 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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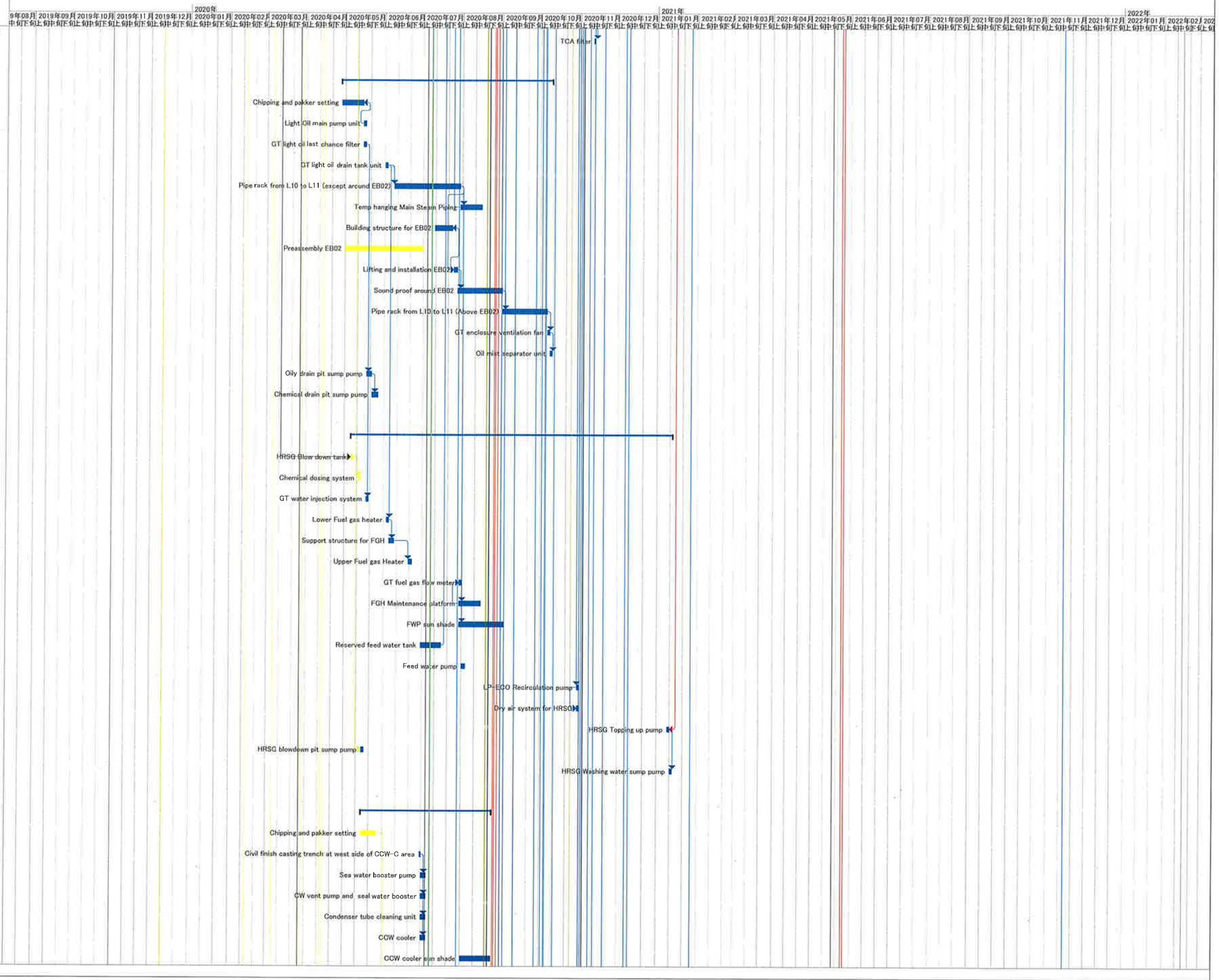
271	TCA filter	1日	20/11/11 (水)	20/11/11 (水)
272				
273	9 East of MSB	142日?	20/04/28 (火)	20/10/09 (金)
274	Chipping and pakker setting	15日	20/04/28 (火)	20/05/15 (金)
275	Light Oil main pump unit	2日	20/05/15 (金)	20/05/16 (土)
276	GT light oil last chance filter	2日	20/05/15 (金)	20/05/16 (土)
277	GT light oil 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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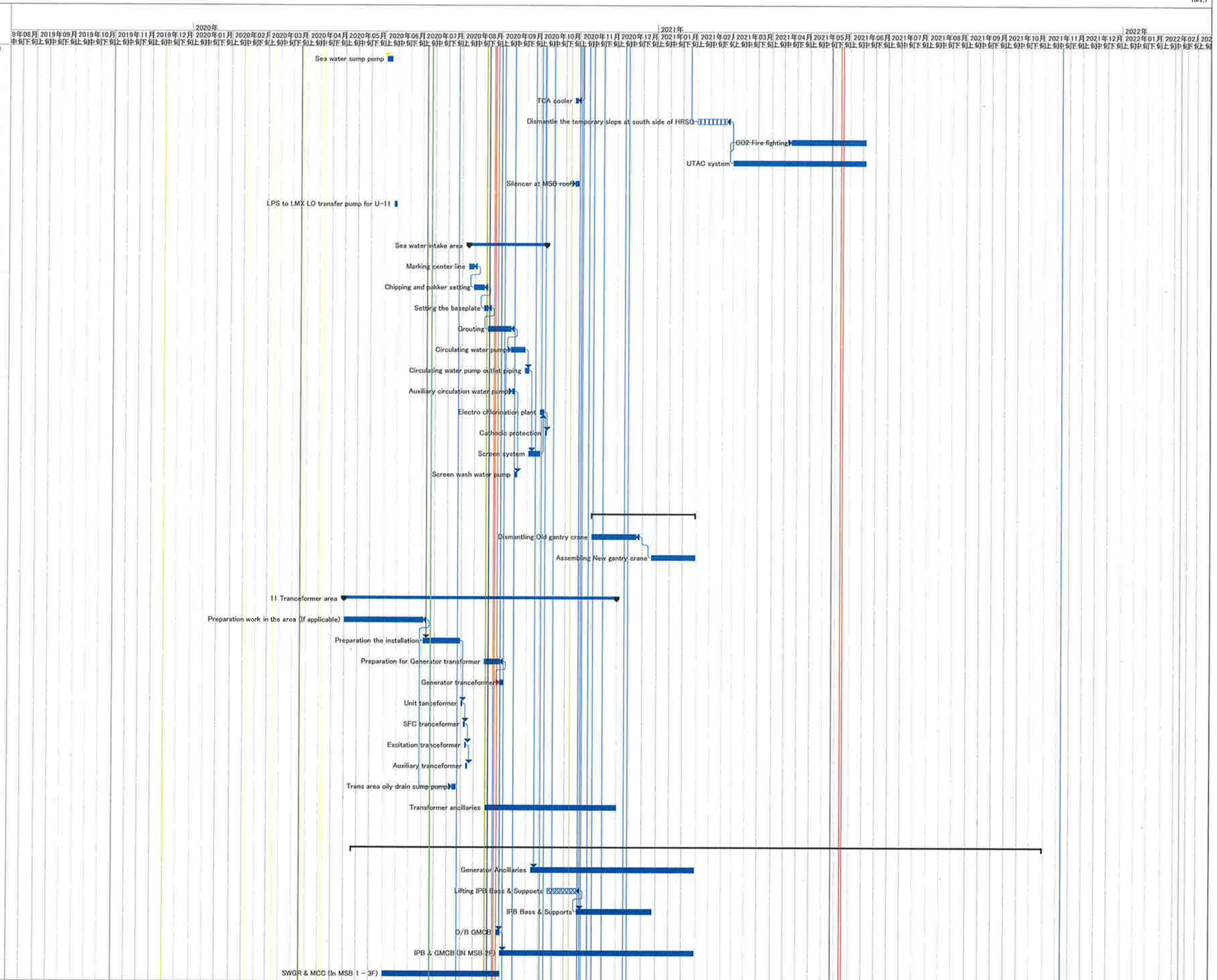
316	Sea water sump pump	4日	20/06/02 (火)	20/06/05 (金)
317				
318	TCA cooler	2日	20/10/28 (水)	20/10/30 (金)
319	Dismantle the temporary slope at south side of HRSG	20日	21/02/01 (月)	21/02/24 (水)
320	CO2 Fire fighting	50日	21/04/16 (金)	21/06/12 (土)
321	UTAC system	90日	21/03/01 (月)	21/06/12 (土)
322	Silencer 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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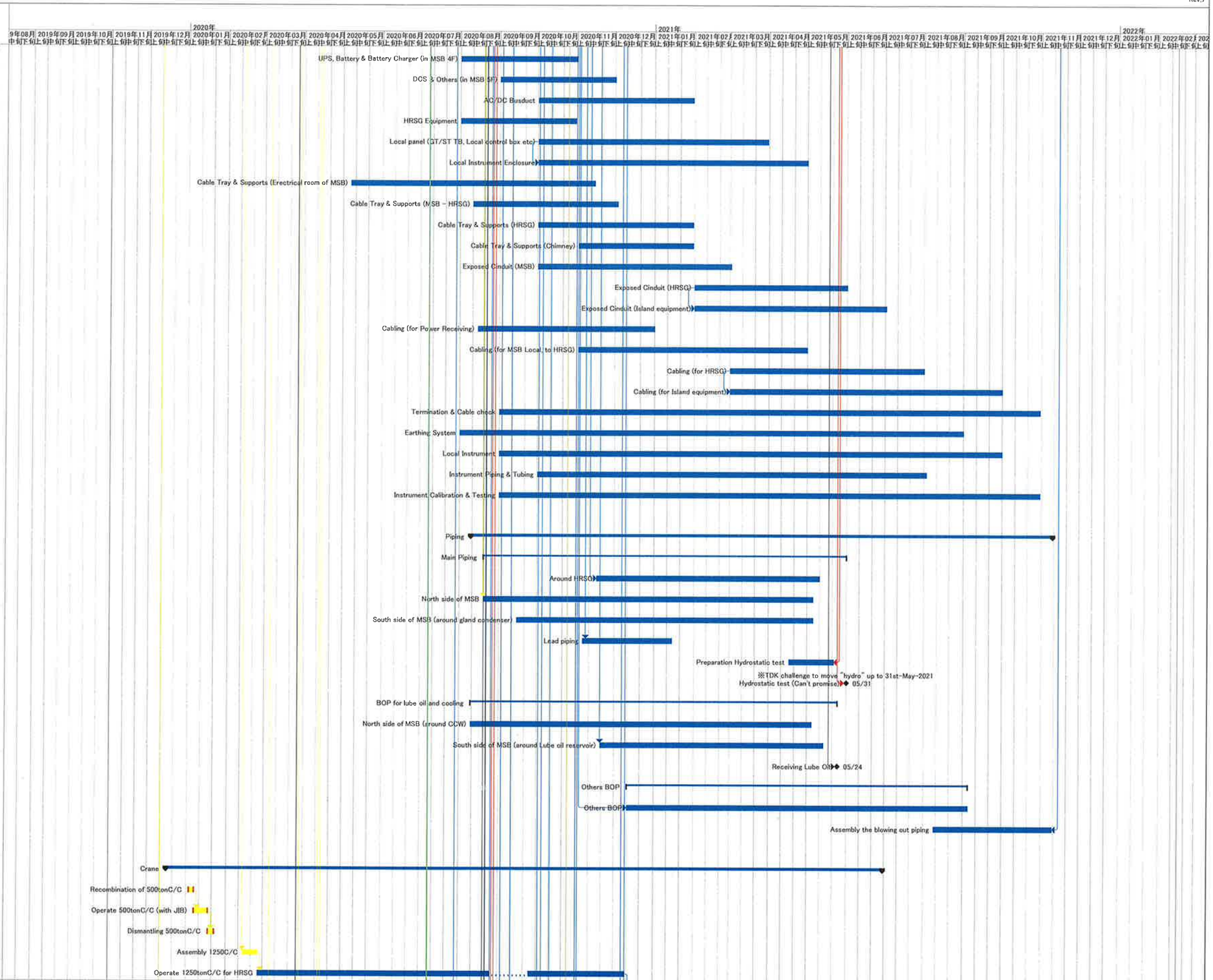
Construction Schedule of Unit-11

6-Jul-2020
Rev.7

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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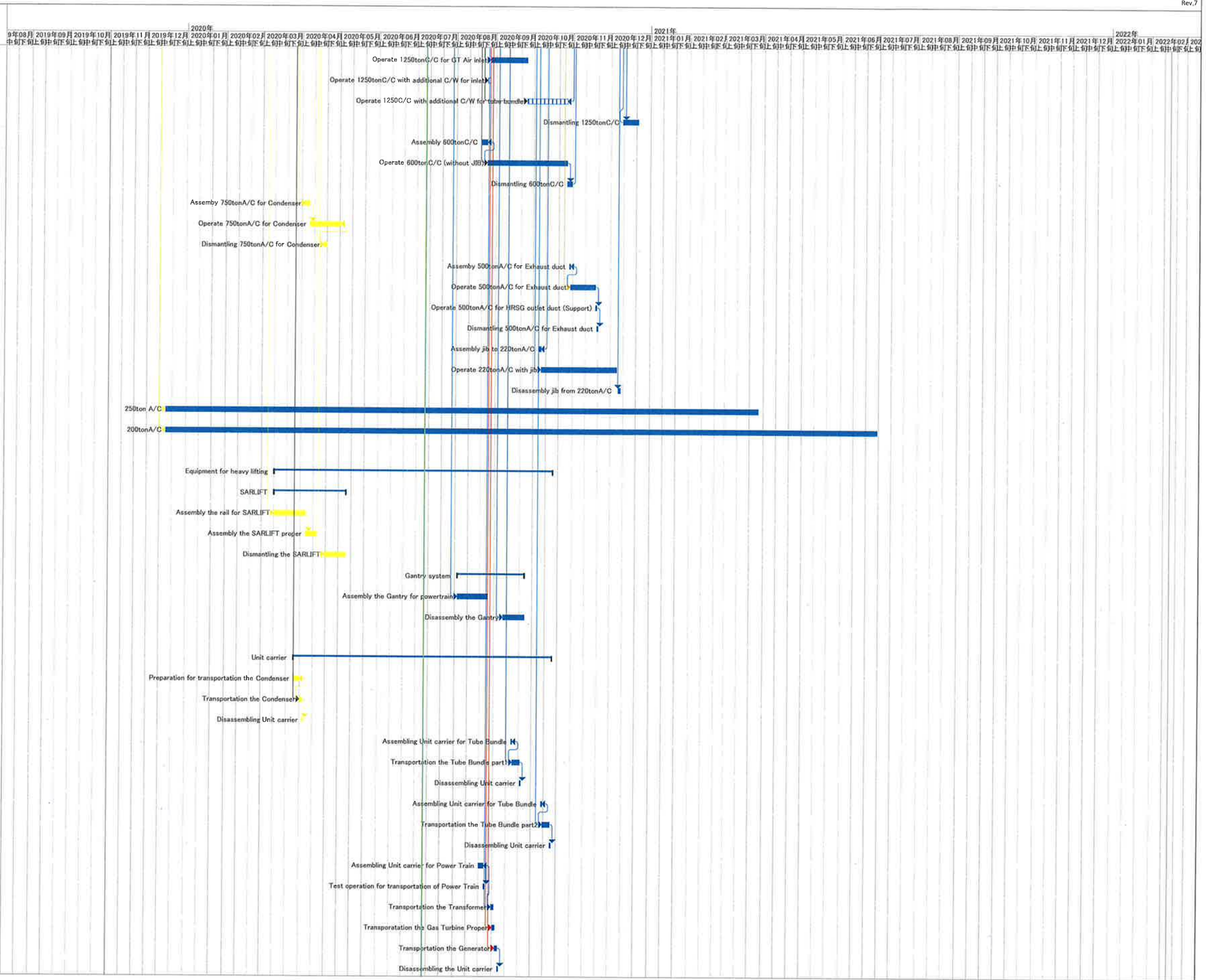
Construction Schedule of Unit-11

6-Jul-2020
Rev.7

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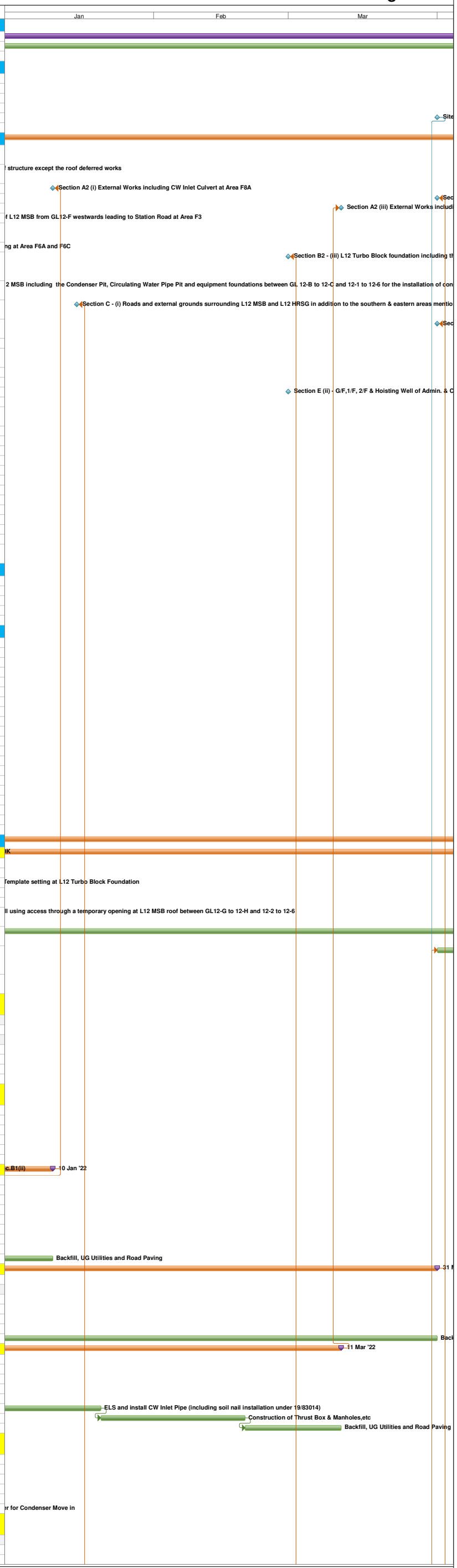
Contract No. 19/83002 Lamma Power Station Extension Civil and Building Works for Unit L12

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**	**537 days**	**Thu 30/9/21**	**Tue 21/3/23**
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	Mon 1/11/21	Mon 1/11/21
15	Section A2 (i) External Works including CW Inlet Culvert at Area F8A	0 days	Mon 10/1/22	Mon 10/1/22
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	Fri 11/3/22	Fri 11/3/22
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 553/03/2040 including the foundations for Gas Exhaust Duct	0 days	Thu 30/9/21	Thu 30/9/21
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	Mon 28/2/22	Mon 28/2/22
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	Thu 31/3/22	Thu 31/3/22
25	Section C - (iii) Link Bridge between L11 and L12 MSB including their associated A&A at L11 MSB	0 days	Sun 10/4/22	Sun 10/4/22
26	Section D - (i) Microwave Antenna Room and Chimney Windshiled for the installation of miscrowave equipment and antenna	0 days	Fri 10/6/22	Fri 10/6/22
27	Section D (ii) - No. 5 Chimney with L12 Steel Flue liner	0 days	Tue 21/3/23	Tue 21/3/23
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	Tue 31/5/22	Tue 31/5/22
31	Section F (i) - Gas Receiving Station and L12 Gas Receiving Station Equipment Room (GRS) Area Extension at Area F14	0 days	Wed 30/11/22	Wed 30/11/22
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	Wed 31/8/22	Wed 31/8/22
34	Section G (i) - External Work surrounding Area F11	0 days	Wed 26/10/22	Wed 26/10/22
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	Sun 8/5/22	Sun 8/5/22
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	Fri 15/10/21	Fri 15/10/21
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**	**562 days**	**Fri 15/1/21**	**Sat 30/7/22**
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	Thu 27/5/21	Wed 2/6/21
76	Template setting at L12 Turbo Block Foundation	45 days	Tue 16/11/21	Thu 30/12/21
77	Template setting of holding down bolts at HRSG column base	45 days	Fri 15/1/21	Sun 28/2/21
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	Mon 1/11/21	Wed 8/12/21
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	Fri 1/4/22	Sat 30/7/22
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	Tue 1/6/21	Mon 14/6/21
87	Installation CW Inlet Culvert pipe	70 days	Tue 15/6/21	Mon 23/8/21
88	Backfill	7 days	Tue 24/8/21	Mon 30/8/21
89	Construction UG Utilities 2m deep below further surface	21 days	Tue 31/8/21	Mon 27/9/21
90	Temporary Paving and handover for plant erection	3 days	Tue 28/9/21	Thu 30/9/21
91	**Section A1 (ii) - Supporting structures for overhead cranes of L12 MSB including the associated roof structure except the roof deferred workss**	**333 days**	**Fri 4/12/20**	**Mon 1/11/21**
92	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
93	Subletting / Fabrication / Delivery	210 days	Tue 23/2/21	Mon 20/9/21
94	Complete structural steel erection	0 days	Tue 19/10/21	Tue 19/10/21
95	Install Crane Girders	11 days	Tue 12/10/21	Fri 29/10/21
96	Construction of roof slab (except defer work)	14 days	Tue 12/10/21	Mon 1/11/21
97	Touch up and handover for install overhead cranes	3 days	Sat 30/10/21	Mon 1/11/21
98	**Section A2 (i) External Works including CW Inlet Culvert at Area F8A**	**403 days**	**Fri 4/12/20**	**Mon 10/1/22**
99	BD consent for Sheetpile installation	30 days	Fri 4/12/20	Sat 2/1/21
100	Subletting / Fabrication / Delivery (both for Area F8A-F8B)	30 days	Fri 18/12/20	Sat 16/1/21
101	Area Possession & Clearance	14 days	Sat 2/1/21	Fri 15/1/21
102	Install Sheet pile	55 days	Sat 16/1/21	Thu 11/3/21
103	Installation of Additional sheet Pile at South of area F8A	7 days	Sat 17/4/21	Fri 23/4/21
104	BD Consent for ELS	28 days	Sat 24/4/21	Fri 21/5/21
105	ELS and install CW Inlet Pipe (NW to N direction) (Assume flexible joint deliver in Sep 2021)	100 days	Fri 16/7/21	Sat 23/10/21
106	Construction of Thrust Box & Manholes,etc	15 days	Thu 16/9/21	Thu 30/9/21
107	Backfill, UG Utilities and Road Paving	79 days	Sun 24/10/21	Mon 10/1/22
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 1/3/21	Tue 30/3/21
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
112	BD Consent for ELS	28 days	Thu 1/7/21	Wed 28/7/21
113	ELS and install CW Inlet Pipe	100 days	Thu 29/7/21	Fri 5/11/21
114	Construction of Thrust Box & Manholes,etc	15 days	Wed 1/9/21	Wed 15/9/21
115	Backfill, UG Utilities and Road Paving	146 days	Sat 6/11/21	Thu 31/3/22
116	**Section A2 (iii) External Works including CW Inlet Culvert at Area F8C**	**365 days**	**Fri 12/3/21**	**Fri 11/3/22**
117	Area Possession & Clearance	30 days	Fri 12/3/21	Sat 10/4/21
118	Subletting / Fabrication / Delivery (for Area F8C)	60 days	Fri 12/3/21	Mon 10/5/21
119	BD consent for Sheetpile installation	30 days	Tue 13/4/21	Wed 12/5/21
120	Install Sheet pile	62 days	Thu 13/5/21	Tue 13/7/21
121	BD Consent for ELS	35 days	Wed 14/7/21	Tue 17/8/21
122	ELS and install CW Inlet Pipe (including soil nail installation under 19/83014)	76 days	Wed 18/8/21	Thu 20/1/22
123	Construction of Thrust Box & Manholes,etc	30 days	Fri 21/1/22	Sat 19/2/22
124	Backfill, UG Utilities and Road Paving	20 days	Sun 20/2/22	Fri 11/3/22
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	Tue 25/5/21	Thu 8/7/21
129	Backfill	30 days	Fri 9/7/21	Sat 7/8/21
130	Construction of Storm Drain & Manholes	67 days	Mon 20/9/21	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**	**273 days**	**Fri 1/1/21**	**Thu 30/9/21**
133	Area Possession & Clearance	30 days	Fri 1/1/21	Sat 30/1/21
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	Tue 8/6/21	Mon 12/7/21



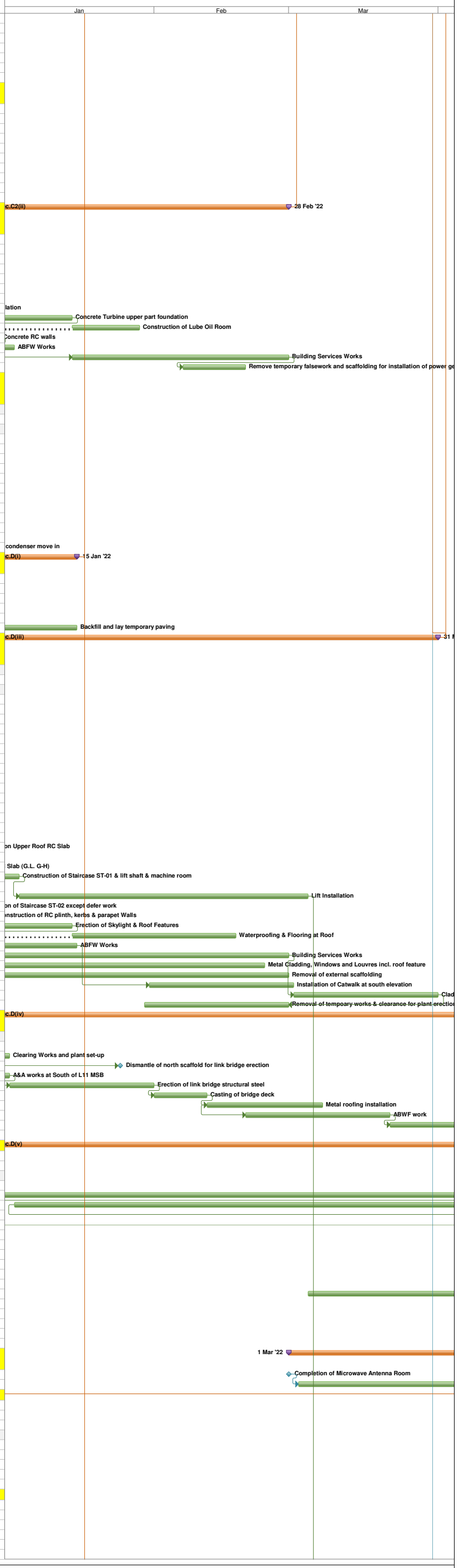
MASTER PROGRAMME
Rev 1-B 23 Aug 2021

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
136	Excavation & Construct Pile Caps & Tie Beams & Piers	86 days	Mon 8/3/21	Thu 19/8/21
137	Installation of Pipe Pile for HRSG foundation (VO)	48 days	Thu 25/3/21	Tue 11/5/21
138	Construction HRSG & Gas Duct foundations	112 days	Fri 7/5/21	Fri 3/9/21
139	Construction of HRSG Equipment Room incl. ABWF & BS (except T&C)	64 days	Tue 4/5/21	Thu 30/9/21
140	Construction underground utilities within HRSG	55 days	Mon 19/7/21	Sat 11/9/21
141	Backfill & Construction on-grade slabs & RC plinths on top	14 days	Fri 30/7/21	Mon 27/9/21
142	Backfill and Temporary paving	21 days	Fri 10/9/21	Thu 30/9/21
143	**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**
144	Area Possessiong and Clearance at Area F6A	30 days	Fri 1/1/21	Sat 30/1/21
145	Subletting / Fabrication / Delivery (for Area F6A and F6C civil)	90 days	Sat 2/1/21	Thu 1/4/21
146	Construction of Underground pits (HRSG Blowdown sump pit)	110 days	Sat 2/1/21	Wed 21/4/21
147	Excavation & Construct Pile Caps & Tie Beams & Piers	139 days	Mon 1/2/21	Sat 10/7/21
148	Construction underground utilities within HRSG	55 days	Mon 19/7/21	Sat 11/9/21
149	Construction of Underground pits (GT Oil & Chemical drain pits)	15 days	Thu 5/8/21	Thu 19/8/21
150	Backfill & Construction on-grade slabs & RC plinths on top	45 days	Sun 12/9/21	Tue 26/10/21
151	Construct RC Walls	90 days	Thu 22/4/21	Tue 20/7/21
152	Construction of Underground utilities at F6C	21 days	Tue 19/10/21	Mon 8/11/21
153	Backfill and Temporary paving	7 days	Tue 9/11/21	Mon 15/11/21
154	**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**	**452 days**	**Fri 4/12/20**	**Mon 28/2/22**
155	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
156	Subletting / Fabrication / Delivery (Civil+ABWF+BS for MSBL12)	150 days	Fri 25/12/20	Sun 23/5/21
157	Complete excavation at Type A&C Construction Area	0 days	Sun 21/3/21	Sun 21/3/21
158	Excavation & Pile Caps & Tie Beams + Slabs (Turbo Block North)	75 days	Sun 31/1/21	Thu 15/4/21
159	Backfill and construction turbine block & equipment foundation	85 days	Tue 1/6/21	Tue 24/8/21
160	Excavation & Pile Caps & Tie Beams + Slabs (Turbo Block South)	45 days	Sat 17/4/21	Mon 31/5/21
161	Construction of internal drainage & on-grade slab	90 days	Wed 1/9/21	Mon 29/11/21
162	Construction turbine block columns and upper portion for plant embed installation	83 days	Wed 25/8/21	Mon 15/11/21
163	Concrete Turbine upper part foundation	15 days	Fri 31/12/21	Fri 14/1/22
164	Construction of Lube Oil Room	14 days	Tue 30/11/21	Fri 28/1/22
165	Concrete RC walls	115 days	Tue 7/9/21	Thu 30/12/21
166	ABFW Works	60 days	Thu 4/11/21	Sun 2/1/22
167	Building Services Works	45 days	Sat 15/1/22	Mon 28/2/22
168	Remove temporary falsework and scaffolding for installation of power generator	13 days	Mon 7/2/22	Sat 19/2/22
169	**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**
170	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
171	Subletting / Fabrication / Delivery (for MSB L12 civil)	150 days	Fri 25/12/20	Sun 23/5/21
172	Excavation to foundation level at ELS SP Type A & C	80 days	Fri 1/1/21	Sun 21/3/21
173	Install CW Outlet pipe	85 days	Mon 22/3/21	Mon 14/6/21
174	Construction of CW Outlet Box + lowest tie beam & caps	40 days	Mon 22/3/21	Fri 30/4/21
175	Construction of pile caps & tie beams & sump pits up to +2.7mPD	26 days	Sat 1/5/21	Wed 26/5/21
176	Backfill & Construction of CW Inlet Box + tie beams	71 days	Thu 27/5/21	Thu 5/8/21
177	Construction of pile caps & tie beams at SunShadeCover Area	45 days	Tue 15/6/21	Thu 29/7/21
178	Backfill and Construction ground beams & trenches	28 days	Thu 27/5/21	Mon 5/7/21
179	Construction of indoor underground drainage	14 days	Fri 13/8/21	Thu 26/8/21
180	Backfill & construction on-grade slabs	60 days	Sun 1/8/21	Wed 29/9/21
181	Construction Column casting and RC walls & equipment foundations	50 days	Thu 30/9/21	Thu 18/11/21
182	ABFW Works	15 days	Fri 19/11/21	Fri 3/12/21
183	Building Services Works	20 days	Fri 26/11/21	Wed 15/12/21
184	Mis. Works and Ready for condenser move in	25 days	Wed 17/11/21	Wed 15/12/21
185	**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**
186	Area Possession & Clearance	30 days	Fri 4/12/20	Sat 2/1/21
187	Subletting / Fabrication / Delivery	210 days	Fri 25/12/20	Thu 22/7/21
188	Complete substructure & Steel Erection works for MSB	0 days	Tue 17/8/21	Tue 17/8/21
189	Construction all utilities deeper than 2m from future road level	30 days	Wed 18/8/21	Thu 16/9/21
190	Construction of cable trenches	30 days	Fri 17/9/21	Sat 16/10/21
191	Backfill and lay temporary paving	91 days	Sun 17/10/21	Sat 15/1/22
192	**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**	**483 days**	**Fri 4/12/20**	**Thu 31/3/22**
193	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
194	Subletting / Fabrication / Delivery	120 days	Fri 25/12/20	Fri 23/4/21
195	Construction of pile caps & tie beams at Transformer Area	180 days	Sun 31/1/21	Thu 29/7/21
196	Backfill and on-grade slab at transformer Area	160 days	Sun 11/4/21	Thu 7/10/21
197	Construction of Fire Walls at Transformer Area	45 days	Fri 8/10/21	Sun 21/11/21
198	Excavation & Construction Blow Down Sum pit (SP Type B)	140 days	Wed 14/4/21	Tue 31/8/21
199	Preaparation for S.Steelwork Erection	7 days	Sat 5/6/21	Fri 11/6/21
200	Structural Delivery & Erection (Turhine Hall North fr G.L. 1-3/H->B)	67 days	Sat 12/6/21	Tue 17/8/21
201	Structural Delivery & Erection (Equipment Floors)	33 days	Wed 18/8/21	Sun 19/9/21
202	Structural Delivery & Erection (Turbine Hall South + East Elevation)	47 days	Mon 20/9/21	Mon 15/11/21
203	Joint Tightening and touch up coating	99 days	Sat 3/7/21	Wed 24/11/21
204	External Scaffolding Erection	97 days	Thu 15/7/21	Mon 22/11/21
205	Construction 1/F RC Slab	14 days	Mon 20/9/21	Sun 3/10/21
206	Construction 2/F RC Slab	7 days	Mon 27/9/21	Sun 10/10/21
207	Construction 3/F RC Slab	18 days	Thu 30/9/21	Sun 17/10/21
208	Construction 4/F RC Slab	7 days	Thu 7/10/21	Sun 24/10/21
209	Construction 5/F RC Slab	44 days	Mon 25/10/21	Tue 7/12/21
210	Construction 6/F RC Slab	14 days	Wed 1/12/21	Tue 14/12/21
211	Construction Upper Roof RC Slab	10 days	Sun 12/12/21	Fri 24/12/21
212	Construction Main Roof RC Slab	39 days	Tue 12/10/21	Fri 19/11/21
213	Construction Defer Roof RC Slab (G.L. G-H)	14 days	Wed 1/12/21	Tue 14/12/21
214	Construction of Staircase ST-01 & lift shaft & machine room	130 days	Fri 27/8/21	Mon 3/1/22
215	Construction M/F RC Slab	14 days	Wed 1/9/21	Tue 14/9/21
216	Lift Installation	60 days	Tue 4/1/22	Fri 4/3/22
217	Construction of Staircase ST-02 except defer work	68 days	Mon 11/10/21	Fri 24/12/21
218	Construction of RC plinth, kerbs & parapet Walls	40 days	Sat 20/11/21	Wed 29/12/21
219	Erection of Skylight & Roof Features	50 days	Fri 26/11/21	Fri 14/1/22
220	Waterproofing & Flooring at Roof	34 days	Thu 30/12/21	Thu 17/2/22
221	ABFW Works	100 days	Fri 8/10/21	Sat 15/1/22
222	Building Services Works	105 days	Tue 16/11/21	Mon 28/2/22
223	Metal Cladding, Windows and Louvres incl. roof feature	185 days	Mon 23/8/21	Wed 23/2/22
224	Removal of external scaffolding	90 days	Wed 1/12/21	Mon 28/2/22
225	Installation of Catwalk at south elevation	26 days	Mon 31/1/22	Tue 1/3/22
226	Cladding, ABWF & BS Works	30 days	Wed 2/3/22	Thu 31/3/22
227	Removal of tempoary works & clearance for plant erection contractor	30 days	Sun 30/1/22	Mon 28/2/22
228	**Section C - (iii) Link Bridge between L11 and L12 MSB includin their associated A&A at L11 MSB**	**493 days**	**Fri 4/12/20**	**Sun 10/4/22**
229	BD Consent	0 days	Fri 4/12/20	Fri 4/12/20
230	Subletting / Fabrication / Delivery (For BS and ABWF)	250 days	Fri 25/12/20	Tue 31/8/21
231	Clearing Works and plant set-up	30 days	Fri 3/12/21	Sat 1/1/22
232	Dismantle of north scaffold for link bridge erection	0 days	Tue 25/1/22	Tue 25/1/22
233	A&A works at South of L11 MSB	30 days	Fri 3/12/21	Sat 1/1/22
234	Erection of link bridge structural steel	30 days	Sun 2/1/22	Mon 31/1/22
235	Casting of bridge deck	11 days	Tue 1/2/22	Fri 11/2/22
236	Metal roofing installation	24 days	Sat 12/2/22	Mon 7/3/22
237	ABWF work	30 days	Sun 20/2/22	Mon 21/3/22
238	BS Works	20 days	Tue 22/3/22	Sun 10/4/22
239	Ready for power cable laying work by others	0 days	Sun 10/4/22	Sun 10/4/22
240	**Section D - (ii) No. 5 Chimney with L12 Steel Flue Liner**	**810 days**	**Fri 1/1/21**	**Tue 21/3/23**
241	Area Possession & Clearance	45 days	Fri 1/1/21	Sun 14/2/21
242	Subletting / Fabrication / Delivery (For Civil and BS for Microwave Antenna and Equipment)	120 days	Fri 8/1/21	Fri 7/5/21
243	Excavation & Pile Cap & Backfill	90 days	Sat 2/1/21	Thu 1/4/21
244	Tower Crane erection	30 days	Tue 11/5/21	Wed 9/6/21
245	Construction of Wind Shiled + clearance for internal floors and flue+Ground slab	308 days	Fri 2/4/21	Mon 4/4/22
246	Structural steel fabrication & Delivery for floors and staircase	201 days	Mon 3/1/22	Fri 22/7/22
247	Erection of steel floors	79 days	Tue 19/4/22	Wed 6/7/22
248	Construction of G/F room incl. Microwave Antenna Rm	45 days	Thu 7/7/22	Sat 20/8/22
249	Construction of 1/F RC slab	8 days	Sat 13/8/22	Sat 20/8/22
250	Construction of 2/F RC Slab	8 days	Fri 5/8/22	Fri 12/8/22
251	Construction of 3/F RC slab	8 days	Thu 28/7/22	Thu 4/8/22
252	Construction of 4/F RC slab	8 days	Thu 7/7/22	Thu 14/7/22
253	Construction of Roof RC slab	61 days	Tue 21/6/22	Sat 20/8/22
254	Removal of tower Crane	7 days	Sun 21/8/22	Sat 27/8/22
255	Steel Flue fabrication and delivery	145 days	Sat 5/3/22	Wed 27/7/22
256	Set up for steel flue installation	60 days	Tue 5/7/22	Fri 2/9/22
257	Lift & install steel flue liner + cladding works	161 days	Thu 28/7/22	Wed 4/1/23
258	Lift installation	100 days	Mon 12/12/22	Tue 21/3/23
259	Installation Louvre & Doors	30 days	Thu 5/1/23	Fri 3/2/23
260	Mis works, Demobilization and ready for gas duct connection	17 days	Thu 5/1/23	Sat 21/1/23
261	**Section D (i) - ABWF and BS Works at Microwave Antenna Room and Chimney Windshield for installation of microwave and antenna**	**102 days**	**Tue 1/3/22**	**Fri 10/6/22**
262	Completion of Microwave Antenna Room	0 days	Tue 1/3/22	Tue 1/3/22
263	Remaining ABWF & BS Works	100 days	Thu 3/3/22	Fri 10/6/22
264	**Section E - (i) Administration and Control Building (Transformer Room)**	**332 days**	**Fri 4/12/20**	**Sun 31/10/21**
265	Area Possession & Clearance + BD consent	60 days	Fri 4/12/20	Mon 1/2/21
266	Subletting / Fabrication / Delivery (For Civil+BS+ABWF)	100 days	Tue 2/2/21	Wed 12/5/21
267	Excavation works	45 days	Fri 4/12/20	Sun 17/1/21
268	Main Earth Grid Installation	45 days	Sun 3/1/21	Tue 16/2/21
269	Pile cap and Tie Beam	45 days	Sun 3/1/21	Tue 16/2/21
270	Tower Crane Erection and modification works	49 days	Wed 10/2/21	Tue 30/3/21
271	Substructure + Bearing walls + On grade slabs	115 days	Wed 17/2/21	Fri 11/6/21
272	Construction of RC up to 1/F incl. staircases	69 days	Sat 12/6/21	Thu 19/8/21
273	ABWF at G/F	52 days	Fri 10/9/21	Sun 31/10/21
274	**Section E (ii) Handover G/F, 1/F, 2/F & Hoisting Well**	**452 days**	**Fri 4/12/20**	**Mon 28/2/22**
275	Clearing Works and plant set-up	21 days	Sun 31/10/21	Sat 20/11/21
276	Subletting / Fabrication / Delivery (For NSC Lift)	180 days	Sun 3/1/21	Sat 31/7/21
277	Construction of RC up to 2/F incl. staircases	25 days	Sat 14/8/21	Mon 13/9/21
278	Construction of RC up to 3/F incl. staircases	20 days	Thu 2/9/21	Tue 21/9/21
279	Tempoary Hoist erection	14 days	Wed 22/9/21	Tue 5/10/21
280	Construction of RC up to 4/F incl. staircases	20 days	Thu 16/9/21	Tue 5/10/21



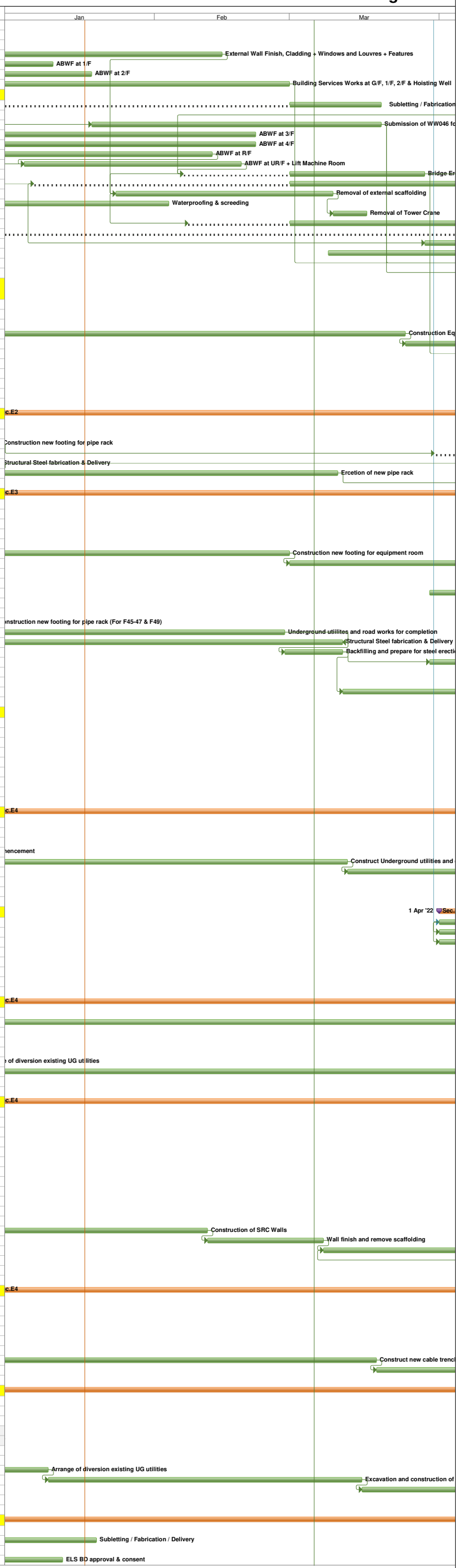
MASTER PROGRAMME
Rev 1-B 23 Aug 2021

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
281	Construction of RC up to R/F incl. staircases	25 days	Thu 30/9/21	Sun 24/10/21
282	Construction of RC up to lift machine room	21 days	Mon 25/10/21	Sun 14/11/21
283	Construction of RC up to UR/F	21 days	Mon 15/11/21	Sun 5/12/21
284	External Wall Finish, Cladding + Windows and Louvres + Features	138 days	Thu 30/9/21	Mon 14/2/22
285	ABWF at 1/F	95 days	Fri 8/10/21	Mon 10/1/22
286	ABWF at 2/F	96 days	Fri 15/10/21	Tue 18/1/22
287	Building Services Works at G/F, 1/F, 2/F & Hoisting Well	147 days	Tue 5/10/21	Mon 28/2/22
288	**Section E (iii) Whole of Administration and Control Building**	**544 days**	**Fri 4/12/20**	**Tue 31/5/22**
289	Subletting / Fabrication / Delivery (For BS+ABWF)	127 days	Sat 23/10/21	Sun 20/3/22
290	Construction of New UG Grey Water Tank	60 days	Mon 20/3/23	Thu 18/5/23
291	Submission of WW046 for commencement	60 days	Wed 19/1/22	Sat 19/3/22
292	ABWF at 3/F	120 days	Mon 25/10/21	Mon 21/2/22
293	ABWF at 4/F	90 days	Wed 24/11/21	Mon 21/2/22
294	ABWF at R/F	60 days	Wed 15/12/21	Sat 12/2/22
295	ABWF at UR/F + Lift Machine Room	45 days	Wed 5/1/22	Fri 18/2/22
296	Bridge Erection & Connection	28 days	Mon 7/2/22	Mon 28/3/22
297	Installation of Raised floors	60 days	Fri 7/1/22	Fri 29/4/22
298	Removal of external scaffolding	39 days	Mon 24/1/22	Wed 9/3/22
299	Waterproofing & screeding	60 days	Mon 6/12/21	Thu 3/2/22
300	Removal of Tower Crane	7 days	Thu 10/3/22	Wed 16/3/22
301	External utiliites and road work	45 days	Tue 8/2/22	Thu 14/4/22
302	Building Services Works	160 days	Tue 7/12/21	Sun 15/5/22
303	False ceiling after BS works	54 days	Tue 29/3/22	Sat 21/5/22
304	Submission of WW046 for completion	30 days	Wed 9/3/22	Thu 7/4/22
305	Submission of FS inspection	14 days	Fri 13/5/22	Thu 26/5/22
306	Submisision for OP Inspection	14 days	Wed 18/5/22	Tue 31/5/22
307	**Section F (i) - Gas Receiving Station and L12 Gas Receiving Station Equipment Room (GRS) Area Extension at Area F14**	**548 days**	**Tue 1/6/21**	**Wed 30/11/22**
308	Area Possession & Clearance + BD consent	90 days	Tue 1/6/21	Sun 29/8/21
309	Subletting / Fabrication / Delivery	30 days	Tue 22/6/21	Wed 21/7/21
310	Installation of pipe pile at north of GRS (VO)	134 days	Mon 5/7/21	Mon 15/11/21
311	Construction Equipment room extension	145 days	Sun 31/10/21	Thu 24/3/22
312	Modification of existing drainage	45 days	Fri 25/3/22	Sun 8/5/22
313	Excavation & earthing for Skid foundations	21 days	Mon 9/5/22	Sun 29/5/22
314	Construction of Skid foundation	45 days	Mon 30/5/22	Wed 13/7/22
315	Construct underground utilities and drainage	45 days	Thu 14/7/22	Sat 27/8/22
316	Backfill and road works	60 days	Sun 28/8/22	Wed 26/10/22
317	Relocate / install new fencing for completion	21 days	Thu 27/10/22	Wed 16/11/22
318	Mis. Work and ready for OP inspection	14 days	Thu 17/11/22	Wed 30/11/22
319	**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**
320	BD consent + Site Possession at Area F9A & F9B	90 days	Sat 2/1/21	Thu 1/4/21
321	Excavation & Plate load test	30 days	Mon 1/11/21	Tue 30/11/21
322	Construction new footing for pipe rack	30 days	Wed 1/12/21	Thu 30/12/21
323	Underground utiilites and road works for completion	11 days	Thu 31/3/22	Tue 31/5/22
324	Structural Steel fabrication & Delivery	90 days	Sat 2/10/21	Thu 30/12/21
325	Ercetion of new pipe rack	70 days	Fri 31/12/21	Thu 10/3/22
326	Mis. Work and ready for OP inspection	21 days	Wed 11/5/22	Tue 31/5/22
327	**Section F (iii) - No. 5 CW Equipment Room, pipe and cable rack, external works at Area F10**	**457 days**	**Tue 1/6/21**	**Wed 31/8/22**
328	Area Possession & Clearance + BD consent	90 days	Tue 1/6/21	Sun 29/8/21
329	Subletting / Fabrication / Delivery For ABWF + BS	150 days	Wed 2/6/21	Fri 29/10/21
330	Installation of Sheet Pile (VO)	85 days	Tue 1/6/21	Tue 24/8/21
331	Consent for ELS Works	28 days	Wed 25/8/21	Tue 21/9/21
332	Excavation & Plate load test	30 days	Wed 22/9/21	Thu 21/10/21
333	Construction new footing for equipment room	68 days	Thu 23/12/21	Mon 28/2/22
334	Superstructure for equipment room	60 days	Tue 1/3/22	Fri 29/4/22
335	ABWF Works	45 days	Sat 30/4/22	Mon 13/6/22
336	BS Works	30 days	Wed 1/6/22	Thu 30/6/22
337	Construction RC Wall & plinths & drainage at Chlorinator area	45 days	Wed 30/3/22	Fri 13/5/22
338	External wall finish & remove scaffolding	30 days	Sat 14/5/22	Sun 12/6/22
339	Excavation & Plate load test for pipe rack extension (For F45-47 & F49)	30 days	Sat 16/10/21	Sun 14/11/21
340	Construction new footing for pipe rack (For F45-47 & F49)	45 days	Mon 15/11/21	Wed 29/12/21
341	Underground utiilites and road works for completion	60 days	Thu 30/12/21	Sun 27/2/22
342	Structural Steel fabrication & Delivery	90 days	Sun 12/12/21	Fri 11/3/22
343	Backfilling and prepare for steel erection	12 days	Mon 28/2/22	Fri 11/3/22
344	Excavation & Plate Load test for pipe rack extenstion (For F48 F56)	14 days	Wed 30/3/22	Tue 12/4/22
345	Construction of new footing for pipe rak (For F48 & F56)	14 days	Wed 13/4/22	Tue 26/4/22
346	Erection of new pipe rack (For F48 & F56)	65 days	Tue 3/5/22	Wed 6/7/22
347	Erection of new pipe rack (For F45-47 & F49)	70 days	Sat 12/3/22	Fri 20/5/22
348	Mis. Work and ready for OP inspection	56 days	Thu 7/7/22	Wed 31/8/22
349	**Section G (i) - External Work surrounding Area F11**	**145 days**	**Sat 4/6/22**	**Wed 26/10/22**
350	Area Possession & Clearance after handover from No. 5 Intake Contractor	30 days	Sat 4/6/22	Sun 3/7/22
351	Subletting / Fabrication / Delivery	30 days	Sat 4/6/22	Sun 3/7/22
352	Submission WWO046 for commencement	30 days	Sat 4/6/22	Sun 3/7/22
353	Construct Underground utilities and drainage	30 days	Mon 20/6/22	Tue 19/7/22
354	Install new FS Hydrant	20 days	Mon 20/6/22	Sat 9/7/22
355	Submission WWO046 for completeion	30 days	Sat 30/7/22	Sun 28/8/22
356	Construction Road extension	58 days	Sat 30/7/22	Sun 25/9/22
357	Construction road paving and install fencing	30 days	Mon 26/9/22	Tue 25/10/22
358	Ready for OP inspection	14 days	Thu 13/10/22	Wed 26/10/22
359	**Section G (ii) - External Works at Area F12 & F13**	**666 days**	**Fri 4/12/20**	**Fri 30/9/22**
360	Area Possession & Clearance after handover from other	45 days	Fri 4/12/20	Sun 17/1/21
361	Subletting / Fabrication / Delivery	180 days	Thu 4/3/21	Mon 30/8/21
362	Excavation	21 days	Sat 23/10/21	Fri 12/11/21
363	Submission WWO046 for commencement	30 days	Sat 13/11/21	Sun 12/12/21
364	Construct Underground utilities and drainage	90 days	Mon 13/12/21	Sat 12/3/22
365	Install new FS Hydrant	30 days	Sun 13/3/22	Mon 11/4/22
366	Submission WWO046 for completion	30 days	Tue 12/4/22	Wed 11/5/22
367	Construction Road extension	127 days	Thu 12/5/22	Thu 15/9/22
368	Complete with Mis. Works for completion	15 days	Fri 16/9/22	Fri 30/9/22
369	**Section G (iii) - FS Modification works along South Seafront Road at Area F15**	**183 days**	**Fri 1/4/22**	**Fri 30/9/22**
370	Area Possession & Clearance after handover from other	45 days	Fri 1/4/22	Sun 15/5/22
371	Subletting / Fabrication / Delivery	21 days	Fri 1/4/22	Thu 21/4/22
372	Temporary Traffice Arrangement approval	14 days	Fri 1/4/22	Thu 14/4/22
373	Utilities scanning and expose existing FS	14 days	Fri 15/4/22	Thu 28/4/22
374	Determine new FS alignment	21 days	Fri 29/4/22	Thu 19/5/22
375	Submission to FSD	14 days	Fri 20/5/22	Thu 2/6/22
376	Modification of FS	60 days	Fri 3/6/22	Mon 1/8/22
377	Backfill and reinstatment + report to FSD	60 days	Tue 2/8/22	Fri 30/9/22
378	**Section G (iv) - 275kV cable trenches and External Works at Area F16**	**518 days**	**Sat 1/5/21**	**Fri 30/9/22**
379	Area Possession & Clearance	60 days	Sat 1/5/21	Tue 29/6/21
380	Subletting / Fabrication / Delivery	210 days	Wed 17/11/21	Tue 14/6/22
381	Temporary Traffice Arrangement approval	60 days	Sat 1/5/21	Tue 29/6/21
382	Removal of aboveground services	60 days	Wed 30/6/21	Sat 28/8/21
383	Utilities scanning and expose exising UU	30 days	Sun 29/8/21	Mon 27/9/21
384	Arrange of diversion existing UG utilities	90 days	Tue 28/9/21	Sun 26/12/21
385	Construct new cable trenches	173 days	Mon 27/12/21	Fri 17/6/22
386	Realigment / install new UG utilities	60 days	Sat 18/6/22	Tue 16/8/22
387	Backfill and reinstate & ready for cable laying by others	45 days	Wed 17/8/22	Fri 30/9/22
388	**Section G (v) - Shunt Reactor Compound and External Works at Area F17**	**666 days**	**Fri 4/12/20**	**Fri 30/9/22**
389	Temporary Traffice Arrangement approval	45 days	Fri 4/12/20	Sun 17/1/21
390	Subletting / Fabrication / Delivery	100 days	Fri 25/12/20	Sat 3/4/21
391	BD approval & consent for pipe pile installation	90 days	Fri 4/12/20	Wed 3/3/21
392	Area Possession & Clearance	14 days	Thu 4/3/21	Wed 17/3/21
393	Removal of aboveground services	21 days	Thu 18/3/21	Wed 7/4/21
394	Utilities scanning and expose exising UU	15 days	Thu 8/4/21	Thu 22/4/21
395	Arrange of diversion existing UG utilities	45 days	Fri 23/4/21	Sun 6/6/21
396	Install pipe piles	61 days	Sun 23/5/21	Thu 22/7/21
397	BA14 for pipepile and BD consent for ELS	28 days	Fri 23/7/21	Thu 19/8/21
398	Excavation & install earthing	35 days	Fri 20/8/21	Thu 23/9/21
399	Construct Pile Caps and Tie Beams	45 days	Fri 24/9/21	Sun 7/11/21
400	Backfill & Erect scaffold	21 days	Mon 8/11/21	Sun 28/11/21
401	Construction of SRC Walls	75 days	Mon 29/11/21	Fri 11/2/22
402	Wall finish and remove scaffolding	24 days	Sat 12/2/22	Mon 7/3/22
403	Construct new cable trenches	60 days	Tue 8/3/22	Fri 6/5/22
404	Install new UG Utilties, Backfill and reinstate & ready for cable laying by Others for DAX1	55 days	Thu 7/4/22	Tue 31/5/22
405	Realigment / install new UG utilities (for DAX2, APX1 & APX3)	117 days	Sat 7/5/22	Wed 31/8/22
406	Backfill and reinstate & ready for cable laying by others (for DAX2, APX1, & APX3)	30 days	Thu 1/9/22	Fri 30/9/22
407	**Section G (vi) - 275kV cable trenches and External Works at Area F18**	**397 days**	**Sat 1/5/21**	**Wed 1/6/22**
408	Temporary Traffice Arrangement approval	45 days	Sat 1/5/21	Mon 14/6/21
409	Subletting / Fabrication / Delivery	60 days	Tue 15/6/21	Fri 13/8/21
410	Area Possession & Clearance	15 days	Sat 1/5/21	Sat 15/5/21
411	Removal of aboveground services	30 days	Sun 16/5/21	Mon 14/6/21
412	Utilities scanning and expose exising UU	45 days	Tue 15/6/21	Thu 29/7/21
413	Arrange of diversion existing UG utilities	60 days	Fri 30/7/21	Mon 27/9/21
414	Construct new cable trenches	172 days	Tue 28/9/21	Fri 18/3/22
415	Realigment / install new UG utilities	45 days	Sat 19/3/22	Mon 2/5/22
416	Backfill and reinstate & ready for cable laying by others	30 days	Tue 3/5/22	Wed 1/6/22
417	**Section G (vii) - Flood wall at No. 5 CW Intake Area along HUA at Area F20A**	**521 days**	**Fri 4/12/20**	**Sun 8/5/22**
418	Area Possession & Clearance	30 days	Fri 4/12/20	Sat 2/1/21
419	Subletting / Fabrication / Delivery	60 days	Fri 25/12/20	Mon 22/2/21
420	Temporary Traffice Arrangement approval	300 days	Fri 4/12/20	Wed 29/9/21
421	ELS BD approval & consent	90 days	Fri 18/12/20	Wed 17/3/21
422	Demolition of existing carriageway	30 days	Thu 11/11/21	Fri 10/12/21
423	Removal of aboveground services	21 days	Thu 30/9/21	Wed 20/10/21
424	Utilities scanning and expose exising UU	21 days	Thu 21/10/21	Wed 10/11/21
425	Arrange of diversion existing UG utilities	30 days	Sat 11/12/21	Sun 9/1/22
426	Excavation and construction of new Flood wall	65 days	Mon 10/1/22	Tue 15/3/22
427	Realigment / install new UG utilities	30 days	Wed 16/3/22	Thu 14/4/22
428	Backfill and construct new carriageway	18 days	Fri 15/4/22	Mon 2/5/22
429	Mis. Work for completion	6 days	Tue 3/5/22	Sun 8/5/22
430	**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**
431	Area Possession & Clearance	45 days	Fri 1/10/21	Sun 14/11/21
432	Subletting / Fabrication / Delivery	90 days	Fri 22/10/21	Wed 19/1/22
433	Temporary Traffice Arrangement approval	14 days	Fri 1/10/21	Thu 14/10/21
434	ELS BD approval & consent	90 days	Fri 15/10/21	Wed 12/1/22



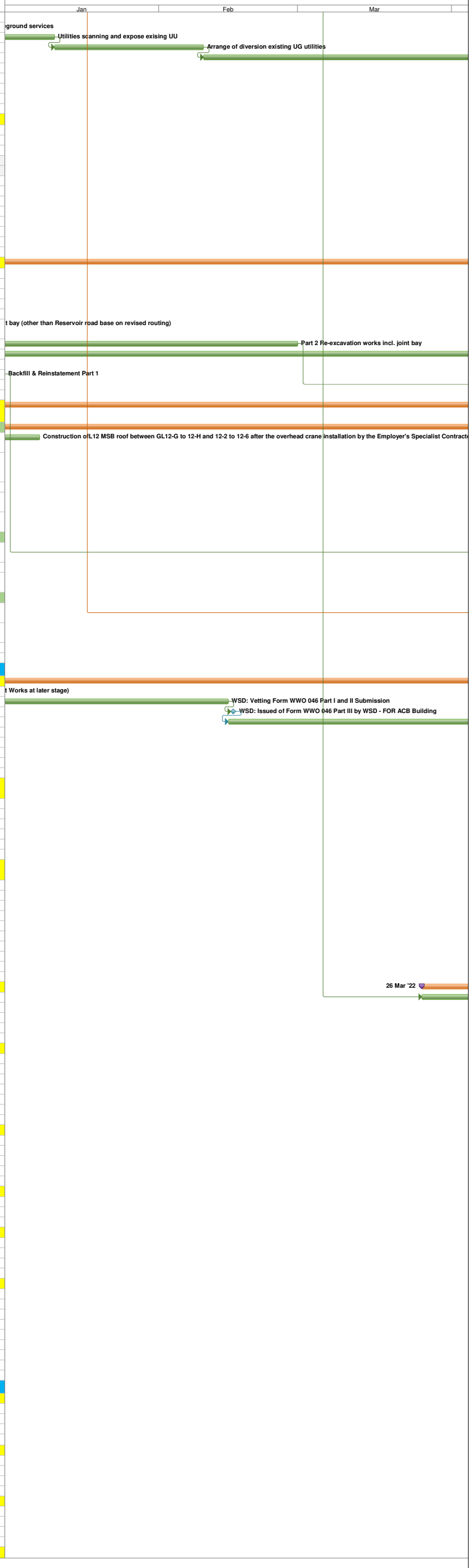
MASTER PROGRAMME
Rev 1-B 23 Aug 2021

Task — Split — Milestone — Summary

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

Master Programme

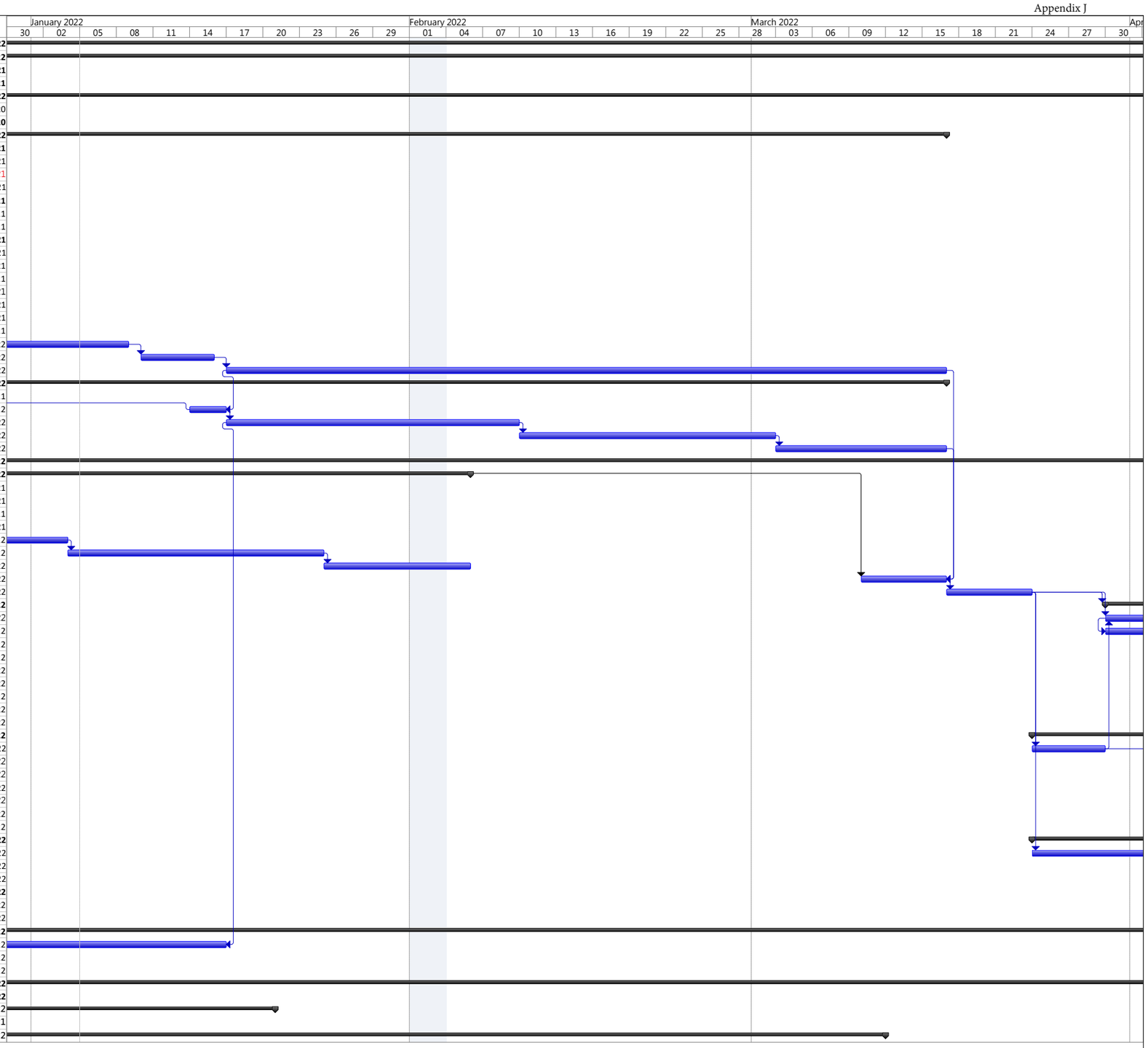
ID	Task Name	Duration	Start	Finish
435	Demolition of existing carriageway	60 days	Fri 1/10/21	Mon 29/11/21
436	Removal of aboveground services	21 days	Tue 30/11/21	Mon 20/12/21
437	Utilities scanning and expose exising UU	21 days	Tue 21/12/21	Mon 10/1/22
438	Arrange of diversion existing UG utilities	30 days	Tue 11/1/22	Wed 9/2/22
439	Install Sheetpiles	55 days	Thu 10/2/22	Tue 5/4/22
440	BA14 for sheetpile and BD consent for ELS	28 days	Wed 6/4/22	Tue 3/5/22
441	Excavation and construction of new Flood wall	90 days	Wed 4/5/22	Mon 1/8/22
442	Realigment / install new UG utilities	30 days	Tue 2/8/22	Wed 31/8/22
443	Backfill and construct new carriageway	21 days	Thu 1/9/22	Wed 21/9/22
444	Mis. Work for completion	9 days	Thu 22/9/22	Fri 30/9/22
445	**Section G (ix) - Bund wall modification works at South Seafront Road at Area F21**	**316 days**	**Fri 4/12/20**	**Fri 15/10/21**
446	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
447	Subletting / Fabrication / Delivery	90 days	Fri 25/12/20	Wed 24/3/21
448	Temporary Traffice Arrangement approval	165 days	Fri 4/12/20	Mon 17/5/21
449	ELS BD approval & consent	0 days	Thu 17/12/20	Thu 17/12/20
450	Demolition of existing carriageway	14 days	Tue 18/5/21	Mon 31/5/21
451	Removal of aboveground services	14 days	Tue 1/6/21	Mon 14/6/21
452	Utilities scanning and expose exising UU	21 days	Tue 15/6/21	Mon 5/7/21
453	Arrange of diversion existing UG utilities (include FS pipe under 17/8002)	40 days	Tue 6/7/21	Sat 14/8/21
454	Excavation and expose existing bund wall & demolish	18 days	Wed 28/7/21	Sat 14/8/21
455	Construction new bund wall for road junction	21 days	Sat 4/9/21	Fri 24/9/21
456	Realigment / install new UG utilities (include FS pipe under 17/8002)	60 days	Sun 1/8/21	Wed 29/9/21
457	Backfill and construct new carriageway	16 days	Thu 30/9/21	Fri 15/10/21
458	Mis. Work for completion	5 days	Mon 11/10/21	Fri 15/10/21
459	**Section G (x) - DAX Cable Diversion Works (from Part I to Part IV)**	**758 days**	**Fri 4/12/20**	**Sat 31/12/22**
460	Temporary Traffice Arrangement approval	14 days	Fri 4/12/20	Thu 17/12/20
461	Subletting / Fabrication / Delivery	90 days	Fri 25/12/20	Wed 24/3/21
462	Area Possession & Clearance	45 days	Fri 4/12/20	Sun 17/1/21
463	Identification of existing cable trench	7 days	Mon 18/1/21	Sun 24/1/21
464	Part 1 Re-excavation works incl.construction of joint bay (at Water Reservoir Road)	246 days	Mon 25/1/21	Mon 27/9/21
465	Part 1 Re-excavation works incl construction of joint bay (other than Reservoir road base on revised routing)	310 days	Mon 25/1/21	Tue 30/11/21
466	Part 2 Re-excavation works incl. joint bay	120 days	Mon 1/11/21	Mon 28/2/22
467	Part 3 Re-excavation works incl. joint bay	242 days	Mon 1/11/21	Thu 30/6/22
468	Part 4 Re-excavation works incl. joint bay & new oil tank pits	92 days	Sat 1/10/22	Sat 31/12/22
469	Backfill & Reinstatement Part 1	61 days	Mon 1/11/21	Fri 31/12/21
470	Backfill & Reinstatement Part 2	61 days	Sun 1/5/22	Thu 30/6/22
471	Backfill & Reinstatement Part 3	61 days	Thu 1/9/22	Mon 31/10/22
472	**Section H - All remaining works shall be completed for reporting completion to BD and ready for OP inspection (PS1.4.4)**	**775 days**	**Wed 17/11/21**	**Sun 31/12/23**
473	**Deferred works (MSB & HRSG) Listed in PS 1.4.4**	**272 days**	**Wed 17/11/21**	Mon 15/8/22
474	Construction ofL12 MSB roof between GL12-G to 12-H and 12-2 to 12-6 after the overhead crane installation by the Employer's Specialist Contractors	38 days	Wed 17/11/21	Fri 7/1/22
475	Construction of walls ofL12 MSB below 1/F along GL 12-6 from GL12-B to 12-C and the associated staircases including the enclosure walls between G/F and 1/F. The Contractor shall allow access for the Employer's Specialist Contractors to use the hoisting we	92 days	Mon 16/5/22	Mon 15/8/22
476	Provision in associated with hoisting well	21 days	Mon 6/6/22	Sun 26/6/22
477	Construction of internal partition wall at 1/F ofL12 MSB along GL 12-C from GL 12-2 to 12-3 AND North Façade at 1/F of L12 MSB along GL 12-1 from GL 12-B to 12-C	30 days	Sat 16/4/22	Sun 15/5/22
478	Construction of metal fence and the associated Fire Services (F.S.) installations and installation of removable shelter at Transformer Area	92 days	Mon 16/5/22	Mon 15/8/22
479	**Deferred works (DAX1 and DAX2) Listed in PS 1.4.4**	**334 days**	**Wed 1/2/23**	Sun 31/12/23
480	Backfilling of whole DAXl compartment inside existing joint bay "STJI2" and the new oil tank pit A located aside existing joint bay "STJI2".	59 days	Wed 1/2/23	Fri 31/3/23
481	Re-excavation of whole DAX2 compartment inside existing joint bay "STJI2".	61 days	Tue 1/8/23	Sat 30/9/23
482	Backfilling of whole DAX2 compartment inside existing joint bay "STJI2" and the new oil tank pit B located aside existing joint bay "STJI2".	61 days	Wed 1/11/23	Sun 31/12/23
483	**Deferred works (External Work) Listed in PS 1.4.4**	**121 days**	**Thu 1/12/22**	Fri 31/3/23
484	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
485	Installation of trench cover and road reinstatement of gas pipe and cable trenches within Area F5, F14, F16, F17 and F18.	90 days	Sun 1/1/23	Fri 31/3/23
486	Backfilling and road-reinstatement of 275kV cable trenches	90 days	Sun 1/1/23	Fri 31/3/23
487	All Remaining work ready for OP inspection	0 days	Tue 28/2/23	Tue 28/2/23
488	**STATUTORY SUBMISSION, INSPECTION & APPROVAL**	**560 days**	**Tue 16/11/21**	**Mon 29/5/23**
489	**WSD Statutory Submission, Inspection and Approval WWO Part I to III Submission / Approval**	**256 days**	**Tue 16/11/21**	**Fri 29/7/22**
490	WSD : Submit to WSD Form WWO 046 Part I to II - FOR ACB Building (for Ext Works at later stage)	0 days	Tue 16/11/21	Tue 16/11/21
491	WSD: Vetting Form WWO 046 Part I and II Submission	90 days	Wed 17/11/21	Mon 14/2/22
492	WSD: Issued of Form WWO 046 Part III by WSD - FOR ACB Building	0 days	Tue 15/2/22	Tue 15/2/22
493	WSD: Prepare for 1st Amendment for Plumbing Plan	60 days	Tue 15/2/22	Fri 15/4/22
494	WSD: Submit to WSD 1st Amendment for Plumbing Plan	0 days	Fri 15/4/22	Fri 15/4/22
495	WSD: Vetting of Plumbing Plan by WSD	60 days	Sat 16/4/22	Tue 14/6/22
496	WSD: 1st Approval for Plumbing Plan by WSD	0 days	Tue 14/6/22	Tue 14/6/22
497	WSD: Prepare and Submit for Final Amendment for Plumbing Plan	45 days	Wed 15/6/22	Fri 29/7/22
498	WSD: Vetting and Final Approval for Plumbing Plan by WSD	0 days	Fri 29/7/22	Fri 29/7/22
499	**WSD Statutory Submission, Inspection and Approval WWO Part IV to V Fire Services Water Submission / Approval**	**33 days**	**Fri 29/7/22**	**Wed 31/8/22**
500	WSD: Form WWO 046 Part IV Submission (FS)	0 days	Fri 29/7/22	Fri 29/7/22
501	WSD: WSD Recieved Form WWO046 Part IV and arrange for inspection (FS)	7 days	Sat 30/7/22	Fri 5/8/22
502	WSD: WSD Inspection (FS)	7 days	Sat 6/8/22	Fri 12/8/22
503	WSD: WWO 046 Part V Endorsement by WSD (FS)	12 days	Sat 13/8/22	Wed 24/8/22
504	WSD: WSD Processing Water Supply Connection Certificate (FS)	7 days	Thu 25/8/22	Wed 31/8/22
505	WSD: Issue by WSD Water Supply Connection Certificate (FS)	0 days?	Wed 31/8/22	Wed 31/8/22
506	**WSD Statutory Submission, Inspection and Approval WWO Part IV to V Potable /Flush Water Submission / Approval**	**60 days**	**Fri 19/8/22**	**Tue 18/10/22**
507	WSD: Form WWO 046 Part IV Submission (Fresh/Flush)	0 days	Fri 19/8/22	Fri 19/8/22
508	WSD: WSD Acknowledge Form WWO 046	6 days	Sat 20/8/22	Thu 25/8/22
509	WSD: WSD Inspection with Testing to lead (Fresh/Fluhs)	12 days	Fri 26/8/22	Tue 6/9/22
510	WSD: Cleansing/Disinfecting Water Tanks / Piping System (Fresh/Flush)	6 days	Wed 7/9/22	Mon 12/9/22
511	WSD: Collection of Sample for Testing at Accredited Lab (Fresh/Flush)	12 days	Tue 13/9/22	Sat 24/9/22
512	WSD:Accredited Lab Testing Report of Sample to WSD	12 days	Sun 25/9/22	Thu 6/10/22
513	WSD: Vetting of Test Report by WSD	6 days	Fri 7/10/22	Wed 12/10/22
514	WSD: Issue of WWO 046 Part V (Fresh/Flush)	0 days	Wed 12/10/22	Wed 12/10/22
515	WSD: WSD Processing WW01005 Water Certification (Fresh/Flush)	6 days	Thu 13/10/22	Tue 18/10/22
516	WSD: Issue by WSD WWO 1005 Water Certification (Fresh/Flush)	0 days	Tue 18/10/22	Tue 18/10/22
517	**EMSD LIFT Statutory Submission, Inspection and Approval**	**45 days**	**Sat 26/3/22**	**Mon 9/5/22**
518	EMSD: Submission of Lift Form LE5 to EMSD	12 days	Sat 26/3/22	Wed 6/4/22
519	EMSD: EMSD Makes arrangement for Lift Installation	5 days	Thu 7/4/22	Mon 11/4/22
520	EMSD: EMSD Inspection to Lift Installation	14 days	Tue 12/4/22	Mon 25/4/22
521	EMSD: Processing Lift Certificate (Form LE6)	14 days	Tue 26/4/22	Mon 9/5/22
522	EMSD: Lift Issuance of Form 6 (Lift Certificate)	0 days	Mon 9/5/22	Mon 9/5/22
523	**HKE Transformer Final Inspection**	**120 days**	**Thu 30/6/22**	**Thu 27/10/22**
524	TX Room: Invite HKE For Transformer Room Inspection	7 days	Thu 30/6/22	Wed 6/7/22
525	TX Room: Give Access to Transformer Room for HKE Contractor	0 days	Wed 6/7/22	Wed 6/7/22
526	TX Room: Move-IN HKE Transformer Equipments	5 days	Thu 7/7/22	Mon 11/7/22
527	TX Room: Install HKE Transformer, MEP Works & Testing	90 days	Tue 12/7/22	Sun 9/10/22
528	TX Room: HKE Power Energization / Inspection	6 days	Mon 10/10/22	Sat 15/10/22
529	TX Room: Metering Installation	12 days	Sun 16/10/22	Thu 27/10/22
530	TX Room: HKE Power-ON Date	0 days	Thu 27/10/22	Thu 27/10/22
531	**DSD Drainage Completion Memo**	**65 days**	**Sun 2/10/22**	**Mon 5/12/22**
532	DSD: CCTV Survey Report on Completed Drainage	30 days	Sun 2/10/22	Mon 31/10/22
533	DSD: Submitted CCTV Report & Form HPB1 of Completed Drainage to DSD For Technical Audit	7 days	Tue 1/11/22	Mon 7/11/22
534	DSD: Completed Drainage System including TMC Inspection/Technical Audit by DSD	14 days	Tue 8/11/22	Mon 21/11/22
535	DSD: Preparation of Drainage Connection Completion Memo by DSD	14 days	Tue 22/11/22	Mon 5/12/22
536	DSD: Issue of Drainage Connection Completion Memo by DSD	0 days	Mon 5/12/22	Mon 5/12/22
537	**EPD Submission, Inspection and Approval**	**60 days**	**Thu 30/6/22**	**Mon 29/8/22**
538	EPD: License Application to EPD under APCO (Cap 311) for Generator Sets	0 days	Thu 30/6/22	Thu 30/6/22
539	EPD: Vetting of Application by EPD under APCO (Cap 311) for Generator Sets	60 days	Fri 1/7/22	Mon 29/8/22
540	EPD: Approval from EPD under APCO (Cap 311) for Generator Sets Installation	0 days	Mon 29/8/22	Mon 29/8/22
541	**FSD VAC Statutory Submission, Inspection and Approval**	**150 days**	**Wed 20/7/22**	**Fri 16/12/22**
542	Preparation of FSD VAC Drawings and Submission to HEC	60 days	Wed 20/7/22	Sat 17/9/22
543	HEC: Review and Approval	30 days	Sun 18/9/22	Mon 17/10/22
544	Preparation of VAC Drawings and Submission to FSD	30 days	Tue 18/10/22	Wed 16/11/22
545	FSD: Review and Approval	30 days	Thu 17/11/22	Fri 16/12/22
546	**FSD Statutory Submission, Inspection and Approval**	**91 days**	**Tue 28/2/23**	**Mon 29/5/23**
547	Testing and Commissioning (Individual System - FSI Related)	45 days	Tue 28/2/23	Thu 13/4/23
548	FSD: All Sections FS Ingration Test by NSC_BS	15 days	Fri 14/4/23	Fri 28/4/23
549	FSD: Completion of FS Integration Test by NSC_BS for FS314/501	0 days	Fri 28/4/23	Fri 28/4/23
550	FSD: Submit Form 213/314 & Form 501 Request for Inspection	0 days	Fri 28/4/23	Fri 28/4/23
551	FSD: FSD Makes Arrangement for Inspection	7 days	Sat 29/4/23	Fri 5/5/23
552	FSD: FSD Inspection	12 days	Sat 6/5/23	Wed 17/5/23
553	FSD: Completion of FS Inspection	0 days	Wed 17/5/23	Wed 17/5/23
554	FSD: FSD Processing FS Certicate Form 172	12 days	Thu 18/5/23	Mon 29/5/23
555	FSD: Issue of Fire Services FS Certificate Form 172	0 days	Mon 29/5/23	Mon 29/5/23
556	**PRACTICAL COMPLETION**	**216 days**	**Tue 30/5/23**	**Sun 31/12/23**
557	BD Inspection	97 days	Tue 30/5/23	Sun 3/9/23
558	BD: Application Form BA13 for OP Application	21 days	Tue 30/5/23	Mon 19/6/23
559	BD: BD Inspection Date	15 days	Tue 20/6/23	Tue 4/7/23
560	BD: Reinspection date with defects and rectification works	60 days	Wed 5/7/23	Sat 2/9/23
561	**BD: Obtain Occupation Permit (OP) from BD**	**1 day**	**Sun 3/9/23**	**Sun 3/9/23**
562	As-Built Drawings & Handover Documentation	120 days	Wed 14/6/23	Wed 11/10/23
563	Prepare and Submit As-Built Drawings & Handover Documentation	45 days	Wed 14/6/23	Fri 28/7/23
564	Review and Approval	45 days	Sat 29/7/23	Mon 11/9/23
565	As-Built Drawings & Handover Documentation - Revision by MC	30 days	Tue 12/9/23	Wed 11/10/23
566	Revised As-Built Drawings & Handover Documentation - Final Submission	0 days	Wed 11/10/23	Wed 11/10/23
567	Completion of the Whole Contract Works	119 days	Mon 4/9/23	Sun 31/12/23
568	1st Client Inspection for Review and Comments	30 days	Mon 4/9/23	Tue 3/10/23
569	Defects and Rectification works	60 days	Wed 4/10/23	Sat 2/12/23
570	2nd Client Inspection	14 days	Sun 3/12/23	Sat 16/12/23
571	Minor Defects Rectification Works and Final Inspection	15 days	Sun 17/12/23	Sun 31/12/23
572	**PRACTICAL COMPLETION**	**0 days**	**Sun 31/12/23**	**Sun 31/12/23**



MASTER PROGRAMME
Rev 1-B 23 Aug 2021

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 Station Extension**	**614 days**	**Mon 10/05/20**	**Wed 10/26/22**
2	**Contract Details**	**518 days**	**Mon 10/05/20**	**Thu 07/07/22**
15	**Submission**	**308 days**	**Wed 10/28/20**	**Wed 11/10/21**
36	**Procurement**	**166 days**	**Mon 10/19/20**	**Thu 05/13/21**
45	**No.5 C.W. Intake**	**560 days**	**Mon 10/05/20**	**Wed 08/24/22**
46	Erect of Hoarding and Door Gate	12 days	Mon 10/05/20	Sat 10/17/20
47	**Install Monitoing Instrumentation**	**16 days**	**Sat 10/17/20**	**Fri 11/06/20**
54	**ELS works for No. C.W. Intake**	**359 days**	**Tue 12/29/20**	**Wed 03/16/22**
55	**Installation of pipe pile wall**	**121 days**	**Tue 12/29/20**	**Sat 05/29/21**
63	BD Excavation Consent	0 days	Wed 06/30/21	Wed 06/30/21
64	BA8 of ELS of intake	25 days	Tue 07/27/21	Tue 08/24/21
65	Excavate upto +4.50mPD	6 days	Wed 08/25/21	Tue 08/31/21
66	**Installation of 1st row of Tie Back**	**77 days**	**Wed 09/01/21**	**Thu 12/02/21**
74	Installation the 1st row of waling (WT1) and strut (CS1)	12 days	Fri 10/15/21	Thu 10/28/21
75	Excavate upto +2.70mPD	6 days	Fri 10/29/21	Thu 11/04/21
76	**Installation of 2nd row of Tie Back**	**41 days**	**Fri 11/05/21**	**Wed 12/22/21**
77	Pull Out Test for Tie Back	10 days	Fri 11/05/21	Tue 11/16/21
78	RW02 (72-77) - 6 nos	3 days	Wed 11/17/21	Fri 11/19/21
79	RW02 (50-71) - 22 nos	8 days	Sat 11/20/21	Mon 11/29/21
80	RW02 (1-10) - 10 nos	4 days	Fri 12/03/21	Tue 12/07/21
81	RW02 (11-49) - 39 nos	13 days	Wed 12/08/21	Wed 12/22/21
82	RW02F (23-70) - 48 nos	17 days	Fri 11/26/21	Wed 12/15/21
83	RW02F (1-22) - 22 nos	8 days	Wed 11/17/21	Thu 11/25/21
84	Installation the 2nd row of waling (WT2) and strut (CS2)	12 days	Thu 12/23/21	Sat 01/08/22
85	Excavate uoto +1.00mPD	6 days	Mon 01/10/22	Sat 01/15/22
86	Excavate upto -7.50mPD	48 days	Mon 01/17/22	Wed 03/16/22
87	**Temporary removal of sea wall**	**206 days**	**Fri 07/09/21**	**Wed 03/16/22**
88	Application of Marine Permit	78 days	Fri 07/09/21	Mon 10/11/21
89	Install silt curtain wall	2 days	Fri 01/14/22	Mon 01/17/22
90	Tempoary removal of sea wall (USS)	18 days	Mon 01/17/22	Wed 02/09/22
91	Removal of existing culvert off-site (USS)	18 days	Thu 02/10/22	Wed 03/02/22
92	Prepare formation level for intake chamber	12 days	Thu 03/03/22	Wed 03/16/22
93	**Construction of No. 5 C.W. Intake Chamber**	**243 days**	**Sat 09/25/21**	**Fri 07/22/22**
94	**Off-site fabrication for Bottom Part of Intake Chamber (From -7.20mPD to +3.00mPD)**	**107 days**	**Sat 09/25/21**	**Sat 02/05/22**
95	Semisubmersible Barge Return to Casting Yard	0 days	Sat 09/25/21	Sat 09/25/21
96	Setup work on Semisubmersible Barge	26 days	Sat 09/25/21	Wed 10/27/21
97	Bottom Slab (from -7.20mPD to -5.50mPD, 1596m3)	31 days	Thu 10/28/21	Thu 12/02/21
98	External Wall (from -6.35mPD to -5.50mPD, 701m3)	11 days	Fri 12/03/21	Wed 12/15/21
99	External Wall (from -5.00mPD to -1.50mPD, 380m3)	13 days	Thu 12/16/21	Mon 01/03/22
100	External Wall (from -1.50mPD to +3.00mPD, 571m3)	18 days	Tue 01/04/22	Mon 01/24/22
101	Temporary metal gate and support frame	8 days	Tue 01/25/22	Sat 02/05/22
102	Delivery of Precast instake Chamber	6 days	Thu 03/10/22	Wed 03/16/22
103	Installation of Precast intake Chamber	6 days	Thu 03/17/22	Wed 03/23/22
104	**In-situ casting for Top Part of Intake Chamber (From +3.00mPD to +7.20mPD)**	**92 days**	**Wed 03/30/22**	**Fri 07/22/22**
105	External Wall to +5.70mPD	16 days	Wed 03/30/22	Thu 04/21/22
106	Install Bottom Layer Internal Precast Panel (Below Water)	16 days	Wed 03/30/22	Thu 04/21/22
107	Dewatering	2 days	Wed 05/11/22	Thu 05/12/22
108	Cast in-situ Internal Wall (Bottom Part)	6 days	Fri 05/13/22	Thu 05/19/22
109	Install Middle Layer Internal Precast Panel	8 days	Fri 05/20/22	Sat 05/28/22
110	Cast in-situ Internal Wall (Middle Part)	10 days	Mon 05/30/22	Fri 06/10/22
111	Install Upper Layer Internal Precast Panel	8 days	Sat 06/11/22	Mon 06/20/22
112	Cast in-situ Internal Wall (Upper Part)	10 days	Tue 06/21/22	Fri 07/01/22
113	Top Slab	18 days	Sat 07/02/22	Fri 07/22/22
114	**Backfilling Works and Strut removal**	**102 days**	**Thu 03/24/22**	**Thu 07/28/22**
115	Backfilling to +2.80mPD with rockfill	5 days	Thu 03/24/22	Tue 03/29/22
116	Removal of 2nd layer strut	2 days	Fri 04/22/22	Sat 04/23/22
117	Backfilling to +4.50mPD with fill	6 days	Mon 04/25/22	Sat 04/30/22
118	Removal of 1st layer strut	2 days	Tue 05/03/22	Wed 05/04/22
119	Backfilling to +5.50mPD with fill	4 days	Thu 05/05/22	Tue 05/10/22
120	Utilities and Puddle Pile Installation	18 days	Sat 06/11/22	Fri 07/01/22
121	Backfilling the remaining portion with compacted fill to proposed formation level	11 days	Sat 07/16/22	Thu 07/28/22
122	**Reinstatement of sea wall**	**100 days**	**Thu 03/24/22**	**Tue 07/26/22**
123	Reinstate culvert	30 days	Thu 03/24/22	Tue 05/03/22
124	Reinstate sea wall block	40 days	Wed 05/04/22	Tue 06/21/22
125	Retaining wall and backfilling works	30 days	Wed 06/22/22	Tue 07/26/22
126	**Steel Gantry Frame at No. 5 C.W. Intake Chamber**	**28 days**	**Sat 07/23/22**	**Wed 08/24/22**
127	Construction of Rail Foundation (1022/1023)	18 days	Sat 07/23/22	Fri 08/12/22
128	Construction of Steel Gantry Frame at No. 5 C.W. Intake Chamber (0428 to 0430)	10 days	Sat 08/13/22	Wed 08/24/22
129	**E&M Works**	**195 days**	**Thu 12/23/21**	**Mon 08/22/22**
130	Temporary diversion of existing drainage system (from MH807 to MH804)	18 days	Thu 12/23/21	Mon 01/17/22
131	Sump Pump fro Drainage System	26 days	Sat 07/23/22	Mon 08/22/22
132	Drainage Improvement Works	26 days	Wed 06/22/22	Thu 07/21/22
133	**No 5 CW Equipment Room, pipe and cable rack, external works at Area F10**	**396 days**	**Wed 05/05/21**	**Wed 08/31/22**
153	**External Work Surrounding Area F11**	**124 days**	**Sat 06/04/22**	**Wed 10/26/22**
160	**CW Inlet Culvert at Area 8A**	**190 days**	**Fri 06/04/21**	**Thu 01/20/22**
185	**CW Inlet Culvert at Area 8B**	**107 days**	**Wed 06/09/21**	**Sat 10/16/21**
205	**CW Inlet Culvert at Area 8C**	**199 days**	**Tue 07/13/21**	**Fri 03/11/22**



Project: 19-83014 - No. 5 Intake and Cable Br
Date: 04 Aug 2021
Rev. 5 - Combined L12 Area (Draft 0)

Task — Summary — External Milestone — Inactive Summary — Manual Summary Rollup — Finish-only
Split — Project Summary — Inactive Task — Manual Task — Manual Summary — Progress
Milestone — External Tasks — Inactive Milestone — Duration-only — Start-only — Deadline

ID	Task Name	Duration	Start	Finish
1	**19-83014 - Civil Works for No. 5 C.W. Intake and Cable Bridge at Lamma Power Station Extension**	**518 days**	**Mon 10/05/20**	**Thu 07/07/22**
2	**Contract Details**	**518 days**	**Mon 10/05/20**	**Thu 07/07/22**
15	**Submission**	**308 days**	**Wed 10/28/20**	**Wed 11/10/21**
36	**Procurement**	**166 days**	**Mon 10/19/20**	**Thu 05/13/21**
45	**Cable Bridge**	**442 days**	**Wed 11/11/20**	**Fri 05/13/22**
46	Erect of Hoarding and Door Gate	12 days	Wed 11/11/20	Tue 11/24/20
47	**Install Monitoing Instrumentation**	**2 days**	**Wed 11/25/20**	**Thu 11/26/20**
54	**Pile Cap Construction**	**196 days**	**Wed 12/30/20**	**Sat 08/28/21**
55	**LPS Pile Cap (PC5)**	**80 days**	**Thu 01/21/21**	**Mon 05/03/21**
56	Excavation to F.E.L. by open cut (From +4.50mPD to +1.95mPD)	42 days	Thu 01/21/21	Sat 03/13/21
57	Socket H-pile head treatment (14 nos)	6 days	Mon 03/15/21	Sat 03/20/21
58	Construction of Pile Cap PC5	26 days	Mon 03/22/21	Sat 04/24/21
59	Backfilling to pile cap level	6 days	Mon 04/26/21	Mon 05/03/21
60	**LMX Pile Cap (PC6)**	**196 days**	**Wed 12/30/20**	**Sat 08/28/21**
61	Expose existing 275kV cable trench by hand dig method	12 days	Wed 12/30/20	Wed 01/13/21
62	Install pipe pile (P1-P47)	24 days	Thu 01/28/21	Sat 02/27/21
63	Submission of BA14, as-built plan and record	14 days	Mon 03/01/21	Tue 03/16/21
64	BD Excavation Consent	0 days	Tue 04/20/21	Tue 04/20/21
65	Excavate to 500mm below strut level	6 days	Wed 04/21/21	Tue 04/27/21
66	Install waling system (W1)	6 days	Wed 04/28/21	Wed 05/05/21
67	Excavate to F.E.L.	12 days	Thu 05/06/21	Thu 05/20/21
68	Timming to COL for Dia 2180mm Bored Pile (8nos)	26 days	Fri 05/21/21	Mon 06/21/21
69	Constrcution of Pile Cap PC6	52 days	Tue 06/22/21	Sat 08/21/21
70	Backfilling to pile cap level	6 days	Mon 08/23/21	Sat 08/28/21
71	Exisitng Seawall modification works (USS)	26 days	Mon 08/23/21	Tue 09/21/21
72	**Construction of Cable Bridge**	**326 days**	**Wed 04/07/21**	**Fri 05/13/22**
73	**Off-site precast beam construction (PCB1-PCB12)**	**142 days**	**Wed 04/07/21**	**Fri 09/24/21**
88	Application of Marine Permit	78 days	Tue 06/22/21	Thu 09/23/21
89	Erect precast beam (PCB1-PCB12)	16 days	Thu 09/23/21	Tue 10/12/21
90	Construction of Diaphragm Beams (DB7-DB11)	36 days	Wed 10/13/21	Wed 11/24/21
91	Stage 2 PT Stressing	6 days	Thu 12/02/21	Wed 12/08/21
92	Constrcution of 200mm thk R.C. Middle Slab	36 days	Thu 12/09/21	Sat 01/22/22
93	Installation of Precast Panel (for planter and kerb)	52 days	Mon 01/24/22	Mon 03/28/22
94	Casting of 250mm thk. R.C. Top Slab	18 days	Tue 03/08/22	Mon 03/28/22
95	Road paving work	24 days	Mon 04/11/22	Fri 05/13/22
96	Installation of steel parapet	24 days	Mon 04/11/22	Fri 05/13/22
97	**Construction of Abutment at LPS**	**114 days**	**Thu 12/09/21**	**Tue 05/03/22**
98	Construction of Shear Key NSK2	12 days	Thu 12/09/21	Wed 12/22/21
99	Construction of End Beam EB1	40 days	Thu 12/23/21	Mon 02/14/22
100	Construction of Shear Key NSK1	18 days	Tue 02/15/22	Mon 03/07/22
101	Construction of Abutment Wall AW2	18 days	Tue 03/08/22	Mon 03/28/22
102	Construction of Retaining Wall (Type 1, RWA & RWB)	26 days	Tue 03/29/22	Tue 05/03/22
103	Construction of Retaining Wall (Type 2, RWA & RWB)	26 days	Tue 03/29/22	Tue 05/03/22
104	**Construction of Abutment at LMX**	**110 days**	**Thu 12/09/21**	**Wed 04/27/22**
105	Construction of Shear Key SSK1	12 days	Thu 12/09/21	Wed 12/22/21
106	Construction of End Beam EB2	26 days	Thu 12/23/21	Tue 01/25/22
107	Construction of maintenance chamfer	18 days	Wed 01/26/22	Fri 02/18/22
108	Construciton of Abutment Wall AW1	18 days	Sat 02/19/22	Fri 03/11/22
109	Construction of late cast portion of pile cap PC6	18 days	Sat 03/12/22	Fri 04/01/22
110	Cast mass concrete retaining wall and planter end wall	18 days	Sat 04/02/22	Wed 04/27/22
111	**Stormwater Drainage**	**32 days**	**Tue 03/29/22**	**Wed 05/11/22**
112	Gully Pit (GP1-GP8 & GP11-GP18)	32 days	Tue 03/29/22	Wed 05/11/22
113	**E&M works**	**32 days**	**Tue 03/29/22**	**Wed 05/11/22**
114	Street Lighting (Total 6 nos.)	26 days	Tue 03/29/22	Tue 05/03/22
115	Irrigation Water Point (WP210-WP212)	26 days	Tue 03/29/22	Tue 05/03/22
116	Fire Hydrant Box	26 days	Tue 03/29/22	Tue 05/03/22
117	Cable Trench	32 days	Tue 03/29/22	Wed 05/11/22

Project: 19-83014 - No. 5 Intake and Cable Br
Date: 23 Jan 2021
Rev. 2(a) - Combined L12 Area (Draft)

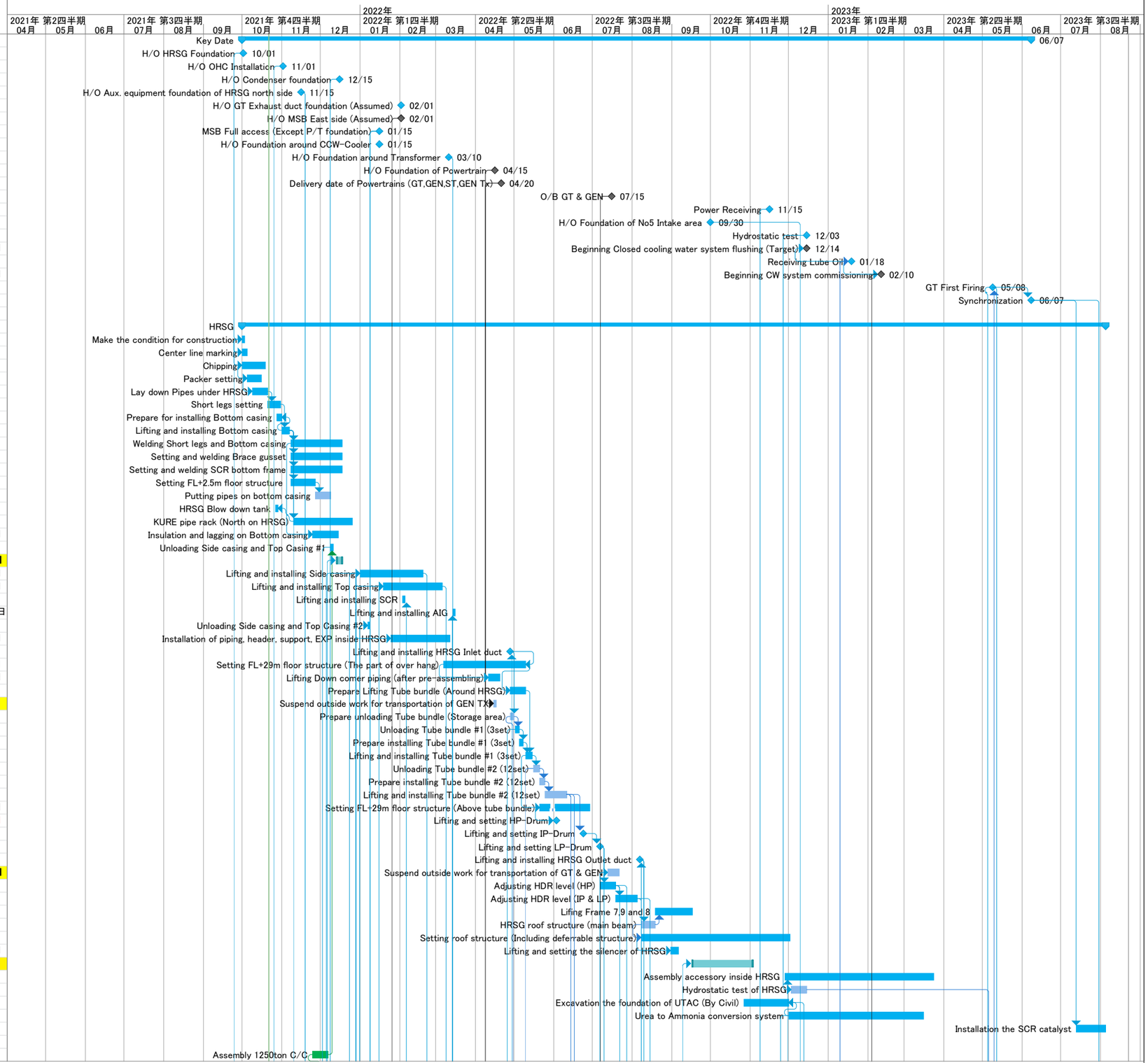
Task	Summary	External Milestone	Inactive Summary	Manual Summary Rollup	Finish-only
Split	Project Summary	Inactive Task	Manual Task	Manual Summary	Progress
Milestone	External Tasks	Inactive Milestone	Duration-only	Start-only	Deadline

TAIHEI DENGYO KAISHA,LTD.

Construction Schedule of Unit-12

20th-Oct-2021
Rev.5a

ID	タスク名	期間	開始日	終了日	先行タスク
1	**Key Date**	**527日**	**21/10/01 (金)**	**23/06/07 (水)**	
2	H/O HRSG Foundation	1日	21/10/01 (金)	21/10/01 (金)	
3	H/O OHC Installation	1日	21/11/01 (月)	21/11/01 (月)	
4	H/O Condenser foundation	1日	21/12/15 (水)	21/12/15 (水)	
5	H/O Aux. equipment foundation of HRSG north side	1日	21/11/15 (月)	21/11/15 (月)	
6	H/O GT Exhaust duct foundation (Assumed)	1日	22/02/01 (火)	22/02/01 (火)	
7	H/O MSB East side (Assumed)	1日	22/02/01 (火)	22/02/01 (火)	
8	MSB Full access (Except P/T foundation)	1日	22/01/15 (土)	22/01/15 (土)	
9	H/O Foundation around CCW-Cooler	1日	22/01/15 (土)	22/01/15 (土)	
10	H/O Foundation around Transformer	1日	22/03/10 (木)	22/03/10 (木)	
11	H/O Foundation of Powertrain	1日	22/04/15 (金)	22/04/15 (金)	
12	Delivery date of Powertrains (GT,GEN,ST,GEN Tx)	5日	22/04/15 (金)	22/04/20 (水)	
13	O/B GT & GEN	1日	22/07/15 (金)	22/07/15 (金)	
14	Power Receiving	1日	22/11/15 (火)	22/11/15 (火)	
15	H/O Foundation of No5 Intake area	1日	22/09/30 (金)	22/09/30 (金)	
16	Hydrostatic test	10日	22/12/03 (土)	22/12/14 (水)	
17	Beginning Closed cooling water system flushing (Target)	1日	22/12/14 (水)	22/12/14 (水)	18SS-30日
18	Receiving Lube Oil	1日	23/01/18 (水)	23/01/18 (水)	208SS
19	Beginning CW system commissioning	1日	23/02/10 (金)	23/02/10 (金)	18SS+20日
20	GT First Firing	1日	23/05/08 (月)	23/05/08 (月)	213
21	Synchronization	1日	23/06/07 (水)	23/06/07 (水)	20FS+25日
22					
23	**HRSG**	**577日**	**21/10/01 (金)**	**23/08/04 (金)**	
24	Make the condition for construction	2日	21/10/01 (金)	21/10/02 (土)	2SS
25	Center line marking	3日	21/10/01 (金)	21/10/04 (月)	24SS
26	Chipping	15日	21/10/01 (金)	21/10/18 (月)	24SS
27	Packer setting	10日	21/10/05 (火)	21/10/15 (金)	26SS+3日
28	Lay down Pipes under HRSG	10日	21/10/09 (土)	21/10/20 (水)	27SS+4日
29	Short legs setting	9日	21/10/21 (木)	21/10/30 (土)	28
30	Prepare for installing Bottom casing	3日	21/10/28 (木)	21/11/01 (月)	31SF
31	Lifting and installing Bottom casing	6日	21/11/01 (月)	21/11/06 (土)	29
32	Welding Short legs and Bottom casing	35日	21/11/08 (月)	21/12/17 (金)	31
33	Setting and welding Brace gusset	35日	21/11/08 (月)	21/12/17 (金)	31
34	Setting and welding SCR bottom frame	35日	21/11/08 (月)	21/12/17 (金)	31
35	Setting FL+2.5m floor structure	17日	21/11/08 (月)	21/11/26 (金)	31
36	Putting pipes on bottom casing	10日	21/11/27 (土)	21/12/08 (水)	35
37	HRSG Blow down tank	2日	21/10/27 (水)	21/10/29 (金)	38SF-10日
38	KURE pipe rack (North on HRSG)	40日	21/11/10 (水)	21/12/25 (土)	31FS+2日
39	Insulation and lagging on Bottom casing	17日	21/11/25 (木)	21/12/14 (火)	32SS+15日
40	**Unloading Side casing and Top Casing #1**	**2日**	**21/12/09 (木)**	**21/12/10 (金)**	**79FS+2日**
41	**Suspend lifting work because of delivery condenser**	**4日**	**21/12/14 (火)**	**21/12/17 (金)**	**142SS-1日**
42	Lifting and installing Side casing	42日	22/01/01 (土)	22/02/18 (金)	94SS+20日
43	Lifting and installing Top casing	40日	22/01/19 (水)	22/03/05 (土)	42SS+15日
44	Lifting and installing SCR	2日	22/02/03 (木)	22/02/04 (金)	99
45	Lifting and installing AIG	2日	22/03/14 (月)	22/03/15 (火)	101FS+10日
46	**Unloading Side casing and Top Casing #2**	**1日**	**22/01/07 (金)**	**22/01/07 (金)**	**96SS-1日**
47	Installation of piping, header, support, EXP inside HRSG	40日	22/01/25 (火)	22/03/11 (金)	42SS+20日
48	Lifting and installing HRSG Inlet duct	2日	22/04/26 (火)	22/04/27 (水)	103
49	Setting FL+29m floor structure (The part of over hang)	55日	22/03/07 (月)	22/05/09 (月)	48FF+10日
50	Lifting Down comer piping (after pre-assembling)	8日	22/04/11 (月)	22/04/19 (火)	49SS+30日
51	Prepare Lifting Tube bundle (Around HRSG)	10日	22/04/28 (木)	22/05/09 (月)	49FS-10日
52	**Suspend outside work for transportation of GEN TX**	**2日**	**22/04/15 (金)**	**22/04/16 (土)**	**12SS**
53	Prepare unloading Tube bundle (Storage area)	3日	22/04/28 (木)	22/04/30 (土)	48
54	**Unloading Tube bundle #1 (3set)**	**3日**	**22/05/02 (月)**	**22/05/04 (水)**	**53**
55	Prepare installing Tube bundle #1 (3set)	3日	22/05/05 (木)	22/05/07 (土)	54
56	**Lifting and installing Tube bundle #1 (3set)**	**5日**	**22/05/10 (火)**	**22/05/14 (土)**	**55,51**
57	**Unloading Tube bundle #2 (12set)**	**5日**	**22/05/16 (月)**	**22/05/20 (金)**	**56**
58	Prepare installing Tube bundle #2 (12set)	3日	22/05/21 (土)	22/05/24 (火)	57
59	**Lifting and installing Tube bundle #2 (12set)**	**15日**	**22/05/25 (水)**	**22/06/10 (金)**	**58**
60	Setting FL+29m floor structure (Above tube bundle)	30日	22/05/21 (土)	22/06/28 (火)	56SS+10日
61	Lifting and setting HP-Drum	1日	22/06/02 (木)	22/06/02 (木)	60SS+10日
62	Lifting and setting IP-Drum	1日	22/06/23 (木)	22/06/23 (木)	59FS+10日
63	Lifting and setting LP-Drum	1日	22/07/06 (水)	22/07/06 (水)	62FS+10日
64	Lifting and installing HRSG Outlet duct	2日	22/08/05 (金)	22/08/06 (土)	105
65	**Suspend outside work for transportation of GT & GEN**	**8日**	**22/07/13 (水)**	**22/07/21 (木)**	**186SS-2日**
66	Adjusting HDR level (HP)	10日	22/07/07 (木)	22/07/18 (月)	63
67	Adjusting HDR level (IP & LP)	15日	22/07/19 (火)	22/08/04 (木)	66
68	Lifing Frame 7,9 and 8	25日	22/08/19 (金)	22/09/16 (金)	69
69	HRSG roof structure (main beam)	10日	22/08/08 (月)	22/08/18 (木)	64
70	Setting roof structure (Including deferrable structure)	100日	22/08/08 (月)	22/12/01 (木)	69SS
71	Lifting and setting the silencer of HRSG	5日	22/08/31 (水)	22/09/05 (月)	70SS+20日
72	1250ton shift to lifting work of GT Inlet duct	40日	22/09/17 (土)	22/11/02 (水)	220SS
73	Assembly accessory inside HRSG	100日	22/11/28 (月)	23/03/23 (木)	87
74	**Hydrostatic test of HRSG**	**10日**	**22/12/03 (土)**	**22/12/14 (水)**	**16SS**
75	Excavation the foundation of UTAC (By Civil)	30日	22/10/27 (木)	22/12/01 (木)	76SF
76	Urea to Ammonia conversion system	90日	22/12/01 (木)	23/03/15 (水)	
77	Installation the SCR catalyst	20日	23/07/13 (木)	23/08/04 (金)	21FS+30日
78					
79	Assembly 1250ton C/C	10日	21/11/25 (木)	21/12/06 (月)	



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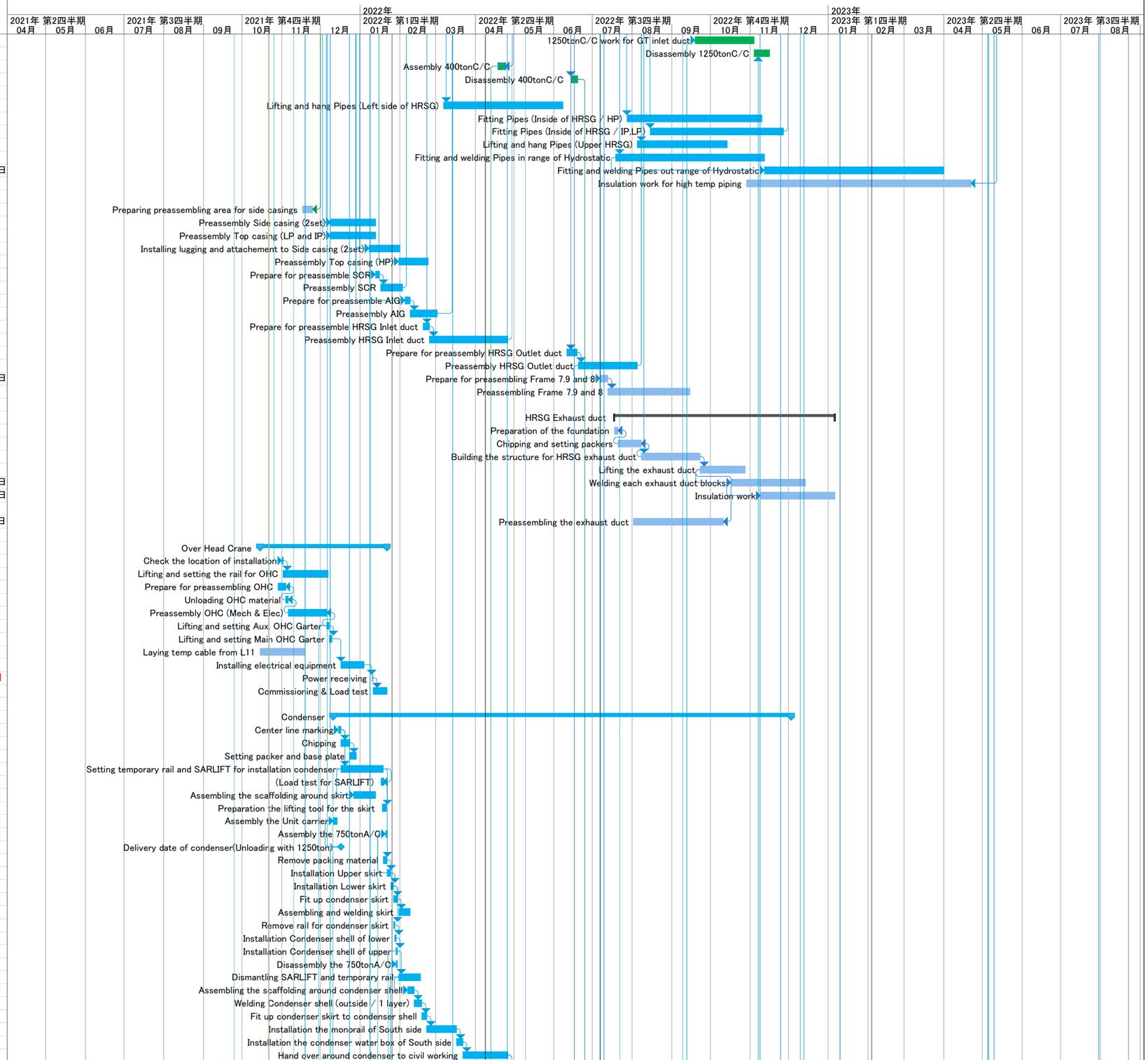
TAIHEI DENGYO KAISHA,LTD.

Construction Schedule of Unit-12

20th-Oct-2021
Rev.5a

ID		タスク名	期間	開始日	終了日	先行タスク
80		1250tonC/C work for GT inlet duct	40日	22/09/19 (月)	22/11/03 (木)	220SS
81		Disassembly 1250tonC/C	10日	22/11/04 (金)	22/11/15 (火)	220
82		Assembly 400tonC/C	5日	22/04/19 (火)	22/04/23 (土)	53SF-3日
83		Disassembly 400tonC/C	4日	22/06/15 (水)	22/06/18 (土)	59FS+3日
84						
85		Lifting and hang Pipes (Left side of HRSG)	80日	22/03/07 (月)	22/06/07 (火)	43
86		Fitting Pipes (Inside of HRSG / HP)	90日	22/07/28 (木)	22/11/09 (水)	66FS+8日
87		Fitting Pipes (Inside of HRSG / IP,LP)	90日	22/08/15 (月)	22/11/26 (土)	67FS+8日
88		Lifting and hang Pipes (Upper HRSG)	60日	22/08/05 (金)	22/10/13 (木)	67
89		Fitting and welding Pipes in range of Hydrostatic	100日	22/07/19 (火)	22/11/11 (金)	66
90		Fitting and welding Pipes out range of Hydrostatic	120日	22/11/12 (土)	23/03/31 (金)	89SS+100日
91		Insulation work for high temp piping	150日	22/10/29 (土)	23/04/21 (金)	20FF-14日
92						
93		Preparing preassembling area for side casings	7日	21/11/17 (水)	21/11/25 (木)	79SF
94		Preassembly Side casing (2set)	30日	21/12/09 (木)	22/01/12 (水)	40SS
95		Preassembly Top casing (LP and IP)	30日	21/12/09 (木)	22/01/12 (水)	94SS
96		Installing lugging and attachement to Side casing (2set)	20日	22/01/08 (土)	22/01/31 (月)	42SS+6日
97		Preassembly Top casing (HP)	20日	22/01/31 (月)	22/02/22 (火)	43SS+10日
98		Prepare for preassemble SCR	3日	22/01/13 (木)	22/01/15 (土)	42SS+10日
99		Preassembly SCR	15日	22/01/17 (月)	22/02/02 (水)	98
100		Prepare for preassemble AIG	3日	22/02/05 (土)	22/02/08 (火)	42SS+30日
101		Preassembly AIG	18日	22/02/09 (水)	22/03/01 (火)	100
102		Prepare for preassemble HRSG Inlet duct	4日	22/02/19 (土)	22/02/23 (水)	42
103		Preassembly HRSG Inlet duct	52日	22/02/24 (木)	22/04/25 (月)	102
104		Prepare for preassembly HRSG Outlet duct	7日	22/06/11 (土)	22/06/18 (土)	59
105		Preassembly HRSG Outlet duct	40日	22/06/20 (月)	22/08/04 (木)	104
106		Prepare for preasembling Frame 7.9 and 8	5日	22/07/07 (木)	22/07/12 (火)	105SS+15日
107		Preassembling Frame 7.9 and 8	55日	22/07/13 (水)	22/09/14 (水)	106
108						
109		**HRSG Exhaust duct**	**148日**	**22/07/18 (月)**	**23/01/05 (木)**	
110		Preparation of the foundation	3日	22/07/18 (月)	22/07/21 (木)	111SF
111		Chipping and setting packers	15日	22/07/21 (木)	22/08/08 (月)	112SF
112		Building the structure for HRSG exhaust duct	40日	22/08/08 (月)	22/09/22 (木)	64
113		Lifting the exhaust duct	30日	22/09/23 (金)	22/10/27 (木)	112
114		Welding each exhaust duct blocks	50日	22/10/17 (月)	22/12/13 (火)	113SS+20日
115		Insulation work	50日	22/11/09 (水)	23/01/05 (木)	114SS+20日
116						
117		Preassembling the exhaust duct	60日	22/08/02 (火)	22/10/10 (月)	113SF+15日
118						
119		**Over Head Crane**	**85日**	**21/10/15 (金)**	**22/01/21 (金)**	
120		Check the location of installation	1日	21/11/01 (月)	21/11/01 (月)	3SS
121		Lifting and setting the rail for OHC	30日	21/11/02 (火)	21/12/06 (月)	120
122		Prepare for preassembling OHC	5日	21/10/29 (金)	21/11/04 (木)	123SF
123		**Unloading OHC material**	**2日**	**21/11/04 (木)**	**21/11/06 (土)**	**124SF**
124		Preassembly OHC (Mech & Elec)	25日	21/11/06 (土)	21/12/06 (月)	125SF
125		**Lifting and setting Aux. OHC Garter**	**2日**	**21/12/06 (月)**	**21/12/07 (火)**	
126		**Lifting and setting Main OHC Garter**	**2日**	**21/12/08 (水)**	**21/12/09 (木)**	**125**
127		Laying temp cable from L11	30日	21/10/15 (金)	21/11/18 (木)	
128		Installing electrical equipment	15日	21/12/17 (金)	22/01/03 (月)	126FS+6日
129		**Power receiving**	**1日**	**22/01/10 (月)**	**22/01/10 (月)**	**128FS+5日**
130		Commissioning & Load test	10日	22/01/11 (火)	22/01/21 (金)	129
131						
132		**Condenser**	**306日**	**21/12/11 (土)**	**22/12/02 (金)**	
133		Center line marking	2日	21/12/15 (水)	21/12/16 (木)	4SS
134		Chipping	6日	21/12/17 (金)	21/12/23 (木)	133
135		Setting packer and base plate	4日	21/12/24 (金)	21/12/28 (火)	134
136		Setting temporary rail and SARLIFT for installation conde	28日	21/12/17 (金)	22/01/18 (火)	133
137		(Load test for SARLIFT)	1日	22/01/18 (火)	22/01/18 (火)	136FF
138		Assembling the scaffolding around skirt	15日	21/12/27 (月)	22/01/12 (水)	136SS+8日
139		Preparation the lifting tool for the skirt	2日	22/01/19 (水)	22/01/20 (木)	136
140		Assembly the Unit carrier	2日	21/12/11 (土)	21/12/13 (月)	142SS-3日
141		Assembly the 750tonA/C	1日	22/01/21 (金)	22/01/21 (金)	144SS-1日
142		**Delivery date of condenser(Unloading with 1250ton)**	**2日**	**21/12/15 (水)**	**21/12/16 (木)**	
143		Remove packing material	3日	22/01/19 (水)	22/01/21 (金)	137
144		Installation Upper skirt	2日	22/01/22 (土)	22/01/24 (月)	143
145		Installation Lower skirt	2日	22/01/25 (火)	22/01/26 (水)	144
146		Fit up condenser skirt	3日	22/01/27 (木)	22/01/29 (土)	145
147		Assembling and welding skirt	8日	22/01/31 (月)	22/02/08 (火)	146
148		Remove rail for condenser skirt	1日	22/01/27 (木)	22/01/27 (木)	145
149		Installation Condenser shell of lower	1日	22/01/28 (金)	22/01/28 (金)	148
150		Installation Condenser shell of upper	1日	22/01/29 (土)	22/01/29 (土)	149
151		Disassembly the 750tonA/C	1日	22/01/29 (土)	22/01/29 (土)	150SS
152		Dismantling SARLIFT and temporary rail	15日	22/01/31 (月)	22/02/16 (水)	150
153		Assembling the scaffolding around condenser shell	5日	22/02/07 (月)	22/02/11 (金)	152SS+6日
154		Welding Condenser shell (outside / 1 layer)	5日	22/02/12 (土)	22/02/17 (木)	153
155		Fit up condenser skirt to condenser shell	3日	22/02/18 (金)	22/02/21 (月)	154
156		Installation the monorail of South side	20日	22/02/22 (火)	22/03/16 (水)	155
157		Installation the condenser water box of South side	4日	22/03/17 (木)	22/03/21 (月)	156
158		**Hand over around condenser to civil working**	**30日**	**22/03/22 (火)**	**22/04/25 (月)**	**157**



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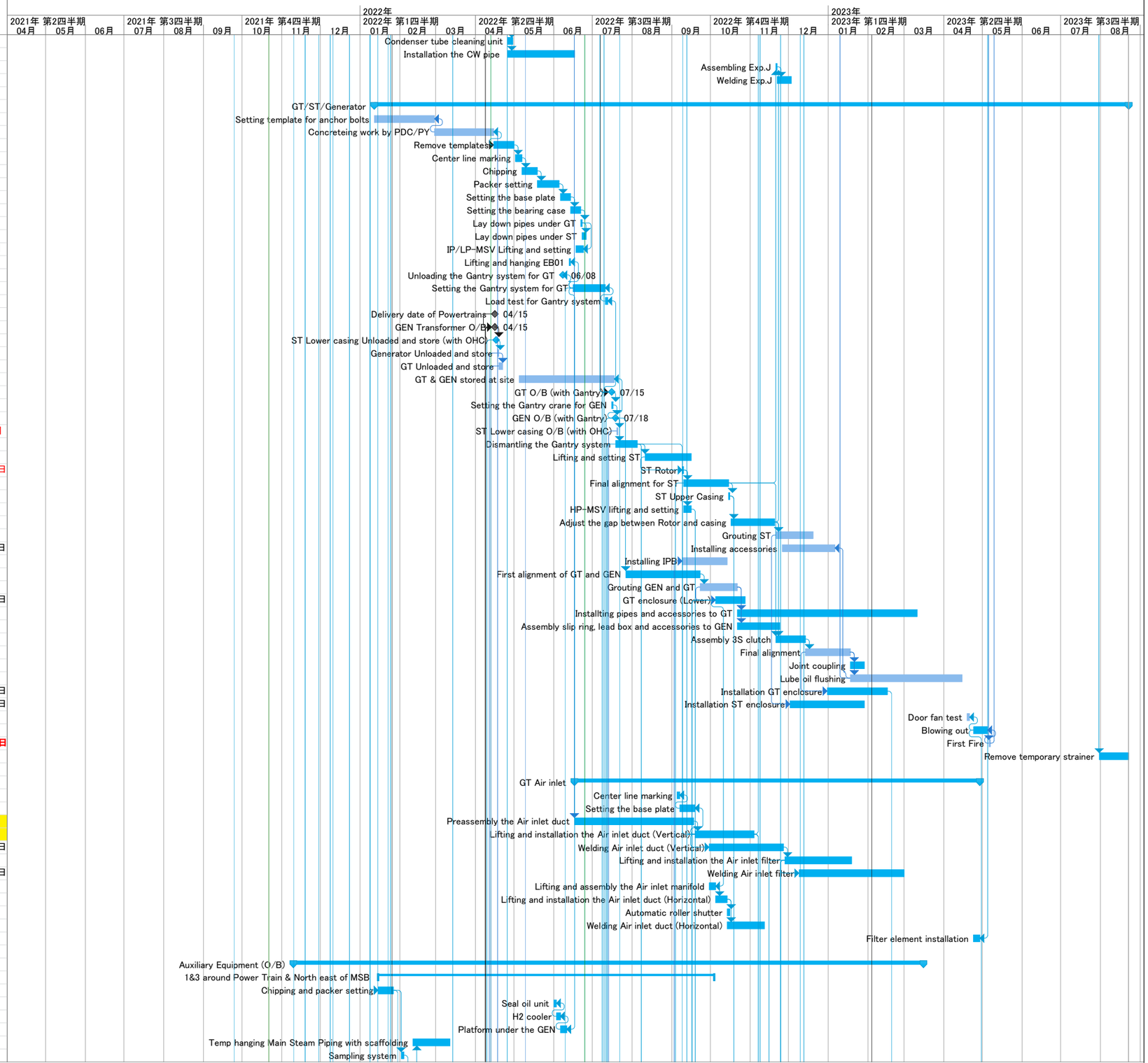
TAIHEI DENGYO KAISHA,LTD.

Construction Schedule of Unit-12

20th-Oct-2021
Rev.5a

ID		タスク名	期間	開始日	終了日	先行タスク
159		Condenser tube cleaning unit	4日	22/04/26 (火)	22/04/29 (金)	158
160		Installation the CW pipe	45日	22/04/26 (火)	22/06/16 (木)	158
161		Assembling Exp.J	1日	22/11/21 (月)	22/11/21 (月)	193,196
162		Welding Exp.J	10日	22/11/22 (火)	22/12/02 (金)	161
163						
164		**GT/ST/Generator**	**504日**	**22/01/12 (水)**	**23/08/22 (火)**	
165		Setting template for anchor bolts	40日	22/01/12 (水)	22/02/28 (月)	166SF
166		Concreteing work by PDC/PY	40日	22/02/28 (月)	22/04/15 (金)	167SF
167		**Remove templates**	**14日**	**22/04/15 (金)**	**22/04/30 (土)**	**11SS**
168		Center line marking	5日	22/05/02 (月)	22/05/06 (金)	167
169		Chipping	10日	22/05/07 (土)	22/05/18 (水)	168
170		Packer setting	15日	22/05/19 (木)	22/06/04 (土)	169
171		Setting the base plate	7日	22/06/06 (月)	22/06/13 (月)	170
172		Setting the bearing case	7日	22/06/14 (火)	22/06/21 (火)	171
173		Lay down pipes under GT	1日	22/06/22 (水)	22/06/22 (水)	172
174		Lay down pipes under ST	3日	22/06/23 (木)	22/06/25 (土)	173
175		IP/LP-MSV Lifting and setting	5日	22/06/18 (土)	22/06/23 (木)	173FF+1日
176		Lifting and hanging EB01	1日	22/06/13 (月)	22/06/14 (火)	178SF-2日
177		Unloading the Gantry system for GT	1日	22/06/07 (火)	22/06/08 (水)	178SF-7日
178		Setting the Gantry system for GT	21日	22/06/16 (木)	22/07/11 (月)	179SF
179		Load test for Gantry system	2日	22/07/11 (月)	22/07/13 (水)	186SF-2日
180		**Delivery date of Powertrains**	**1日**	**22/04/15 (金)**	**22/04/15 (金)**	
181		**GEN Transformer O/B**	**1日**	**22/04/15 (金)**	**22/04/15 (金)**	**180SS**
182		ST Lower casing Unloaded and store (with OHC)	1日	22/04/16 (土)	22/04/16 (土)	181
183		Generator Unloaded and store	1日	22/04/18 (月)	22/04/18 (月)	182
184		GT Unloaded and store	3日	22/04/19 (火)	22/04/21 (木)	183
185		GT & GEN stored at site	63日	22/05/05 (木)	22/07/18 (月)	188SF
186		**GT O/B (with Gantry)**	**1日**	**22/07/15 (金)**	**22/07/15 (金)**	**13SS**
187		Setting the Gantry crane for GEN	1日	22/07/16 (土)	22/07/16 (土)	186
188		**GEN O/B (with Gantry)**	**1日**	**22/07/18 (月)**	**22/07/18 (月)**	**187**
189		**ST Lower casing O/B (with OHC)**	**1日**	**22/07/20 (水)**	**22/07/20 (水)**	**188FS+1日**
190		Dismantling the Gantry system	15日	22/07/19 (火)	22/08/04 (木)	188
191		Lifting and setting ST	31日	22/08/11 (木)	22/09/15 (木)	190FS+5日
192		ST Rotor	1日	22/09/09 (金)	22/09/09 (金)	191SS+25日
193		Final alignment for ST	30日	22/09/10 (土)	22/10/14 (金)	192
194		ST Upper Casing	1日	22/10/15 (土)	22/10/15 (土)	193
195		HP-MSV lifting and setting	5日	22/09/10 (土)	22/09/15 (木)	192
196		Adjust the gap between Rotor and casing	30日	22/10/17 (月)	22/11/19 (土)	194
197		Grouting ST	25日	22/11/21 (月)	22/12/19 (月)	196
198		Installing accessories	35日	22/11/26 (土)	23/01/06 (金)	208SF-10日
199		Installing IPB	30日	22/09/09 (金)	22/10/13 (木)	261SS
200		First alignment of GT and GEN	50日	22/07/27 (水)	22/09/22 (木)	188FS+7日
201		Grouting GEN and GT	25日	22/09/23 (金)	22/10/21 (金)	200
202		GT enclosure (Lower)	20日	22/10/05 (水)	22/10/27 (木)	201SS+10日
203		Installting pipes and accessories to GT	120日	22/10/22 (土)	23/03/10 (金)	201
204		Assembly slip ring, lead box and accessories to GEN	28日	22/10/22 (土)	22/11/23 (水)	201
205		Assembly 3S clutch	20日	22/11/21 (月)	22/12/13 (火)	193,196
206		Final alignment	30日	22/12/14 (水)	23/01/17 (火)	205
207		Joint coupling	10日	23/01/18 (水)	23/01/28 (土)	206
208		Lube oil flushing	75日	23/01/18 (水)	23/04/14 (金)	206
209		Installation GT enclosure	40日	22/12/31 (土)	23/02/15 (水)	206SS+15日
210		Installation ST enclosure	50日	22/12/02 (金)	23/01/28 (土)	197SS+10日
211		Door fan test	2日	23/04/19 (水)	23/04/21 (金)	212SF-2日
212		Blowing out	10日	23/04/24 (月)	23/05/05 (金)	213SF-1日
213		**First Fire**	**1日**	**23/05/06 (土)**	**23/05/06 (土)**	**74FS+122日**
214		Remove temporary strainer	20日	23/07/31 (月)	23/08/22 (火)	21FS+45日
215						
216		**GT Air inlet**	**271日**	**22/06/17 (金)**	**23/04/29 (土)**	
217		Center line marking	2日	22/09/05 (月)	22/09/07 (水)	218SF
218		Setting the base plate	10日	22/09/07 (水)	22/09/19 (月)	220SF
219		Preassembly the Air inlet duct	80日	22/06/17 (金)	22/09/17 (土)	59FS+5日
220		**Lifting and installation the Air inlet duct (Vertical)**	**40日**	**22/09/19 (月)**	**22/11/03 (木)**	**219**
221		Welding Air inlet duct (Vertical)	50日	22/09/30 (金)	22/11/26 (土)	220SS+10日
222		Lifting and installation the Air inlet filter	45日	22/11/28 (月)	23/01/18 (水)	221
223		Welding Air inlet filter	70日	22/12/09 (金)	23/02/28 (火)	222SS+10日
224		Lifting and assembly the Air inlet manifold	4日	22/09/30 (金)	22/10/05 (水)	202SF
225		Lifting and installation the Air inlet duct (Horizontal)	8日	22/10/05 (水)	22/10/13 (木)	224
226		Automatic roller shutter	2日	22/10/14 (金)	22/10/15 (土)	225
227		Welding Air inlet duct (Horizontal)	25日	22/10/14 (金)	22/11/11 (金)	225
228		Filter element installation	5日	23/04/24 (月)	23/04/29 (土)	20SF-7日
229						
230		**Auxiliary Equipment (O/B)**	**421日?**	**21/11/10 (水)**	**23/03/15 (水)**	
231		**1&3 around Power Train & North east of MSB**	**224日**	**22/01/15 (土)**	**22/10/03 (月)**	
232		Chipping and packer setting	10日	22/01/15 (土)	22/01/26 (水)	8SS
233		Seal oil unit	2日	22/06/01 (水)	22/06/03 (金)	234SF
234		H2 cooler	2日	22/06/03 (金)	22/06/06 (月)	235SF
235		Platform under the GEN	5日	22/06/06 (月)	22/06/11 (土)	178SF-4日
236		Temp hanging Main Steam Piping with scaffolding	25日	22/02/11 (金)	22/03/11 (金)	240
237		Sampling system	2日	22/02/02 (水)	22/02/03 (木)	232FS+5日



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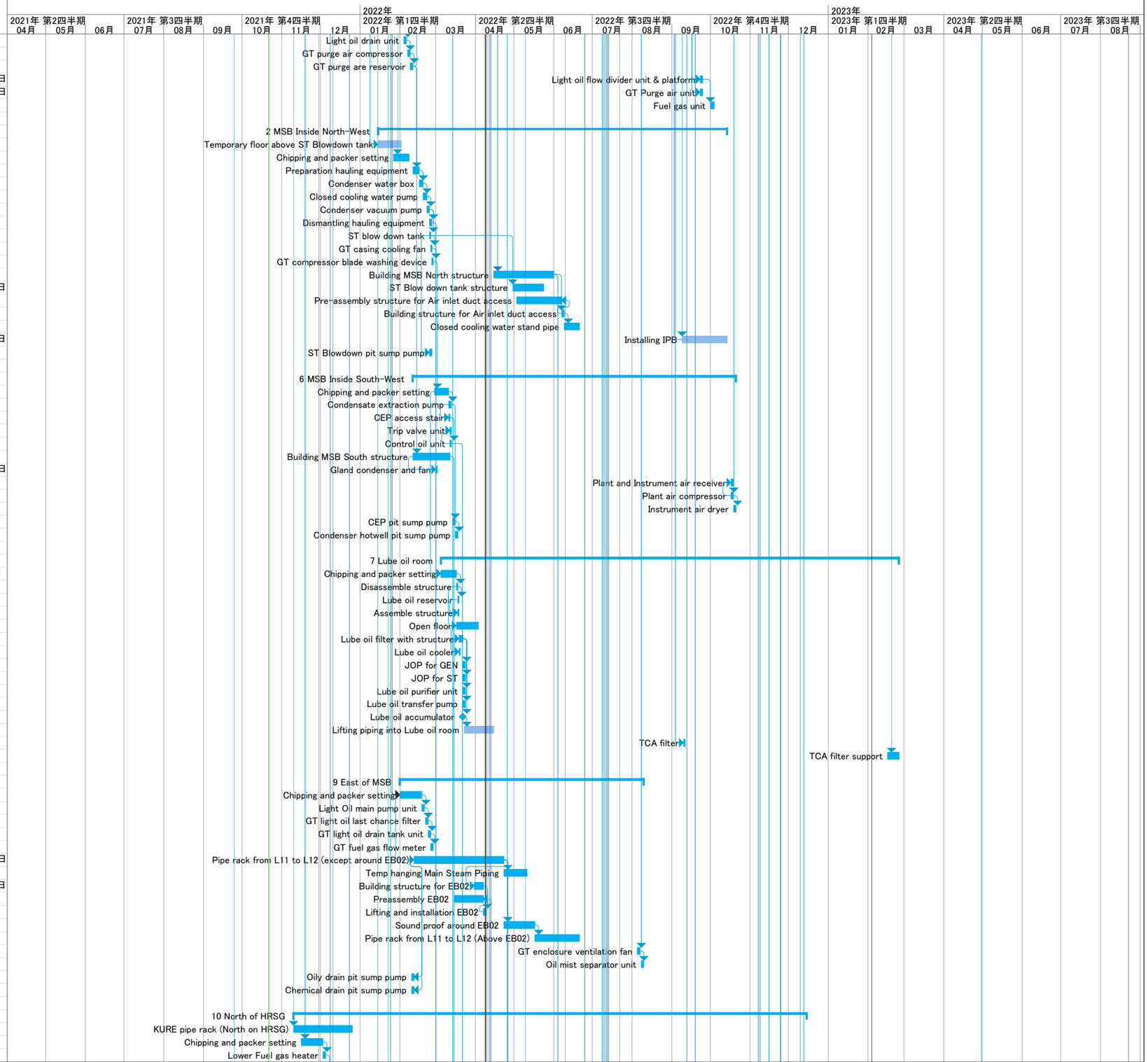
Construction Schedule of Unit-12

20th-Oct-2021
Rev.5a

ID		タスク名	期間	開始日	終了日	先行タスク
238		Light oil drain unit	2日	22/02/04 (金)	22/02/05 (土)	237
239		GT purge air compressor	2日	22/02/07 (月)	22/02/08 (火)	238
240		GT purge are reservoir	2日	22/02/09 (水)	22/02/10 (木)	239
241		Light oil flow divider unit & platform	2日	22/09/23 (金)	22/09/24 (土)	202SS-10日
242		GT Purge air unit	2日	22/09/23 (金)	22/09/24 (土)	202SS-10日
243		Fuel gas unit	2日	22/10/01 (土)	22/10/03 (月)	241FS+5日
244						
245		**2 MSB Inside North-West**	**233日?**	**22/01/15 (土)**	**22/10/13 (木)**	
246		Temporary floor above ST Blowdown tank	15日	22/01/15 (土)	22/02/01 (火)	8SS
247		Chipping and packer setting	10日	22/01/27 (木)	22/02/07 (月)	232
248		Preparation hauling equipment	4日	22/02/11 (金)	22/02/15 (火)	240
249		Condenser water box	3日	22/02/16 (水)	22/02/18 (金)	248
250		Closed cooling water pump	2日	22/02/19 (土)	22/02/21 (月)	249
251		Condenser vacuum pump	2日	22/02/22 (火)	22/02/23 (水)	250
252		Dismantling hauling equipment	2日	22/02/24 (木)	22/02/25 (金)	251
253		ST blow down tank	1日	22/02/24 (木)	22/02/24 (木)	251
254		GT casing cooling fan	1日	22/02/25 (金)	22/02/25 (金)	253
255		GT compressor blade washing device	1日	22/02/26 (土)	22/02/26 (土)	254
256		Building MSB North structure	40日	22/04/15 (金)	22/05/31 (火)	166
257		ST Blow down tank structure	20日	22/04/30 (土)	22/05/23 (月)	253FS+55日
258		Pre-assembly structure for Air inlet duct access	30日	22/05/03 (火)	22/06/07 (火)	259SF
259		Building structure for Air inlet duct access	2日	22/06/07 (火)	22/06/08 (水)	256FS+5日
260		Closed cooling water stand pipe	10日	22/06/09 (木)	22/06/20 (月)	259
261		Installing IPB	30日	22/09/09 (金)	22/10/13 (木)	190FS+30日
262		ST Blowdown pit sump pump	2日	22/02/24 (木)	22/02/25 (金)	253SS
263						
264		**6 MSB Inside South-West**	**216日**	**22/02/11 (金)**	**22/10/20 (木)**	
265		Chipping and packer setting	10日	22/02/28 (月)	22/03/10 (木)	255
266		Condensate extraction pump	2日	22/03/11 (金)	22/03/12 (土)	265
267		CEP access stair	1日	22/03/11 (金)	22/03/11 (金)	266SS
268		Trip valve unit	1日	22/03/12 (土)	22/03/12 (土)	269SS
269		Control oil unit	1日	22/03/12 (土)	22/03/12 (土)	267
270		Building MSB South structure	25日	22/02/11 (金)	22/03/11 (金)	240
271		Gland condenser and fan	1日	22/03/01 (火)	22/03/01 (火)	270SS+15日
272		Plant and Instrument air receiver	2日	22/10/17 (月)	22/10/18 (火)	273SS
273		Plant air compressor	2日	22/10/17 (月)	22/10/18 (火)	194
274		Instrument air dryer	2日	22/10/19 (水)	22/10/20 (木)	273
275		CEP pit sump pump	2日	22/03/14 (月)	22/03/15 (火)	266
276		Condenser hotwell pit sump pump	2日	22/03/16 (水)	22/03/17 (木)	275
277						
278		**7 Lube oil room**	**306日**	**22/03/05 (土)**	**23/02/24 (金)**	
279		Chipping and packer setting	10日	22/03/05 (土)	22/03/16 (水)	265SS+5日
280		Disassemble structure	1日	22/03/17 (木)	22/03/17 (木)	279
281		Lube oil reservoir	1日	22/03/18 (金)	22/03/18 (金)	280
282		Assemble structure	1日	22/03/18 (金)	22/03/18 (金)	281SS
283		Open floor	15日	22/03/17 (木)	22/04/02 (土)	280SS
284		Lube oil filter with structure	2日	22/03/19 (土)	22/03/21 (月)	283SS+2日
285		Lube oil cooler	1日	22/03/19 (土)	22/03/19 (土)	284SS
286		JOP for GEN	2日	22/03/22 (火)	22/03/23 (水)	284
287		JOP for ST	2日	22/03/22 (火)	22/03/23 (水)	284
288		Lube oil purifier unit	2日	22/03/22 (火)	22/03/23 (水)	284
289		Lube oil transfer pump	2日	22/03/22 (火)	22/03/23 (水)	284
290		Lube oil accumulator	1日	22/03/22 (火)	22/03/22 (火)	284
291		Lifting piping into Lube oil room	20日	22/03/23 (水)	22/04/14 (木)	290
292		TCA filter	1日	22/09/10 (土)	22/09/10 (土)	193SS
293		TCA filter support	8日	23/02/16 (木)	23/02/24 (金)	209
294						
295		**9 East of MSB**	**163日**	**22/02/01 (火)**	**22/08/09 (火)**	
296		Chipping and packer setting	15日	22/02/01 (火)	22/02/17 (木)	7SS
297		Light Oil main pump unit	2日	22/02/18 (金)	22/02/19 (土)	296
298		GT light oil last chance filter	2日	22/02/21 (月)	22/02/22 (火)	297
299		GT light oil drain tank unit	2日	22/02/23 (水)	22/02/24 (木)	298
300		GT fuel gas flow meter	2日	22/02/25 (金)	22/02/26 (土)	299
301		Pipe rack from L11 to L12 (except around EB02)	60日	22/02/12 (土)	22/04/22 (金)	296SS+10日
302		Temp hanging Main Steam Piping	15日	22/04/23 (土)	22/05/10 (火)	301
303		Building structure for EB02	6日	22/03/31 (木)	22/04/06 (水)	301FS-20日
304		Preassembly EB02	20日	22/03/15 (火)	22/04/07 (木)	305SF
305		Lifting and installation EB02	2日	22/04/07 (木)	22/04/08 (金)	303
306		Sound proof around EB02	20日	22/04/23 (土)	22/05/16 (月)	301
307		Pipe rack from L11 to L12 (Above EB02)	30日	22/05/17 (火)	22/06/20 (月)	306
308		GT enclosure ventilation fan	2日	22/08/05 (金)	22/08/06 (土)	190
309		Oil mist separator unit	2日	22/08/08 (月)	22/08/09 (火)	308
310		Oily drain pit sump pump	2日	22/02/10 (木)	22/02/12 (土)	301SF
311		Chemical drain pit sump pump	2日	22/02/10 (木)	22/02/12 (土)	301SF
312						
313		**10 North of HRSG**	**343日**	**21/11/10 (水)**	**22/12/14 (水)**	
314		KURE pipe rack (North on HRSG)	40日	21/11/10 (水)	21/12/25 (土)	31FS+2日
315		Chipping and packer setting	15日	21/11/16 (火)	21/12/02 (木)	5
316		Lower Fuel gas heater	2日	21/12/03 (金)	21/12/04 (土)	315



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TAIHEI DENGYO KAISHA,LTD.

Construction Schedule of Unit-12

20th-Oct-2021
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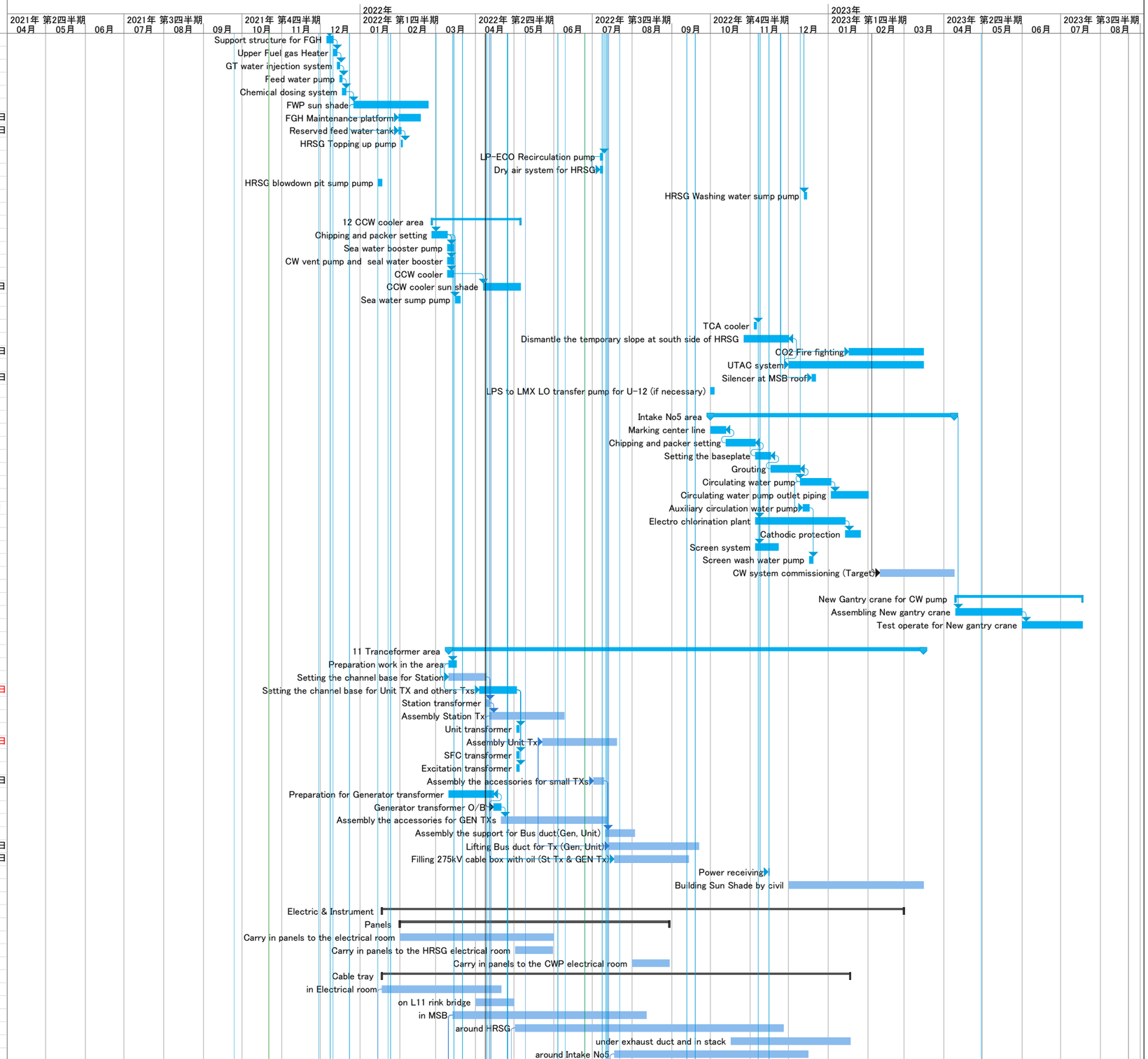
ID	タスク名	期間	開始日	終了日	先行タスク
317	Support structure for FGH	5日	21/12/06 (月)	21/12/10 (金)	316
318	Upper Fuel gas Heater	2日	21/12/11 (土)	21/12/13 (月)	317
319	GT water injection system	2日	21/12/14 (火)	21/12/15 (水)	318
320	Feed water pump	2日	21/12/16 (木)	21/12/17 (金)	319
321	Chemical dosing system	2日	21/12/18 (土)	21/12/20 (月)	320
322	FWP sun shade	50日	21/12/27 (月)	22/02/22 (火)	321FS+5日
323	FGH Maintenance platform	15日	22/01/31 (月)	22/02/16 (水)	322SS+30日
324	Reserved feed water tank	2日	22/01/31 (月)	22/02/01 (火)	322SS+30日
325	HRSG Topping up pump	1日	22/02/02 (水)	22/02/02 (水)	324
326	LP-ECO Recirculation pump	2日	22/07/07 (木)	22/07/08 (金)	63
327	Dry air system for HRSG	2日	22/07/07 (木)	22/07/08 (金)	326SS
328	HRSG blowdown pit sump pump	2日	22/01/15 (土)	22/01/17 (月)	
329	HRSG Washing water sump pump	2日	22/12/13 (火)	22/12/14 (水)	75FS+10日
330					
331	**12 CCW cooler area**	**59日**	**22/02/26 (土)**	**22/05/05 (木)**	
332	Chipping and packer setting	10日	22/02/26 (土)	22/03/09 (水)	252
333	Sea water booster pump	4日	22/03/10 (木)	22/03/14 (月)	332
334	CW vent pump and seal water booster	4日	22/03/10 (木)	22/03/14 (月)	332
335	CCW cooler	4日	22/03/10 (木)	22/03/14 (月)	332
336	CCW cooler sun shade	25日	22/04/07 (木)	22/05/05 (木)	335FS+20日
337	Sea water sump pump	4日	22/03/16 (水)	22/03/19 (土)	332FS+5日
338					
339	TCA cooler	2日	22/11/04 (金)	22/11/05 (土)	220
340	Dismantle the temporary slope at south side of HRSG	30日	22/10/27 (木)	22/12/01 (木)	342SF
341	CO2 Fire fighting	50日	23/01/17 (火)	23/03/15 (水)	342SS+40日
342	UTAC system	90日	22/12/01 (木)	23/03/15 (水)	76SS
343	Silencer at MSB roof	3日	22/12/19 (月)	22/12/21 (水)	222SS+18日
344	LPS to LMX LO transfer pump for U-12 (if necessary)	2日	22/10/01 (土)	22/10/03 (月)	
345					
346	**Intake No5 area**	**163日?**	**22/10/01 (土)**	**23/04/08 (土)**	
347	Marking center line	10日	22/10/01 (土)	22/10/13 (木)	348SF
348	Chipping and packer setting	20日	22/10/13 (木)	22/11/05 (土)	349SF
349	Setting the baseplate	10日	22/11/05 (土)	22/11/17 (木)	350SF
350	Grouting	20日	22/11/17 (木)	22/12/10 (土)	351SF
351	Circulating water pump	20日	22/12/10 (土)	23/01/02 (月)	15FS+60日
352	Circulating water pump outlet piping	25日	23/01/03 (火)	23/01/31 (火)	351
353	Auxiliary circulation water pump	5日	22/12/12 (月)	22/12/16 (金)	351SS+1日
354	Electro chlorination plant	60日	22/11/05 (土)	23/01/13 (金)	348
355	Cathodic protection	10日	23/01/14 (土)	23/01/25 (水)	354
356	Screen system	15日	22/11/05 (土)	22/11/22 (火)	348
357	Screen wash water pump	2日	22/12/17 (土)	22/12/19 (月)	353
358	CW system commissioning (Target)	50日	23/02/10 (金)	23/04/08 (土)	19SS
359					
360	**New Gantry crane for CW pump**	**85日**	**23/04/10 (月)**	**23/07/17 (月)**	
361	Assembling New gantry crane	45日	23/04/10 (月)	23/05/31 (水)	346
362	Test operate for New gantry crane	40日	23/06/01 (木)	23/07/17 (月)	361
363					
364	**11 Tranceformer area**	**317日**	**22/03/11 (金)**	**23/03/15 (水)**	
365	Preparation work in the area	5日	22/03/11 (金)	22/03/16 (水)	10
366	Setting the channel base for Station	25日	22/03/11 (金)	22/04/08 (金)	365SS
367	Setting the channel base for Unit TX and others Txs	25日	22/04/04 (月)	22/05/02 (月)	365SS+20日
368	Station transformer	2日	22/04/09 (土)	22/04/11 (月)	366
369	Assembly Station Tx	50日	22/04/12 (火)	22/06/08 (水)	368
370	Unit transformer	2日	22/05/03 (火)	22/05/04 (水)	367
371	Assembly Unit Tx	50日	22/05/23 (月)	22/07/19 (火)	369SS+35日
372	SFC transformer	2日	22/05/03 (火)	22/05/04 (水)	367
373	Excitation transformer	2日	22/05/03 (火)	22/05/04 (水)	367
374	Assembly the accessories for small TXs	7日	22/07/02 (土)	22/07/09 (土)	371SS+35日
375	Preparation for Generator transformer	30日	22/03/11 (金)	22/04/15 (金)	376SF
376	Generator transformer O/B	5日	22/04/15 (金)	22/04/20 (水)	181SS
377	Assembly the accessories for GEN TXs	70日	22/04/21 (木)	22/07/11 (月)	376
378	Assembly the support for Bus duct(Gen, Unit)	20日	22/07/11 (月)	22/08/02 (火)	374
379	Lifting Bus duct for Tx (Gen, Unit)	60日	22/07/14 (木)	22/09/21 (水)	371SS+45日
380	Filling 275kV cable box with oil (St Tx & GEN Tx)	50日	22/07/18 (月)	22/09/13 (火)	376SS+80日
381	Power receiving	1日	22/11/15 (火)	22/11/15 (火)	14SS
382	Building Sun Shade by civil	90日	22/12/01 (木)	23/03/15 (水)	
383					
384	**Electric & Instrument**	**349日**	**22/01/18 (火)**	**23/02/28 (火)**	
385	**Panels**	**180日**	**22/02/01 (火)**	**22/08/29 (月)**	
386	Carry in panels to the electrical room	103日	22/02/01 (火)	22/05/31 (火)	
387	Carry in panels to the HRSG electrical room	25日	22/05/02 (月)	22/05/30 (月)	
388	Carry in panels to the CWP electrical room	25日	22/08/01 (月)	22/08/29 (月)	
389	**Cable tray**	**313日**	**22/01/18 (火)**	**23/01/17 (火)**	
390	in Electrical room	80日	22/01/18 (火)	22/04/20 (水)	
391	on L11 rink bridge	26日	22/04/01 (金)	22/04/30 (土)	
392	in MSB	130日	22/03/14 (月)	22/08/11 (木)	
393	around HRSG	180日	22/05/02 (月)	22/11/26 (土)	
394	under exhaust duct and in stack	80日	22/10/17 (月)	23/01/17 (火)	
395	around Intake No5	130日	22/07/18 (月)	22/12/15 (木)	



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TAIHEI DENGYO KAISHA,LTD.

Construction Schedule of Unit-12

20th-Oct-2021
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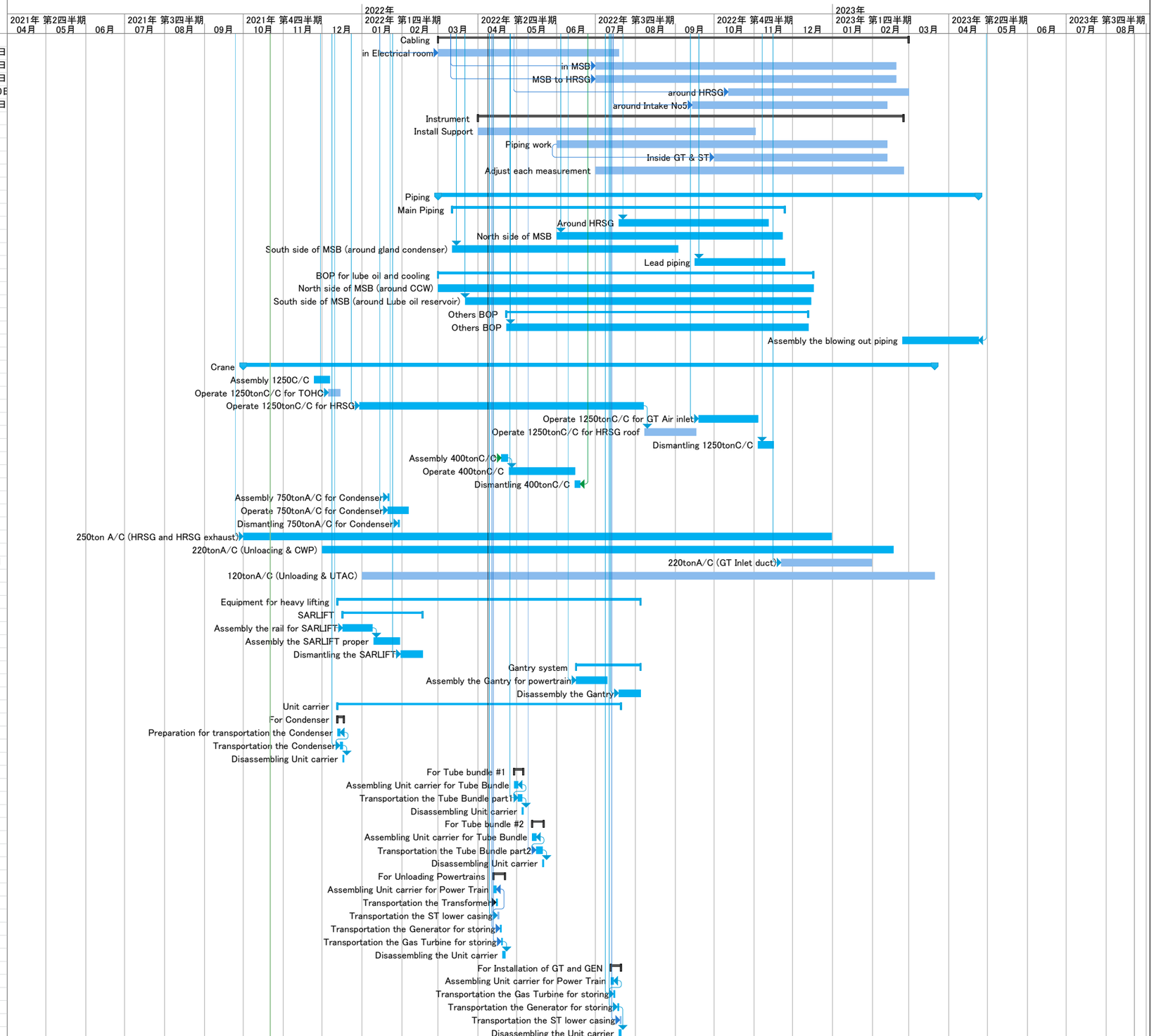
ID	タスク名	期間	開始日	終了日	先行タスク
396	**Cabling**	**313日**	**22/03/01 (火)**	**23/02/28 (火)**	
397	in Electrical room	120日	22/03/01 (火)	22/07/18 (月)	390SS+36日
398	in MSB	200日	22/07/01 (金)	23/02/18 (土)	392SS+94日
399	MSB to HRSG	200日	22/07/01 (金)	23/02/18 (土)	392SS+94日
400	around HRSG	120日	22/10/12 (水)	23/02/28 (火)	393SS+140日
401	around Intake No5	130日	22/09/14 (水)	23/02/11 (土)	395SS+50日
402	**Instrument**	**283日**	**22/04/01 (金)**	**23/02/24 (金)**	
403	Install Support	184日	22/04/01 (金)	22/11/01 (火)	
404	Piping work	220日	22/06/01 (水)	23/02/11 (土)	
405	Inside GT & ST	115日	22/10/01 (土)	23/02/11 (土)	404SS
406	Adjust each measurement	205日	22/07/01 (金)	23/02/24 (金)	
407					
408	**Piping**	**359日**	**22/03/01 (火)**	**23/04/24 (月)**	
409	**Main Piping**	**221日**	**22/03/12 (土)**	**22/11/24 (木)**	
410	Around HRSG	100日	22/07/19 (火)	22/11/11 (金)	66
411	North side of MSB	150日	22/06/01 (水)	22/11/22 (火)	256
412	South side of MSB (around gland condenser)	150日	22/03/12 (土)	22/09/02 (金)	270
413	Lead piping	60日	22/09/16 (金)	22/11/24 (木)	195
414	**BOP for lube oil and cooling**	**250日**	**22/03/01 (火)**	**22/12/16 (金)**	
415	North side of MSB (around CCW)	250日	22/03/01 (火)	22/12/16 (金)	
416	South side of MSB (around Lube oil reservoir)	230日	22/03/22 (火)	22/12/14 (水)	269FS+7日
417	**Others BOP**	**200日**	**22/04/23 (土)**	**22/12/12 (月)**	
418	Others BOP	200日	22/04/23 (土)	22/12/12 (月)	301
419	Assembly the blowing out piping	50日	23/02/24 (金)	23/04/24 (月)	212SF
420					
421	**Crane**	**459日**	**21/10/01 (金)**	**23/03/20 (月)**	
422	Assembly 1250C/C	10日	21/11/25 (木)	21/12/06 (月)	
423	Operate 1250tonC/C for TOHC	8日	21/12/06 (月)	21/12/14 (火)	125SS
424	Operate 1250tonC/C for HRSG	189日	21/12/30 (木)	22/08/06 (土)	42SS-2日
425	Operate 1250tonC/C for GT Air inlet	40日	22/09/19 (月)	22/11/03 (木)	220SS
426	Operate 1250tonC/C for HRSG roof	35日	22/08/08 (月)	22/09/16 (金)	424
427	Dismantling 1250tonC/C	10日	22/11/04 (金)	22/11/15 (火)	220
428	Assembly 400tonC/C	5日	22/04/19 (火)	22/04/23 (土)	82SS
429	Operate 400tonC/C	44日	22/04/25 (月)	22/06/14 (火)	428
430	Dismantling 400tonC/C	4日	22/06/15 (水)	22/06/18 (土)	83FF
431	Assembly 750tonA/C for Condenser	1日	22/01/21 (金)	22/01/21 (金)	141SS
432	Operate 750tonA/C for Condenser	14日	22/01/21 (金)	22/02/05 (土)	431SS
433	Dismantling 750tonA/C for Condenser	1日	22/01/29 (土)	22/01/29 (土)	151SS
434	250ton A/C (HRSG and HRSG exhaust)	391日	21/10/01 (金)	22/12/30 (金)	24SS
435	220tonA/C (Unloading & CWP)	380日	21/12/01 (水)	23/02/16 (木)	
436	220tonA/C (GT Inlet duct)	60日	22/11/22 (火)	23/01/30 (月)	222SS-5日
437	120tonA/C (Unloading & UTAC)	380日	22/01/01 (土)	23/03/20 (月)	
438					
439	**Equipment for heavy lifting**	**202日**	**21/12/13 (月)**	**22/08/04 (木)**	
440	**SARLIFT**	**53日**	**21/12/17 (金)**	**22/02/16 (水)**	
441	Assembly the rail for SARLIFT	20日	21/12/17 (金)	22/01/08 (土)	136SS
442	Assembly the SARLIFT proper	18日	22/01/10 (月)	22/01/29 (土)	441
443	Dismantling the SARLIFT	15日	22/01/31 (月)	22/02/16 (水)	152SS
444	**Gantry system**	**43日**	**22/06/16 (木)**	**22/08/04 (木)**	
445	Assembly the Gantry for powertrain	21日	22/06/16 (木)	22/07/09 (土)	178SS
446	Disassembly the Gantry	15日	22/07/19 (火)	22/08/04 (木)	190SS
447	**Unit carrier**	**189日**	**21/12/13 (月)**	**22/07/20 (水)**	
448	**For Condenser**	**5日**	**21/12/13 (月)**	**21/12/17 (金)**	
449	Preparation for transportation the Condenser	2日	21/12/13 (月)	21/12/15 (水)	450SF
450	Transportation the Condenser	2日	21/12/15 (水)	21/12/16 (木)	142SS
451	Disassembling Unit carrier	1日	21/12/17 (金)	21/12/17 (金)	450
452	**For Tube bundle #1**	**6日**	**22/04/29 (金)**	**22/05/05 (木)**	
453	Assembling Unit carrier for Tube Bundle	2日	22/04/29 (金)	22/05/02 (月)	454SF
454	Transportation the Tube Bundle part1	3日	22/05/02 (月)	22/05/04 (水)	54SS
455	Disassembling Unit carrier	1日	22/05/05 (木)	22/05/05 (木)	454
456	**For Tube bundle #2**	**8日**	**22/05/13 (金)**	**22/05/21 (土)**	
457	Assembling Unit carrier for Tube Bundle	2日	22/05/13 (金)	22/05/16 (月)	458SF
458	Transportation the Tube Bundle part2	5日	22/05/16 (月)	22/05/20 (金)	57SS
459	Disassembling Unit carrier	1日	22/05/21 (土)	22/05/21 (土)	458
460	**For Unloading Powertrains**	**8日**	**22/04/13 (水)**	**22/04/21 (木)**	
461	Assembling Unit carrier for Power Train	2日	22/04/13 (水)	22/04/15 (金)	463SF-1日
462	Transportation the Transformer	1日	22/04/15 (金)	22/04/15 (金)	181SS
463	Transportation the ST lower casing	1日	22/04/16 (土)	22/04/16 (土)	182SS
464	Transportation the Generator for storing	1日	22/04/18 (月)	22/04/18 (月)	183SS
465	Transportation the Gas Turbine for storing	1日	22/04/19 (火)	22/04/19 (火)	184SS
466	Disassembling the Unit carrier	2日	22/04/20 (水)	22/04/21 (木)	465
467	**For Installation of GT and GEN**	**7日**	**22/07/13 (水)**	**22/07/20 (水)**	
468	Assembling Unit carrier for Power Train	2日	22/07/13 (水)	22/07/15 (金)	469SF
469	Transportation the Gas Turbine for storing	1日	22/07/15 (金)	22/07/15 (金)	186SS
470	Transportation the Generator for storing	1日	22/07/18 (月)	22/07/18 (月)	188SS
471	Transportation the ST lower casing	1日	22/07/20 (水)	22/07/20 (水)	189SS
472	Disassembling the Unit carrier	2日	22/07/19 (火)	22/07/20 (水)	470



NOTE

1. The key date is subjected in the KOM held on 30th-Sep.
2. The east area on the MSB is assumed to be handovered before B-Feb-2022 according to the above key date changed.
3. Considered the affection of KURE's schedule belows;
   i) Because of delaying the side casing,installation Inlet duct is postponed.
   ii) Because of delivery 12 TBs in one time, no enough area for pre-ass'y Outlet duct and GT Inlet duct on schedule.

Monthly Waste Flow Table for December 2021

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 & 2021

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
Jan 2021	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	51.37
Feb 2021	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	44.94
Mar 2021	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	34.57
Apr 2021	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	30.92
May 2021	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	18.65
Jun 2021	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	10.76
Jul 2021	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
Aug 2021	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	24.19
Sep 2021	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	14.90
Oct 2021	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	27.62
Nov 2021	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
Dec 2021	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	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	1038.89

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	1038.89 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 2021

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, 2021

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
Jun 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
Jul 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
Aug 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
Sep 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
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	12.02
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	2400	26.18
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	15.38
Jan 2021	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	21.65
Feb 2021	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	10.40
Mar 2021	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	17.43
Apr 2021	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	20.24
May 2021	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	14.08
Jun 2021	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	17.43
Jul 2021	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	20.38
Aug 2021	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	22.38
Sep 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.43	0.00	0.00	0.00	0.00	0.00	19.26
Oct 2021	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	13.35
Nov 2021	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	16.54
Dec 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40000	26.23
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.43	0.00	0.00	0.00	0.00	47400	350.23

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
5.43 tonnes	0.00 tonnes	350.23 tonnes	47400 Liters

Where (A) Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 5.43 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 5.43 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 2021

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 & 2021

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
Jan 2021	0.00	0.00	21020.16	0.00	0.00	0.00	0.00	0.00	8.82	0.00	0.00	0.00	0.00	0.00
Feb 2021	0.00	0.00	18083.97	0.00	0.00	0.00	0.00	0.00	18.25	0.00	0.25	0.00	0.00	0.00
Mar 2021	0.00	0.00	9048.21	0.00	0.00	0.00	0.00	0.00	7.69	0.00	0.00	0.00	0.00	2.61
Apr 2021	0.00	0.00	3205.15	0.00	0.00	0.00	0.00	0.00	28.08	0.00	0.00	0.00	0.00	14.45
May 2021	0.00	0.00	6267.49	0.00	0.00	0.00	0.00	0.00	34.68	0.00	0.00	0.00	0.00	0.00
Jun 2021	0.00	0.00	6555.38	0.00	0.00	0.00	0.00	0.00	26.87	0.00	0.00	0.00	0.00	25.03
Jul 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.95	0.00	0.00	0.00	0.00	10.97
Aug 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.55	0.00	0.00	0.00	0.00	3.49
Sep 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	49.15
Oct 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.47	0.00	0.00	0.00	0.00	62.08
Nov 2021	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	34.17
Dec 2021	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.36	0.00	0.00	0.00	0.00	52.18
Total	0.00	0.00	64180.35	0.00	0.00	0.00	0.00	0.00	191.80	0.00	0.25	0.00	0.40	254.13

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
64180.35 tonnes	192.05 tonnes	254.13 tonnes	400 Liters

Where (A) Inert C&D materials include bricks, concrete, building debris, rubble and excavated spoil. In total, 64180.35 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) 10360 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 2021

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 & 2021

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	4.21	0.00	0.00	0.00	0.00	0.00
Jan 2021	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 2021	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 2021	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	7.49
Apr 2021	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	4.85
May 2021	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	22.61
Jun 2021	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
Jul 2021	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 2021	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 2021	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	37.84
Oct 2021	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	24.93
Nov 2021	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 2021	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	4.21	0.00	0.00	0.00	0.60	97.72

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	4.21 tonnes	97.72 tonnes	600 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 2021

Project: LAMMA POWER STATION EXTENSION – Unit 12 Complete Erection, Inspection, Testing & Commissioning of Power Block Facilities

Contractor: Taihei Dengyo Kaisha, Ltd.

Record by: Stephen Sin

Year of Record: 2021

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 2021	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 2021	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	0.00	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 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**.