

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



Re-provision of Open Cycle Gas Turbines at Lamma Power Station

Decommissioning/ Demolition & Construction Phases

Monthly Environmental Monitoring & Audit Report

February 2024

TABLE OF CONTENT

EXECUTIVE SUMMARY

1.	INTRODUCTION	1
1.1	Background	1
1.2	Project Organization	1
1.3	Key Construction Works Undertaken during the Reporting Month	1
1.4	Summary of EM&A Requirements	4
2.	ENVIRONMENTAL AUDIT	5
2.1	Site Inspection	5
2.2	Status of Environmental Licensing and Permitting	5
2.3	Waste Management	6
2.4	Implementation Status of Land Contamination Assessment	6
2.5	Implementation Status of Environmental Mitigation Measures	6
3.	REPORT ON COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS	7
3.1	Implementation Status of Environmental Complaint Handling Procedures	7
3.2	Environmental Summon and Successful Prosecution	7
4.	FUTURE KEY ISSUES	8
4.1	Construction Program for the Coming Month	8
4.2	Key Issues for the Coming Month	8
5.	CONCLUSION	10

LIST OF TABLES

Table 1.1	Construction Activities and Corresponding Environmental Mitigation Measures
Table 2.1	Status of Environmental Licensing and Permitting
Table 2.2	Estimated Quantities of Waste Generated in February 2024
Table 3.1	Environmental Complaints Received in February 2024
Table 3.2	Outstanding Environmental Complaints Carried Over
Table 3.3	Notifications of Summon or Successful Prosecution Received in February 2024
Table 3.4	Notifications of Summon or Successful Prosecution Carried Over

LIST OF FIGURES

Figure 1.1	The Project Area
Figure 1.2	Decommissioning and Construction Phasing Schedule
Figure 1.3	Locations of Air Sensitive Receivers
Figure 1.4	Locations of Noise Sensitive Receivers
Figure 1.5	Locations of Water Sensitive Receivers

APPENDICES

Appendix A	Organization Chart
Appendix B	Tentative Decommissioning and Construction Programme
Appendix C	Summary of EMIS
Appendix D	Summary of Site Audit Findings
Appendix E	Monthly Waste Flow Table for February 2024

EXECUTIVE SUMMARY

In April 2022, an Environmental Permit (EP-600/2022) was granted to the Hongkong Electric Co., Ltd. (HK Electric) for the decommissioning/ demolition, construction and operation of the Project entitled “Re-provision of Open Cycle Gas Turbines at Lamma Power Station”. This report, prepared by the Environmental Team, presents the Environmental Monitoring and Audit (EM&A) findings for the Project in February 2024 and is the 20th Monthly EM&A Report for the decommissioning/ demolition and construction phases of the Project.

Key Construction Activities Undertaken

The construction activities undertaken in the reporting month are as follows:

- Excavation of ground floor and trenching works;
- Socketed H-piling works at GTAB North;
- Scraped material removal works;
- Lifting and cut;
- Operation of crawler crane;
- Operation of cherry picker;
- Take down the equipment and steel frame
- Discharge oil

Environmental Monitoring

According to the EM&A Manual, no environmental monitoring was necessary in view of the anticipated insignificant environmental impact.

Site Environmental Audit and Implementation of Mitigation Measure

EPD officials from Regional Office (South) visited Lamma Power Station on 22/2/2024. There was no adverse comment from EPD regarding the construction site.

Independent Environmental Checker (IEC) conducted a site inspection on 20/2/2024. The site conditions were generally satisfactory.

Weekly site audits were carried out to monitor environmental issues on the construction site. The site conditions were generally satisfactory. All recommended environmental mitigation measures were properly implemented. No environmental non-compliance was recorded in the reporting month.

Environmental Licensing and Permitting

License/Permit	Ref. No.	Valid Period		Authority/Holder	Date Issued
		From	To		
Environmental Permit	EP-600/2022	01/04/2022	-	EPD / HK Electric	01/04/2022
Waste Disposal Billing Account	Account No.: 7044319	27/06/2022	-	EPD / Civil Contractor	27/06/2022
Registration of Chemical Waste Producer	5213-912-P2781-22	22/02/2016	-	EPD / Civil Contractor	22/02/2016

License/Permit	Ref. No.	Valid Period		Authority/Holder	Date Issued
		From	To		
EPD Notification (Dust) Construction, Air Pollution Control (Construction Dust) Regulation	481782	07/07/2022	-	EPD / Civil Contractor	07/07/2022
Construction Noise Permit	GW-RS0112-24	22/02/2024	21/08/2024	EPD / Civil Contractor	14/02/2024
Waste Disposal Billing Account	Account No.: 7045179	28/09/2022	-	EPD is / E&M Contractor	28/09/2022
Registration of Chemical Waste Producer	5517-912-K2931-02	05/12/2022	-	EPD / E&M Contractor	05/12/2022
Construction Noise Permit	GW-RS1001-23	22/11/2023	21/05/2024	EPD / E&M Contractor	20/11/2023
WPCO Discharge Licence	WT10001647-2023	29/11/2023	30/11/2028	EPD / Civil Contractor	29/11/2023

Environmental Complaints / Summons/ Prosecutions

No complaint in relation to the environmental impact of the construction activities was received in the reporting month. There was also no notification of summon and successful prosecution for breaches of relevant environmental legislations received in the reporting month.

Future Key Issues

The construction activities scheduled for the coming month are mainly, excavation of ground floor and trenching works, socketed H-piling works, Heat Recovery Steam Generator (HRSG) 5 demolition, demolition of GT 5, GTAB Plant Equipment Demolition, operation of crawler crane, operation of cherry picker and oil discharge.

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

- Relevant environmental legislations should be observed.
- Relevant environmental licenses/permits should be obtained, if required.
- Required environmental mitigation measures should be properly implemented.
- Good site practices should be adopted to minimize environmental impacts.
- Dust suppression measures should be implemented for the construction activities.
- Works conducted during restricted hours should comply with the valid CNP.
- Wastewater from site facilities should be properly collected and stored within the site area.
- Wastewater should be properly treated in sedimentation pit and tanks before discharge in compliance with the WPCO discharge licence already obtained.
- Generation of waste should be minimized.
- Waste generated should be properly stored and disposed of.

Reporting Changes

There was no reporting change in the reporting month.

Concluding Remarks

The environmental performance of the Project was generally satisfactory.

1. INTRODUCTION

1.1 Background

In April 2022, an Environmental Permit (EP-600/2022) was granted to HK Electric for the decommissioning/ demolition, construction and operation of the Project entitled “Re-provision of Open Cycle Gas Turbines at Lamma Power Station”. An Environmental Team was then formed to implement the Environmental Monitoring and Audit (EM&A) programme in accordance with the EM&A Manual for the Project.

The key components of the Project are outlined as follows:

- Decommissioning and demolition of four oil-fired open cycle gas turbine units (GT2, GT3, GT4 and GT6) and one gas-fired combined cycle gas turbine unit (GT57), and auxiliary equipment including the black start gas turbine (BSGT), the miscellaneous storage shed, and the lube oil storage tank near GT5;
- Construction of four new oil-fired open cycle gas turbine units (GT8, GT9, GT 10 and GT11), and installation of the new BSGT and Battery Energy Storage System (BESS);
- Construction of new cable trenches, staircase and lift, and reconstruction of the GT57 Auxiliary Building (GTAB) to a new 132kV Switching Station; and
- Operation of four new oil-fired open cycle gas turbine units (GT8, GT9, GT10 and GT11).

The EM&A programme was commenced on 1 July 2022. This is the 20th monthly EM&A report which summarizes the environmental monitoring and audit work for the Project for the month of February 2024.

1.2 Project Organization

The management structure to oversee the Project includes the following:

- Project Proponent (HK Electric);
- Environmental Protection Department (EPD);
- Independent Environmental Checker (IEC);
- Environmental Team (ET); and
- Contractor.

The project organisation chart for the EM&A programme is shown in [Appendix A](#).

1.3 Key Construction Works Undertaken during the Reporting Month

The Project area is shown in [Figure 1.1](#), and the tentative decommissioning and construction phasing schedule is shown in [Figure 1.2](#).

The locations of air, noise and water sensitive receivers are shown in [Figure 1.3](#), [Figure 1.4](#) and [Figure 1.5](#) respectively.

The main construction activities carried out during the reporting month and the corresponding environmental mitigation measures are summarized in [Table 1.1](#). The implementation status of the major mitigation measures in the reporting month can be found in [Appendix C](#).

Table 1.1 Construction Activities and Corresponding Environmental Mitigation Measures

Item	Activities	Environmental Mitigation Measures
Civil Works - General		
1.	Excavation of ground floor and trenching works	<p><i>Air</i></p> <ul style="list-style-type: none"> - All regulated machine attached with valid exception/approval NRMM labels. - Water spraying during concrete breaking works. - Concrete debris will be covered while pending to removal. - Material in dump truck will be covered during transfer. <p><i>Wastewater</i></p> <ul style="list-style-type: none"> - Reuse treated wastewater, no wastewater discharged at this moment. - Geotextile and sand bag barriers were set up as preventive measures at gully. <p><i>Noise</i></p> <ul style="list-style-type: none"> - Noise emission label was provided for air compressor. - Works conducted during restricted hours should comply with the valid CNP. <p><i>Waste Management</i></p> <ul style="list-style-type: none"> - Scrape metal will be recycled. - Concrete debris was removed to temporary storage location pending for disposal. - Chemical waste should be collected by licensed collector.
2.	Socketed H-piling works at GTAB North	<p><i>Air</i></p> <ul style="list-style-type: none"> - All regulated machine attached with valid exception/approval NRMM labels. <p><i>Wastewater</i></p> <ul style="list-style-type: none"> - All wastewater will be treated by wastewater treatment plant before discharged. - Geotextile and sand bag barriers were set up as preventive measures at gully. <p><i>Noise</i></p> <ul style="list-style-type: none"> - Noise emission label was provided for air compressor. - Works conducted during restricted hours should comply with the valid CNP. <p><i>Waste Management</i></p> <ul style="list-style-type: none"> - Excavated material was removed to temporary storage area pending for removal. - Scrape metal will be recycled. - Chemical waste should be collected by licensed collector.
E&M Works - General		
3.	Scraped material removal works	<p><i>Air</i></p> <ul style="list-style-type: none"> - All regulated machine attached with exception/approval NRMM labels.

Item	Activities	Environmental Mitigation Measures
		<p><i>Noise</i></p> <ul style="list-style-type: none"> - No works will be conducted during restricted hours at this moment. <p><i>Wastewater</i></p> <ul style="list-style-type: none"> - No wastewater is required to be discharged for this works. <p><i>Waste Management</i></p> <ul style="list-style-type: none"> - Scrap metal will be recycled.
4.	Lifting and cut	<p><i>Air</i></p> <ul style="list-style-type: none"> - Fence off the working area to avoid dust emission. <p><i>Noise</i></p> <ul style="list-style-type: none"> - No works will be conducted during restricted hours at this moment. <p><i>Wastewater</i></p> <ul style="list-style-type: none"> - No wastewater is required to be discharge for this works. <p><i>Waste Management</i></p> <ul style="list-style-type: none"> - Scrap metal will be recycled.
5.	Operation of crawler crane	<p><i>Air</i></p> <ul style="list-style-type: none"> - All regulated machine attached with exception/ approval NRMM labels. <p><i>Noise</i></p> <ul style="list-style-type: none"> - No works will be conducted during restricted hours at this moment. <p><i>Wastewater</i></p> <ul style="list-style-type: none"> - No wastewater is required to be discharged for this works. <p><i>Waste Management</i></p> <ul style="list-style-type: none"> - No waste will be generated.
6.	Operation of cherry picker	<p><i>Air</i></p> <ul style="list-style-type: none"> - All regulated machine attached with exception/approval NRMM labels. <p><i>Wastewater</i></p> <ul style="list-style-type: none"> - No wastewater is required to be discharged for this works. <p><i>Noise</i></p> <ul style="list-style-type: none"> - No works will be conducted during restricted hours at this moment. <p><i>Waste Management</i></p> <ul style="list-style-type: none"> - No waste will be generated.

Item	Activities	Environmental Mitigation Measures
7.	Take down the equipment and steel frame	<p><i>Air</i></p> <ul style="list-style-type: none"> - Fence off the working area to avoid dust emission. <p><i>Noise</i></p> <ul style="list-style-type: none"> - No works will be conducted during restricted hours at this moment. <p><i>Wastewater</i></p> <ul style="list-style-type: none"> - No wastewater is required to be discharge for this works. <p><i>Waste Management</i></p> <ul style="list-style-type: none"> - Scrap metal will be recycled.
8.	Discharge oil	<p><i>Air</i></p> <ul style="list-style-type: none"> - Fence off the working area to avoid dust emission. <p><i>Noise</i></p> <ul style="list-style-type: none"> - No works will be conducted during restricted hours at this moment. <p><i>Wastewater</i></p> <ul style="list-style-type: none"> - setup the nylon sheet on ground. <p><i>Waste Management</i></p> <ul style="list-style-type: none"> - Oil would be handled by specific chemical waste disposal company.

1.4 Summary of EM&A Requirements

Impact Monitoring

According to the EM&A Manual, no routine impact monitoring for air quality, noise and water quality is necessary in view of the anticipated insignificant environmental impact.

Environmental Audit

Regular environmental audits on air quality, noise, water quality, waste management, and land contamination are required. Details of the audits are summarized in [Section 2](#) of this report.

Report on complaints, notification of summons and successful prosecutions are given in [Section 3](#) of this report.

Future key issues are given in [Section 4](#) of this report.

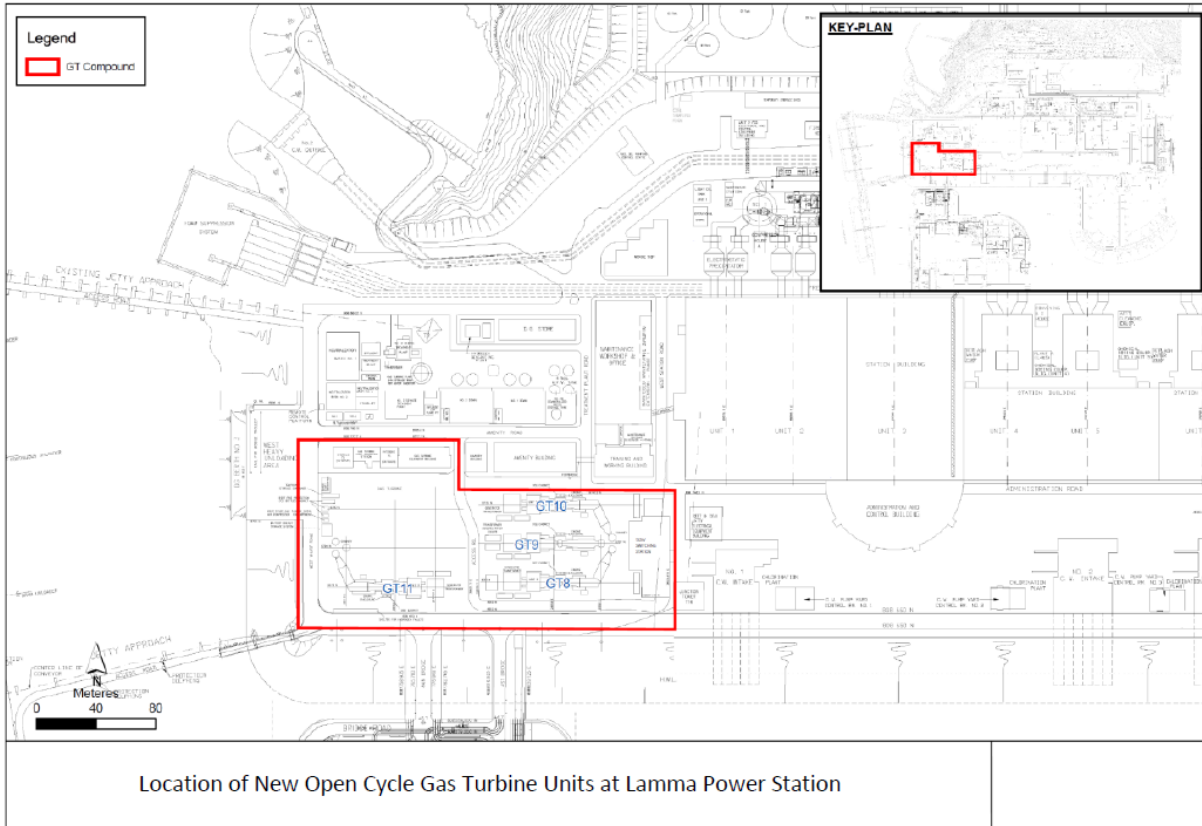
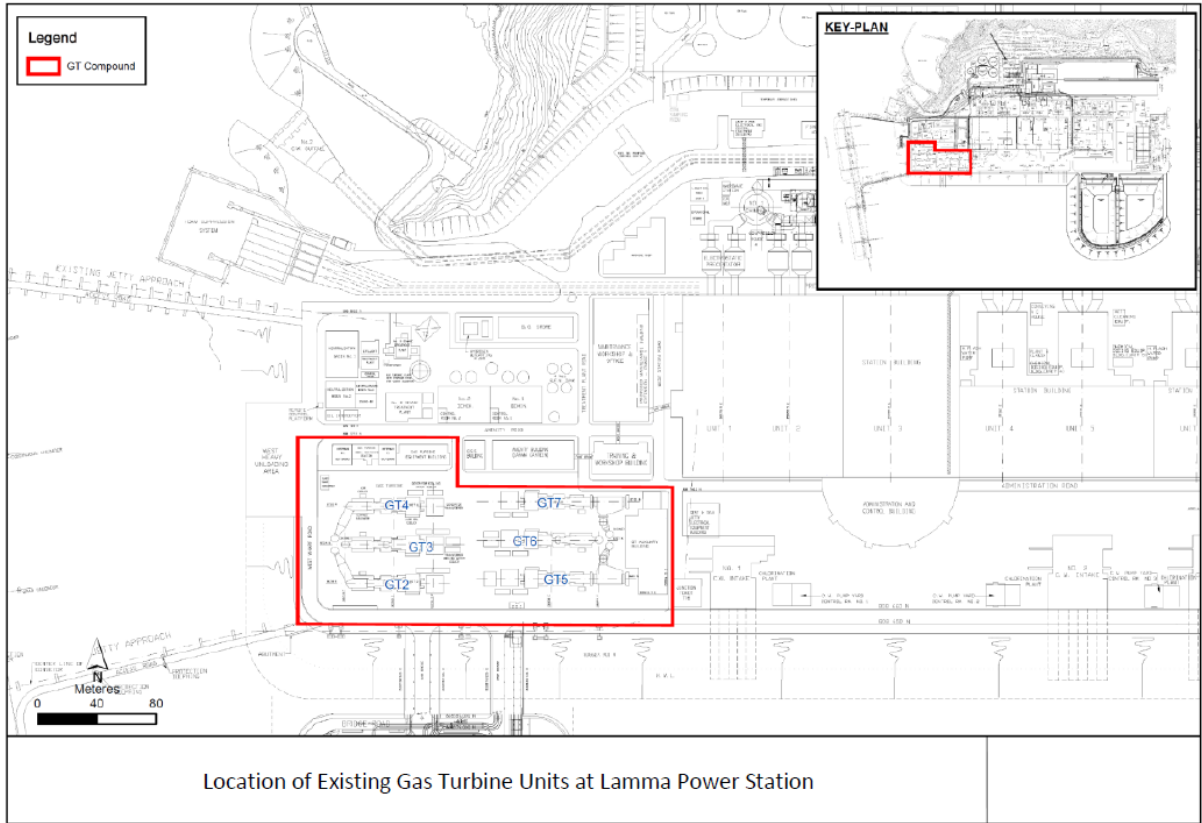


Figure 1.1 The Project Area

		Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026
GT57	Decommissioning of GT57																				
Demolition of GT7	Demolition of E&M equipment in GTAB																				
	Demolition of HRSG Demolition of gas turbine, generator, generator transformer and auxiliary equipment																				
GT10	Anchor bolt replacement																				
	Stack refurbishment																				
	Construction of gas turbine, generator, generator transformer and auxiliary equipment																				
	Testing and Commissioning																				
Demolition of GT5	Demolition of HRSG																				
	Demolition of gas turbine, generator, generator transformer and auxiliary equipment																				
GT8	Anchor bolt replacement																				
	Construction of gas turbine, generator, generator transformer and auxiliary equipment																				
	Testing and Commissioning																				
	Decommissioning																				
Demolition of GT6	Demolition of gas turbine, generator, generator transformer and auxiliary equipment																				
	Anchor bolt replacement																				
GT9	Construction of gas turbine, generator, generator transformer and auxiliary equipment																				
	Testing and Commissioning																				
	Decommissioning																				
GT2	Decommissioning	To be advised																			
	Demolition																				
GT3	Decommissioning																				
	Demolition																				
GT4	Decommissioning																				
	Demolition																				
GT11	Construction																				
	Testing and Commissioning																				

Figure 1.2 Decommissioning and Construction Phasing Schedule

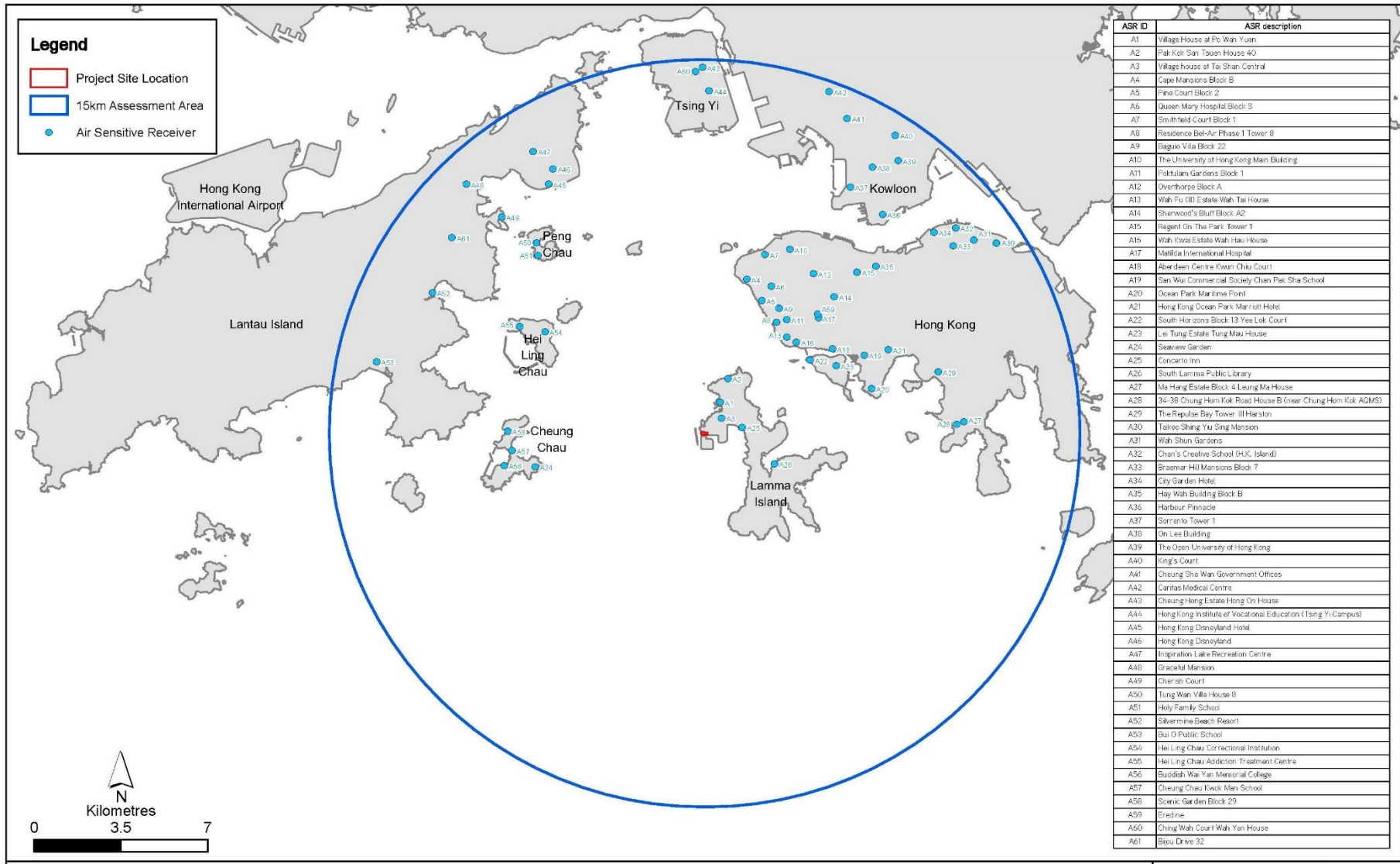


Figure 1.3 Locations of Air Sensitive Receivers within the 15km Assessment Area



Figure 1.4 Locations of Noise Sensitive Receivers

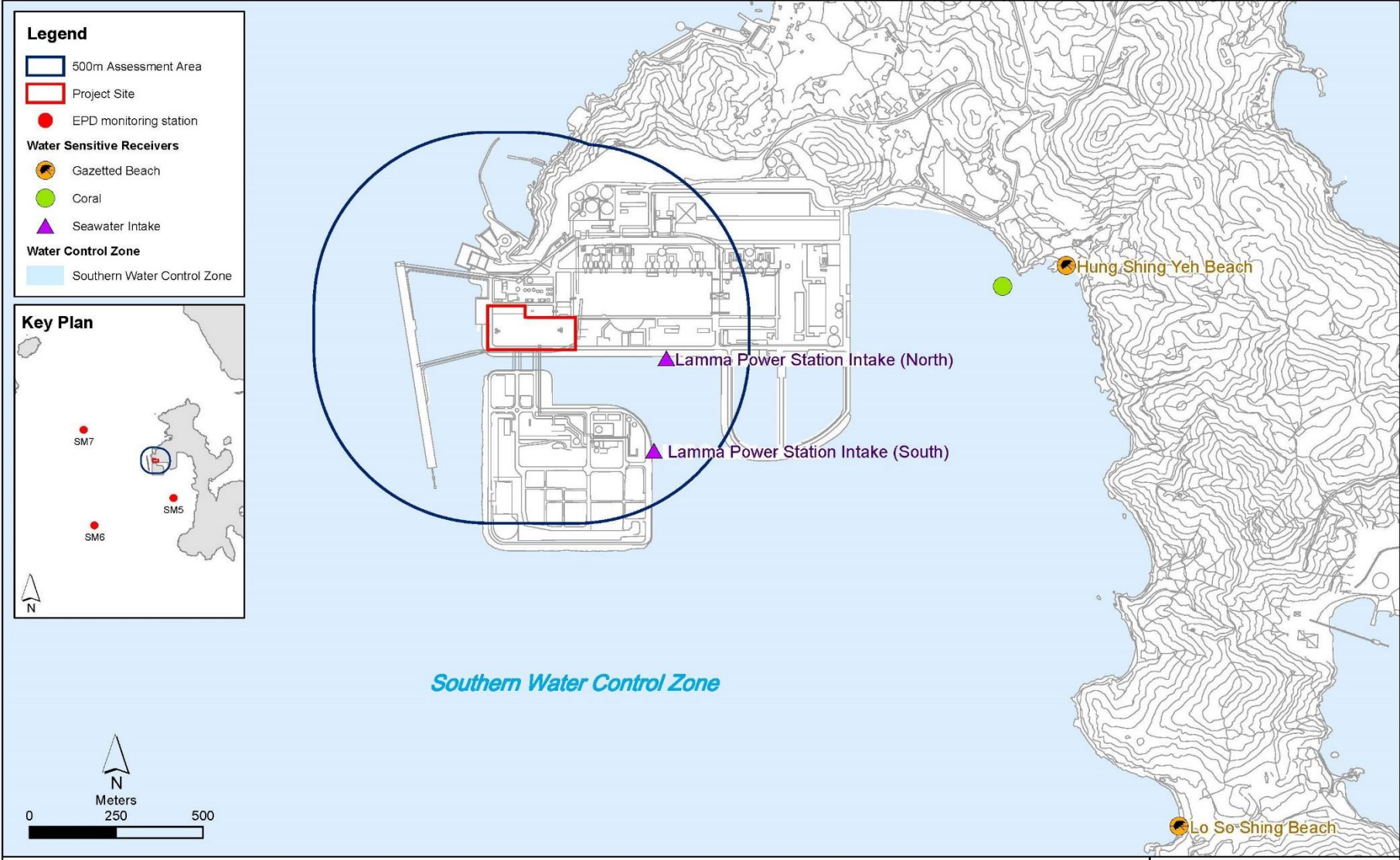


Figure 1.5 Locations of Water Sensitive Receivers

2. ENVIRONMENTAL AUDIT

2.1 Site Inspection

EPD officials from Regional Office (South) visited Lamma Power Station on 22/2/2024. There was no adverse comment from EPD regarding the construction site.

Independent Environmental Checker (IEC) conducted a site inspection on 20/2/2024. The site conditions were generally satisfactory.

Weekly site audits were carried out by the Environmental Team in the reporting month to ensure compliance with relevant legislations and other requirements. The site audit findings or recommendations in the reporting month are summarized in [Appendix D](#). The site conditions were generally satisfactory. No non-compliance was recorded during the site inspection. All recommended mitigation measures were properly implemented.

2.2 Status of Environmental Licensing and Permitting

The licenses/permits obtained for the Project as of end February 2024 are summarised in [Table 2.1](#).

Table 2.1 Status of Environmental Licensing and Permitting

License/Permit	Ref. No.	Valid Period		Description	Status
		From	To		
Environmental Permit	EP-600/2022	01/04/2022	-	For the decommissioning/demolition, construction and operation of the Project	Valid
Waste Disposal Billing Account	Account No.: 7044319	27/06/2022	-	Civil Work	Valid
Registration of Chemical Waste Producer	5213-912-P2781-22	22/02/2016	-	Civil Work	Valid
EPD Notification (Dust) Construction, Air Pollution Control (Construction Dust) Regulation	481782	07/07/2022	-	Civil Work	Valid
Construction Noise Permit	GW-RS0112-24	22/02/2024	21/08/2024	Civil Work Operation of PME during restricted hours	Valid
Waste Disposal Billing Account	Account No.: 7045179	28/09/2022	-	E&M Work	Valid
Registration of Chemical Waste Producer	5517-912-K2931-02	05/12/2022	-	E&M Work	Valid

License/Permit	Ref. No.	Valid Period		Description	Status
		From	To		
Construction Noise Permit	GW-RS1001-23	22/11/2023	21/05/2024	E&M Work Operation of PME during restricted hours	Valid
WPCO Discharge Licence#	WT10001647-2023	29/11/2023	30/11/2028	Civil Work	Valid

2.3 Waste Management

All wastes produced were managed in accordance with the Waste Management Plan, good waste management practices, and statutory regulations and requirements.

The estimated quantities of wastes generated in February 2024 are summarized in [Table 2.2](#).

Table 2.2 Estimated Quantities of Waste Generated in February 2024

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	10.10 Tonnes	49.13 Tonnes	8 Kiloliters

The monthly waste flow tables prepared by the contractors are attached in [Appendix E](#).

2.4 Implementation Status of Land Contamination Assessment

The EIA study has recommended to conduct site investigation and sampling at five hotspot locations (i.e. 4 boreholes and 1 trial pit) to assess the potential land contamination impacts within the Project site in accordance with the Contaminated Assessment Plan (CAP). Site investigation and soil and groundwater sampling will be undertaken in accordance with the CAP under the supervision of a Land Contamination Specialist when the proposed sampling locations are made available after the demolition of the existing units and structures. The updated CAP was submitted to EPD in December 2022 for approval. EPD’s comments on the CAP were received on 20/12/2022 and a revised CAP was submitted to EPD on 13/1/2023. EPD’s approval for the CAP was granted on 2/3/2023.

Site investigation work on Lube Oil Tank area (BH1) was started on 22/5/2023 and the samples obtained had been delivered to laboratory for further analysis. Laboratory test result has been received on 26/7/2023. While no contamination was identified in Lube Oil Tank area based on the test result, the corresponding Contamination Assessment Report was compiled and currently under internal review.

2.5 Implementation Status of Environmental Mitigation Measures

Mitigation measures detailed in the Environmental Permit and the EM&A Manual are required to be implemented. A summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in [Appendix C](#).

3. REPORT ON COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

3.1 Implementation Status of Environmental Complaint Handling Procedures

No complaint in relation to the environmental impact of the construction activities was received in the reporting month.

Table 3.1 Environmental Complaints Received in February 2024

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

Table 3.2 Outstanding Environmental Complaints Carried Over

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

3.2 Environmental Summon and Successful Prosecution

No notification of summon or successful prosecution was received in the reporting month.

Table 3.3 Notifications of Summon or Successful Prosecution Received in February 2024

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

Table 3.4 Notifications of Summon or Successful Prosecution Carried Over

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

4. FUTURE KEY ISSUES

4.1 Construction Program for the Coming Month

The construction activities scheduled for the coming month are mainly excavation of ground floor and trenching works, socketed H-pilling works, Heat Recovery Steam Generator (HRSG) 5 demolition, demolition of GT 5, GTAB Plant Equipment Demolition, operation of crawler crane, operation of cherry picker and oil discharge. (see [Appendix B](#)).

4.2 Key Issues for the Coming Month

Key issues to be considered and recommended in the coming month include:

Civil Works

General

- Relevant environmental legislations should be observed.
- Relevant environmental licenses/permits should be obtained, if required.
- Required environmental mitigation measures should be properly implemented.

Air

- Dust suppression measures should be implemented for the construction activities.

Noise

- General noise mitigation measures should be employed at work site.
- Works conducted during restricted hours should comply with the valid CNP.

Water

- Wastewater from site facilities should be properly collected and stored within the site area.
- Wastewater should be properly treated in sedimentation pit and tanks before discharge in compliance with the WPCO discharge licence already obtained.
- Good site practices should be adopted.

Waste

- Waste Management Plan submitted should be implemented
- Good site practices should be adopted.

Land Contamination

- Good site practices should be adopted.

E&M Works

General

- Relevant environmental legislations should be observed.
- Relevant environmental licenses/permits should be obtained, if required.
- Required environmental mitigation measures should be properly implemented.

Air

- Dust suppression measures should be implemented for the construction activities.

Noise

- General noise mitigation measures should be employed at work site.
- Works conducted during restricted hours should comply with the valid CNP.

Water

- Wastewater from site facilities should be properly collected and stored within the site area.
- Good site practices should be adopted.

Waste

- Waste Management Plan submitted should be implemented
- Good site practices should be adopted.

Land Contamination

- Good site practices should be adopted.

5. CONCLUSION

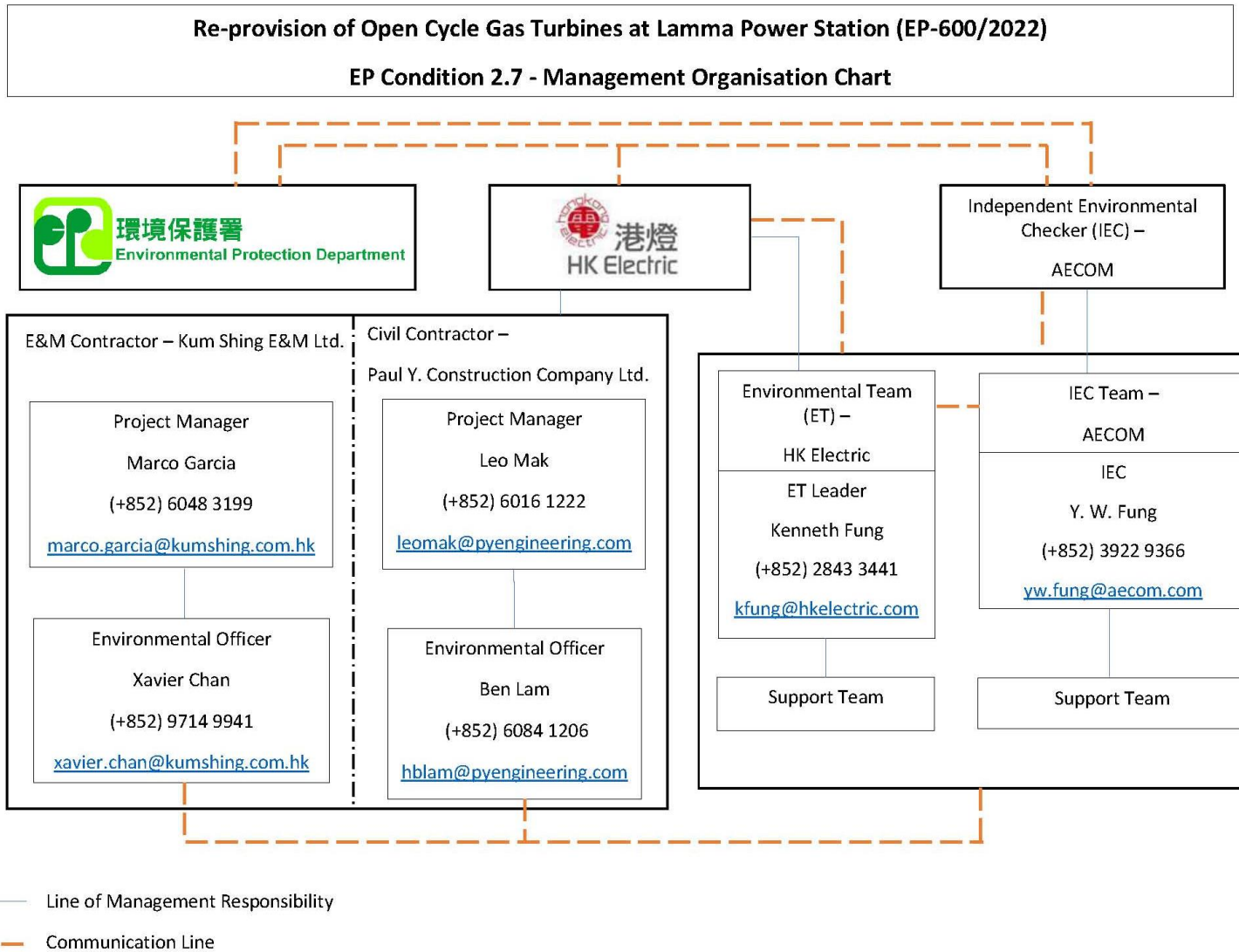
According to the EM&A Manual, environmental monitoring was not necessary in view of the anticipated insignificant environmental impact. Environmental audits were performed in accordance with the EM&A Manual.

All recommended environmental mitigation measures were properly implemented. No complaint in relation to the environmental impact of the construction activities was received in the reporting month. There was also no notification of summon and successful prosecution for breaches of relevant environmental legislations received in the reporting month.

No non-compliance was recorded in the reporting month.

The environmental performance of the Project was generally satisfactory.

Appendix A Organization Chart



Appendix B1 Tentative Decommissioning and Construction Programme (Civil Contractor)

Contract No. 21-83005 Civil Works for Re-provision of OCGT at Lamma Power Station					March							April							May																
ID	Task Name	Duration	Start	Finish	F	M	T	S	W	S	T	F	M	T	S	W	S	T	F	M	T	S	W	S	T	F	M	T	S	W	S	T	F	M	T
1	Contract Date	1651 days	Fri 24/6/22	Thu 31/12/26																															
2	Letter of Acceptance	0 days	Fri 24/6/22	Fri 24/6/22																															
3	Commencement Date	0 days	Fri 1/7/22	Fri 1/7/22																															
4	Full Mobilization	14 days	Fri 24/6/22	Thu 7/7/22																															
5	Completion Date	0 days	Thu 31/12/26	Thu 31/12/26																															
6	Schedule of Site Possession Date as per Clause PS.1.4.2	1553 days	Fri 1/7/22	Thu 1/10/26																															
7	Section A	987 days	Mon 3/10/22	Mon 16/6/25																															
8	A1: Removal of existing cladding enclosure from +6.45 to +9.50mPD at G.L. 4-5/F	0 days	Mon 3/10/22	Mon 3/10/22																															
9	A2: Demolition of existing pipe supporting rack at Amenity Building	0 days	Tue 23/5/23	Tue 23/5/23																															
10	A3: Piling works, pile cap, plinth and Trench Construction Works	0 days	Fri 1/9/23	Fri 1/9/23																															
11	A4: Lamma 132-kV Switching Station & OCGT Equipment Building	0 days	Fri 14/7/23	Fri 14/7/23																															
12	A5: Shelter, fencing and fire services installation works at GT 1/B Transformer Bay No.3	0 days	Mon 16/6/25	Mon 16/6/25																															
13	Section B	626 days	Fri 15/12/23	Mon 1/9/25																															
14	B1: BESS foundation works	0 days	Mon 1/1/24	Mon 1/1/24																															
15	B2: Civil works for existing GT7(new GT10)	0 days	Fri 15/12/23	Fri 15/12/23																															
16	B3: Civil Works for existing GT5 (new GT8)	0 days	Fri 1/3/24	Fri 1/3/24																															
17	B4: Civil works for existing GT6 (new GT9)	0 days	Mon 1/9/25	Mon 1/9/25																															
18	B5: Civil works for existing 1/B Transformer Bay No. 2 and Gas Turbine 132kV Switching Station	0 days	Sun 1/6/25	Sun 1/6/25																															
19	Section C	1280 days	Fri 1/7/22	Thu 1/1/26																															
20	C1: Trenching works within Area A & H	0 days	Fri 1/7/22	Fri 1/7/22																															
21	C2: Trenching works (excluding BESS-3) within Area B	0 days	Wed 15/11/23	Wed 15/11/23																															
22	C3: Trenching works within Area E	0 days	Sat 18/11/23	Sat 18/11/23																															
23	C4: Trenching works within Area F	0 days	Fri 1/3/24	Fri 1/3/24																															
24	C5: Trenching works within Area G	0 days	Tue 1/4/25	Tue 1/4/25																															
25	C6: Trenching works within Area I	0 days	Wed 1/10/25	Wed 1/10/25																															
26	C7: Trenching works for BESS-3 within Area B	0 days	Thu 1/1/26	Thu 1/1/26																															
27	Section D	578 days	Sun 1/1/23	Thu 1/8/24																															
28	D1: Trenching works within Area II	0 days	Sun 1/1/23	Sun 1/1/23																															
29	D2: Trenching works within Area I	0 days	Tue 5/9/23	Tue 5/9/23																															
30	D3: Trenching works within Area VIII	0 days	Thu 1/8/24	Thu 1/8/24																															
31	Section E	1035 days	Fri 1/12/23	Thu 1/10/26																															
32	E1: Remove of sub-base, backfill, screening etc. for trenches within Area A to J at LPS and Area I to VIII at LMX	0 days	Fri 1/12/23	Fri 1/12/23																															
33	E2: Total completion for all remaining works	0 days	Thu 1/10/26	Thu 1/10/26																															
34	Schedule of Completion Date as per Clause PS1.4.2	1532 days	Fri 21/10/22	Thu 31/12/26																															
35	Section A	1168 days	Fri 21/10/22	Thu 1/1/26																															
36	A1: Removal of existing cladding enclosure from +6.45 to +9.50mPD at G.L. 4-5/F	0 days	Fri 21/10/22	Fri 21/10/22																															
37	A2: Demolition of existing pipe supporting rack at Amenity Building	0 days	Tue 27/6/23	Tue 27/6/23																															
38	A3: Piling works, pile cap, plinth and Trench Construction Works	0 days	Sat 31/8/24	Sat 31/8/24																															
39	A4: Lamma 132-kV Switching Station & OCGT Equipment Building	0 days	Mon 25/11/24	Mon 25/11/24																															
40	A5: Shelter, fencing and fire services installation works at GT 1/B Transformer Bay No.3	0 days	Thu 1/1/26	Thu 1/1/26																															

Tender Program of Contract No. 21-83005
 Civil Works for Re-provision of OCGT
 at Lamma Island Power Station




Task Summary Start-only Critical Progress
 Milestone Manual Summary Finish-only Critical Split

Re-provision of Open Cycle Gas Turbines at Lamna Power Station
 Monthly EM&A Report for February 2024

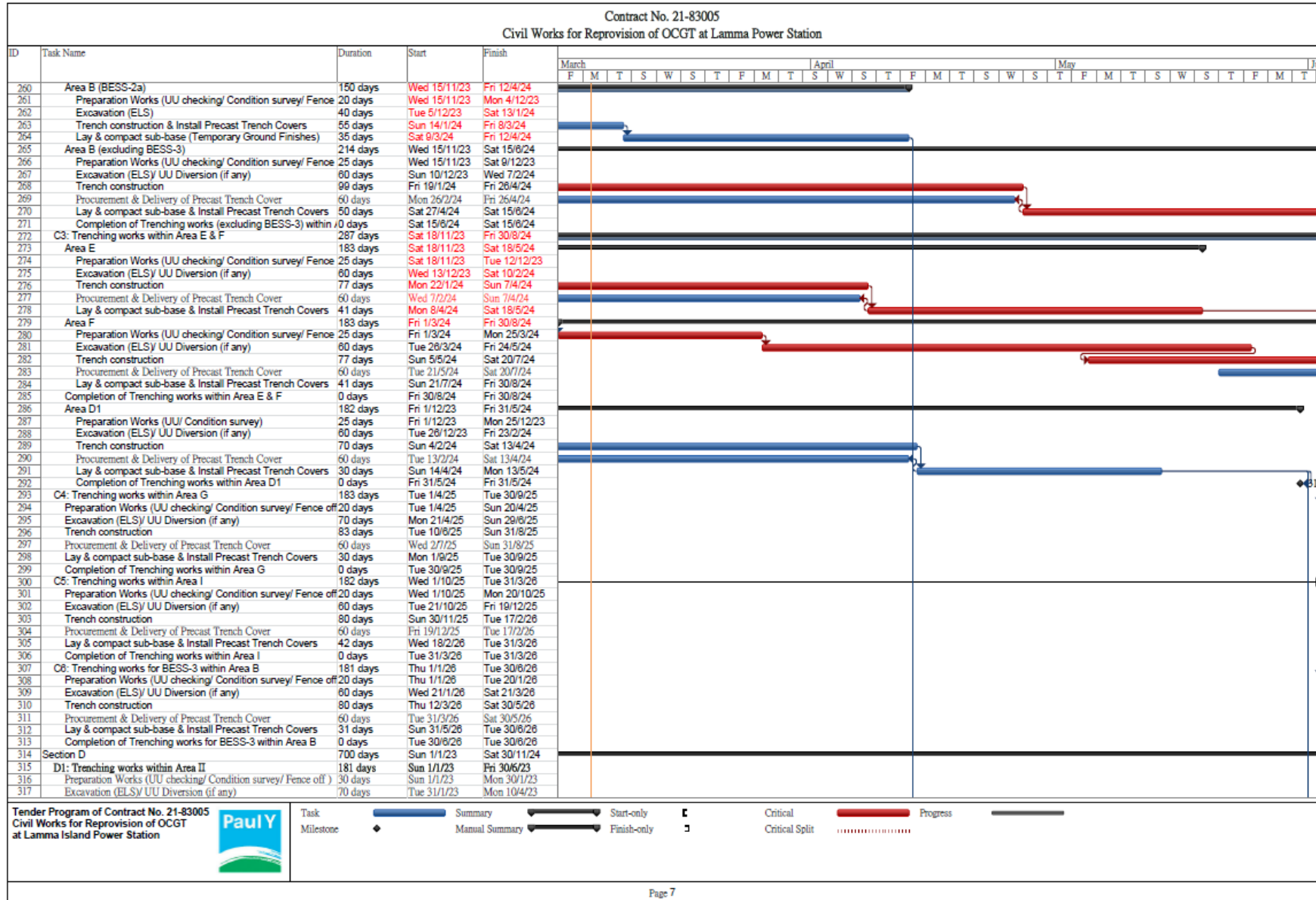
Contract No. 21-83005																									
Civil Works for Re-provision of OCGT at Lamna Power Station																									
ID	Task Name	Duration	Start	Finish	March							April							May						
					F	M	T	S	W	S	T	F	M	T	S	W	S	T	F	M	T	S	W	S	T
214	FSD - Form 172 (Fire Certificate)	28 days	Mon 10/2/25	Sun 9/3/25																					
215	BD inspection for OP	27 days	Sun 9/3/25	Sat 5/4/25																					
216	Form 314 & 501 submission	0 days	Sun 9/3/25	Sun 9/3/25																					
217	BD inspection	13 days	Mon 10/3/25	Sat 2/2/25																					
218	BD rectification and re-inspection	14 days	Sun 23/3/25	Sat 5/4/25																					
219	Completion of Lamna 132-kV Switching Station & OCGT Equipment Building	0 days	Sat 5/4/25	Sat 5/4/25																					
220	A5: Shelter, fencing and fire services installation works at GT I/B Transformer Bay No.3	200 days	Mon 16/6/25	Thu 1/1/26																					
221	Construction of shelter and fencing works at GT Interbus (I/B) Tr	90 days	Mon 16/6/25	Sat 13/9/25																					
222	Completion of Shelter, fencing and fire services installation works at GT I/B Transformer Bay No.3	0 days	Thu 1/1/26	Thu 1/1/26																					
223	Section B	807 days	Fri 15/12/23	Sat 28/2/26																					
224	B1: BESS foundation works	181 days	Mon 1/1/24	Sun 30/6/24																					
225	BESS Foundation in Area H	150 days	Mon 1/1/24	Wed 29/5/24																					
226	Ground investigation works for Borehole no. BH2, BH3 & BH4	30 days	Mon 1/1/24	Tue 30/1/24																					
227	Completion of BESS foundation works	1 day	Sat 29/6/24	Sun 30/6/24																					
228	B2: Civil works for existing GT7 (new GT10)	183 days	Fri 15/12/23	Fri 14/6/24																					
229	Ground Investigation works for Borehole no. BH1 and Trail pit	30 days	Fri 15/12/23	Sat 13/1/24																					
230	Civil modification works for existing GT7 (new GT10)	122 days	Fri 15/12/23	Sun 14/4/24																					
231	Anchor Bolt Installation (By Others)	46 days	Mon 15/4/24	Thu 30/5/24																					
232	Final Concreting	15 days	Fri 31/5/24	Fri 14/6/24																					
233	Completion of Civil works for existing GT7 (new GT10)	0 days	Fri 14/6/24	Fri 14/6/24																					
234	B3: Civil Works for existing GT5 (new GT8)	182 days	Fri 1/3/24	Thu 29/8/24																					
235	Civil modification works for existing GT5 (new GT8)	121 days	Fri 1/3/24	Sat 29/6/24																					
236	Anchor Bolt Installation (By Others)	45 days	Sun 30/6/24	Tue 13/8/24																					
237	Final Concreting	16 days	Wed 14/8/24	Thu 29/8/24																					
238	Completion of Civil works for existing GT5 (new GT8)	0 days	Thu 29/8/24	Thu 29/8/24																					
239	B4: Civil works for existing GT6 (new GT9)	181 days	Mon 1/9/25	Sat 28/2/26																					
240	Civil modification works for existing GT6 (new GT9)	122 days	Mon 1/9/25	Wed 31/12/25																					
241	Anchor Bolt Installation (By Others)	46 days	Thu 1/1/26	Sun 15/2/26																					
242	Final Concreting	13 days	Mon 16/2/26	Sat 28/2/26																					
243	Completion of Civil works for existing GT8 (new GT9)	0 days	Sat 28/2/26	Sat 28/2/26																					
244	B5: Civil works for existing I/B Transformer Bay No. 2 and Gas Turbine 132kV Switching Station	273 days	Sun 1/8/25	Sat 28/2/26																					
245	Civil modification works for Gas Turbine 132kV Switching Stat	92 days	Sun 1/8/25	Sun 31/8/25																					
246	Transformer works (By Others)	122 days	Mon 1/9/25	Wed 31/12/25																					
247	Fire services works for I/B Transformer No. 2	214 days	Sun 1/8/25	Wed 31/12/25																					
248	Other Remaining Works	59 days	Thu 1/1/26	Sat 28/2/26																					
249	Completion of Civil works for existing I/B Transformer No. 2 and Gas Turbine 132kV Switching Station	0 days	Sat 28/2/26	Sat 28/2/26																					
250	Section C	1481 days	Fri 1/7/22	Tue 30/8/26																					
251	C1: Trenching works within Area A	385 days	Fri 1/7/22	Sun 30/7/23																					
252	Area A	385 days	Fri 1/7/22	Sun 30/7/23																					
253	Preparation Works (UU checking/ Condition survey/ Fence	20 days	Fri 1/7/22	Wed 20/7/22																					
254	Excavation (ELSY UU Diversion (if any)	75 days	Thu 21/7/22	Mon 3/10/22																					
255	Trench construction	270 days	Mon 19/9/22	Thu 15/6/23																					
256	Procurement & Delivery of Precast Trench Cover	60 days	Sun 16/4/23	Thu 15/6/23																					
257	Lay & compact sub-base & Install Precast Trench Covers	45 days	Fri 16/8/23	Sun 30/7/23																					
258	Completion of Trenching works within Area A	0 days	Sun 30/7/23	Sun 30/7/23																					
259	C2: Trenching works (excluding BESS-3) within Area B	214 days	Wed 15/11/23	Sat 15/6/24																					

Tender Program of Contract No. 21-83005
 Civil Works for Re-provision of OCGT
 at Lamna Island Power Station



Task Summary Start-only Finish-only Critical Progress Critical Split

Re-provision of Open Cycle Gas Turbines at Lamma Power Station
 Monthly EM&A Report for February 2024



Re-provision of Open Cycle Gas Turbines at Lamma Power Station
 Monthly EM&A Report for February 2024

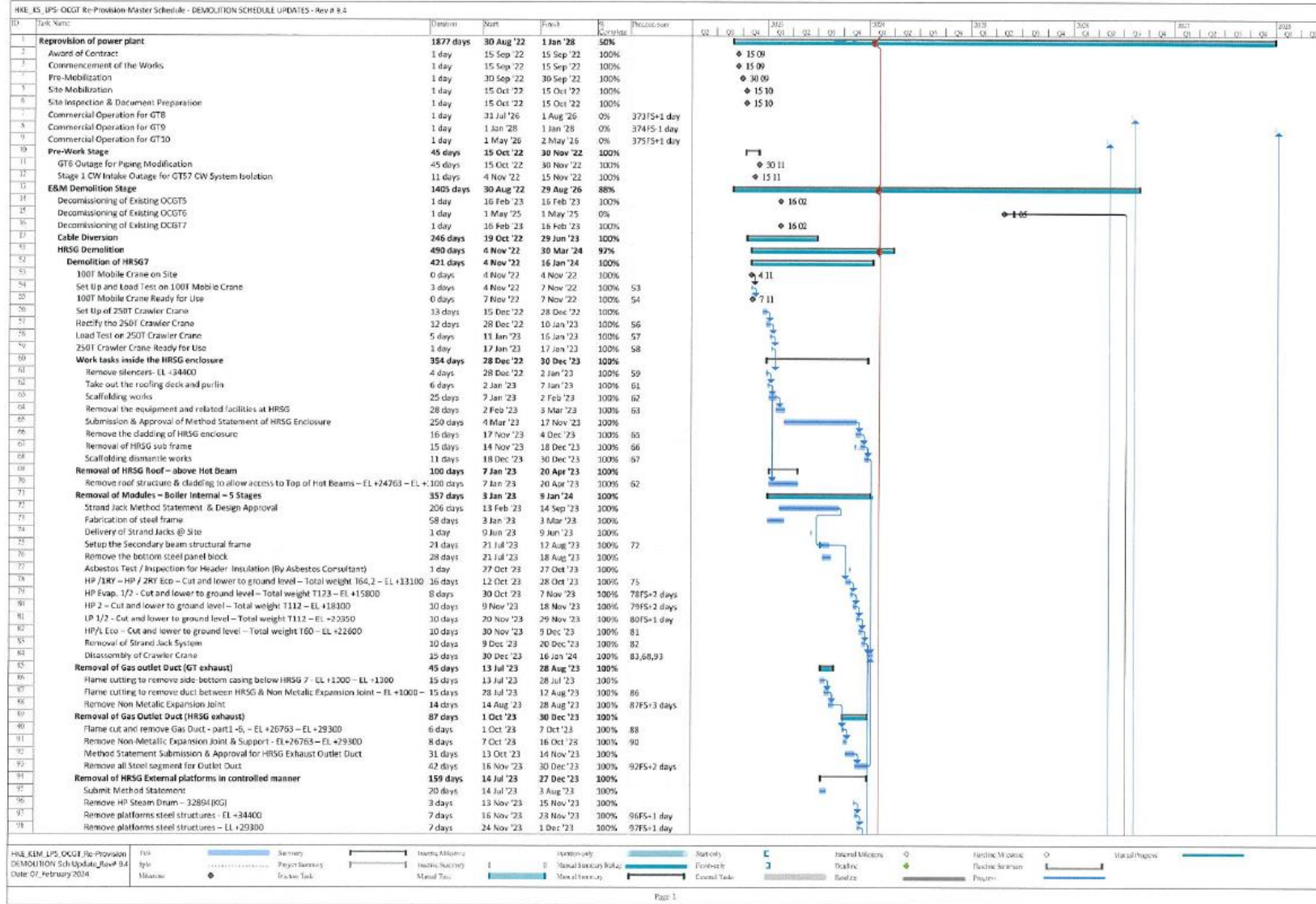
Contract No. 21-83005																									
Civil Works for Re-provision of OCGT at Lamma Power Station																									
ID	Task Name	Duration	Start	Finish	March							April							May						
					F	M	T	S	W	S	T	F	M	T	S	W	S	T	F	M	T	S	W	S	T
370	Installation of new anchor bolts by Plant Contractor for new Gas Turbine Plants	35 days	Fri 20/9/24	Thu 24/10/24																					
371	Final Reinstatement of Road and Pavement	77 days	Fri 25/10/24	Thu 9/1/25																					
372	Area B (Cable Trench - 132-GT10, FT-5)	162 days	Fri 10/1/25	Fri 20/6/25																					
373	Remove Trench Cover , concrete screeding and Sub-base & Excavation	7 days	Fri 10/1/25	Thu 16/1/25																					
374	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	50 days	Sun 16/2/25	Sun 6/4/25																					
375	Reinststate of Trench Cover including backfilling	40 days	Mon 7/4/25	Fri 16/5/25																					
376	Final Reinstatement of Road and Pavement	35 days	Sat 17/5/25	Fri 20/6/25																					
377	Area B (Cable Trench - LGT3)	212 days	Sat 21/6/25	Sun 18/1/26																					
378	Remove Trench Cover , concrete screeding and Sub-base & Excavation	7 days	Sat 21/6/25	Fri 27/6/25																					
379	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	85 days	Sat 28/6/25	Sat 20/9/25																					
380	Reinststate of Trench Cover including backfilling	70 days	Sun 21/9/25	Sat 29/11/25																					
381	Final Reinstatement of Road and Pavement	50 days	Sun 30/11/25	Sun 18/1/26																					
382	Area B (Cable Trench - LGT2)	197 days	Mon 19/1/26	Mon 3/8/26																					
383	Remove Trench Cover , concrete screeding and Sub-base & Excavation	7 days	Mon 19/1/26	Sun 25/1/26																					
384	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	70 days	Mon 26/1/26	Sun 5/4/26																					
385	Reinststate of Trench Cover including backfilling	60 days	Mon 5/4/26	Thu 4/6/26																					
386	Final Reinstatement of Road and Pavement	60 days	Fri 5/6/26	Mon 3/8/26																					
387	Area B (Cable Trench - BESS-3)	150 days	Tue 4/8/26	Thu 31/12/26																					
388	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	60 days	Tue 4/8/26	Fri 21/10/26																					
389	Reinststate of Trench Cover including backfilling	50 days	Sat 31/10/26	Sat 21/11/26																					
390	Final Reinstatement of Road and Pavement	40 days	Sun 22/11/26	Thu 31/12/26																					
391	Completion of Area B	0 days	Thu 31/12/26	Thu 31/12/26																					
392	Area C (Cable Trench - Miscellaneous)	359 days	Mon 9/1/23	Tue 21/1/24																					
393	Remove Trench Cover & Excavation	183 days	Mon 9/1/23	Mon 10/7/23																					
394	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	61 days	Tue 11/7/23	Sat 9/9/23																					
395	Reinststate of Trench Cover including backfilling	58 days	Sun 10/9/23	Mon 6/11/23																					
396	Final Reinstatement of Road and Pavement	57 days	Tue 7/11/23	Tue 21/1/24																					
397	Completion of Area C	0 days	Tue 21/1/24	Tue 21/1/24																					
398	Area D1 (Cable Trench - 132-GT8, LQZ1, LQZ2, 132-GT10)	234 days	Sat 1/6/24	Mon 20/1/25																					
399	Installation of new anchor bolts by Plant Contractor for new Gas Turbine Plants	45 days	Sat 1/6/24	Mon 15/7/24																					
400	Remove Trench Cover & Excavation	7 days	Tue 16/7/24	Mon 22/7/24																					
401	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	70 days	Tue 23/7/24	Mon 30/9/24																					
402	Reinststate of Trench Cover including backfilling	62 days	Tue 1/10/24	Sun 1/12/24																					
403	Final Reinstatement of Road and Pavement	50 days	Mon 21/2/24	Mon 20/1/25																					
404	Area J (Cable Trench - Miscellaneous)	189 days	Tue 16/7/24	Mon 20/1/25																					
405	Remove Trench Cover & Excavation	7 days	Tue 16/7/24	Mon 22/7/24																					
406	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	70 days	Tue 23/7/24	Mon 30/9/24																					
407	Reinststate of Trench Cover including backfilling	62 days	Tue 1/10/24	Sun 1/12/24																					
408	Final Reinstatement of Road and Pavement	50 days	Mon 21/2/24	Mon 20/1/25																					
409	Area D2 (Cable Trench - GT10, GT Station); Area E & F (Ca)	122 days	Tue 21/1/25	Thu 22/5/25																					
410	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	37 days	Tue 21/1/25	Wed 26/2/25																					
411	Reinststate of Trench Cover including backfilling	43 days	Thu 27/2/25	Thu 10/4/25																					
412	Final Reinstatement of Road and Pavement	42 days	Fri 11/4/25	Thu 22/5/25																					
413	Area G (Cable Trench - LGT2, BESS-1)	273 days	Wed 1/10/25	Tue 30/6/26																					
414	Handover to Paul Y. for cable laying by Employer's Specialist Contractor	118 days	Wed 1/10/25	Mon 26/1/26																					
415	Reinststate of Trench Cover including backfilling	95 days	Tue 27/1/26	Fri 1/5/26																					

Tender Program of Contract No. 21-83005
 Civil Works for Re-provision of OCGT
 at Lamma Island Power Station



Task Summary Start-only Finish-only Critical Progress Critical Split

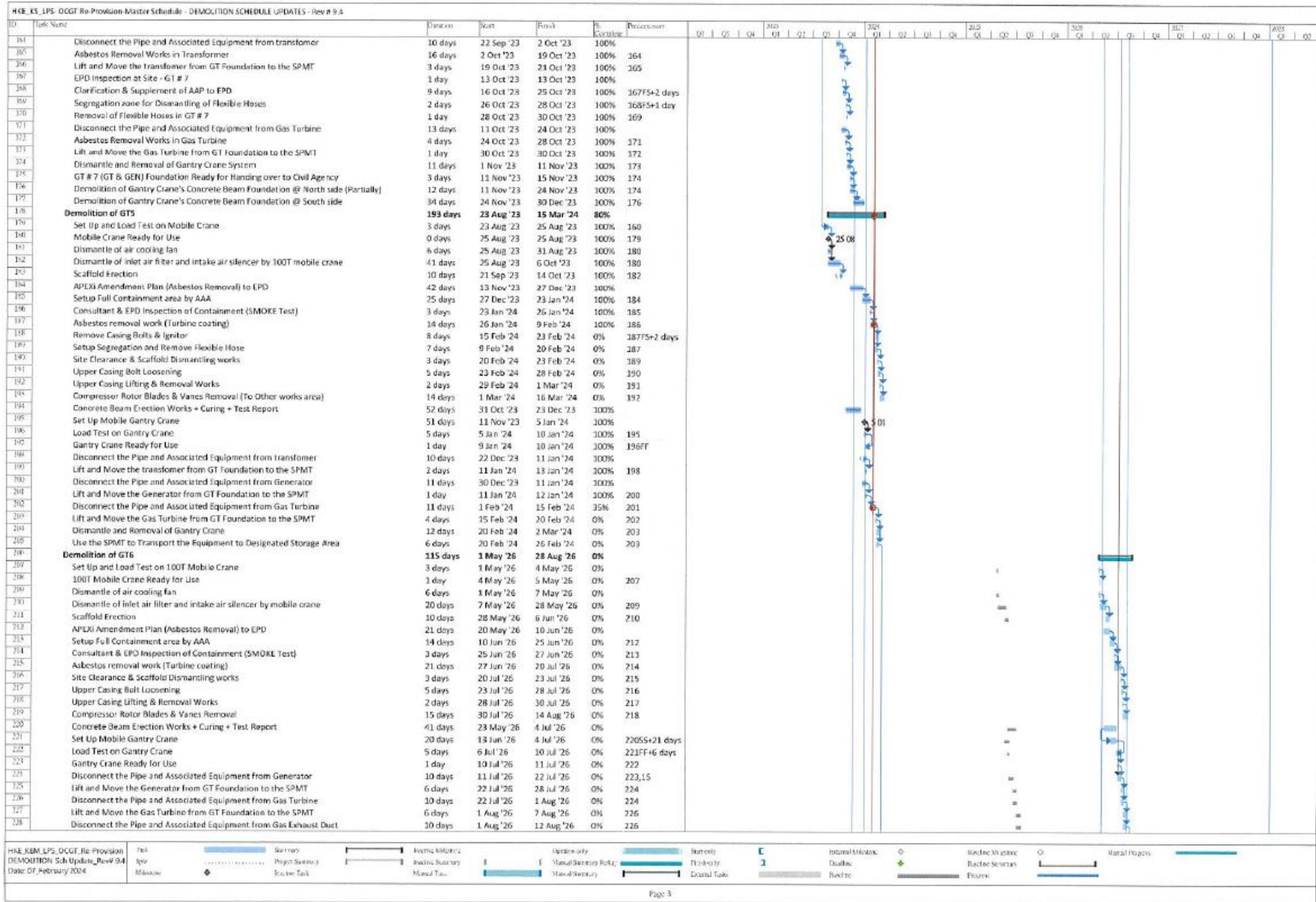
Appendix B2 Tentative Decommissioning and Construction Programme (E&M Contractor)



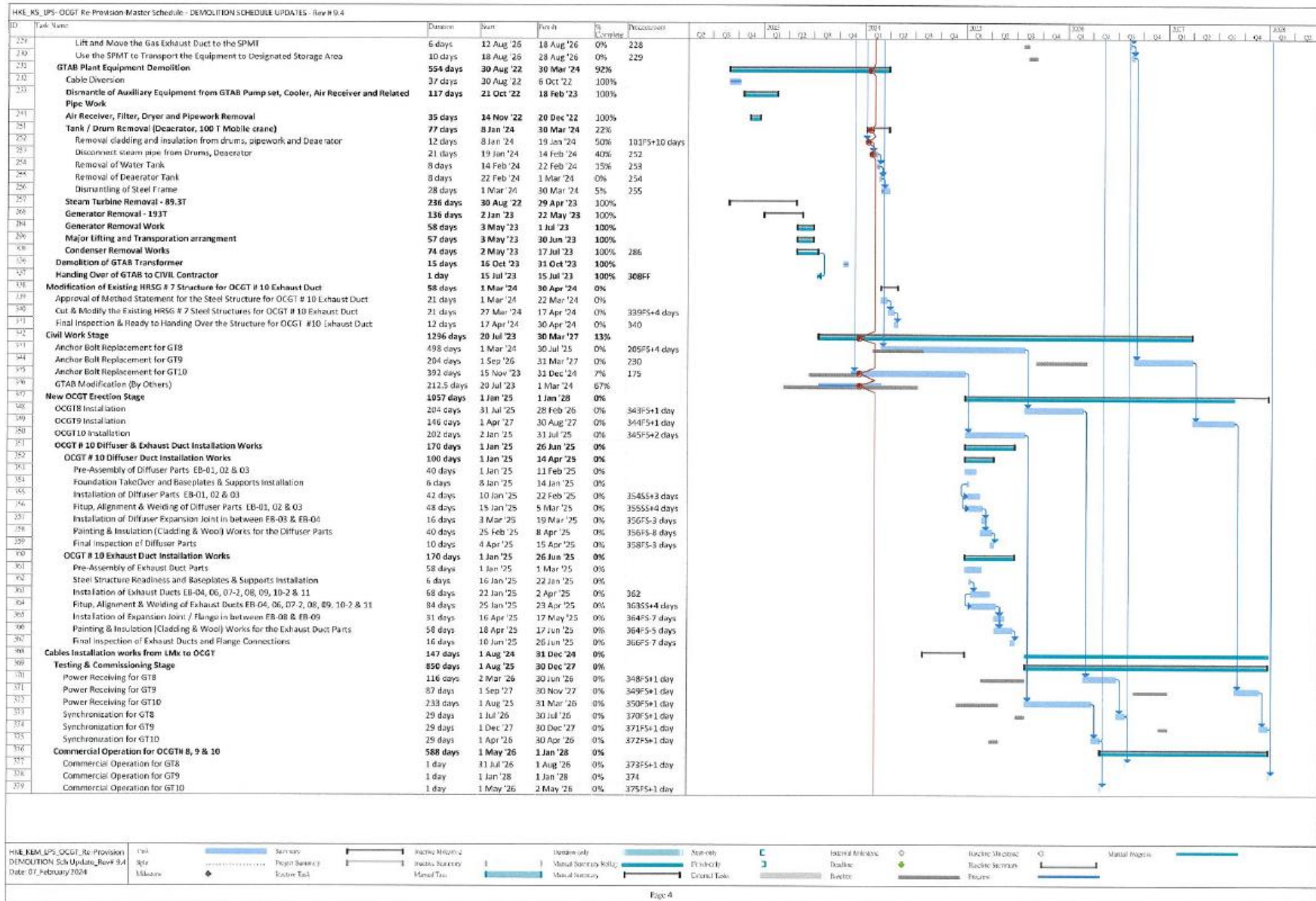
Re-provision of Open Cycle Gas Turbines at Lamma Power Station
 Monthly EM&A Report for February 2024

HKE, KS, LPS - OCGT Re-Provision Master Schedule - DEMOLITION SCHEDULE UPDATES - Rev# 9.4									
ID	Task Name	Duration	Start	Finish	% Complete	Predecessor	2023	2024	2025
199	Remove LP Steam Drum - 7323(KG)	6 days	2 Dec '23	9 Dec '23	100%	98FS+1 day			
198	Remove Platforms steel structures - EL +27200	7 days	11 Dec '23	18 Dec '23	100%	99FS+1 day			
197	Remove Platforms steel structures - EL +24800	7 days	19 Dec '23	27 Dec '23	100%	100FS+1 day			
195	Demolition of HRSG5	229 days	1 Aug '23	30 Mar '24	89%				
193	Preparation of Crane	150.63 days	1 Aug '23	9 Jan '24	100%				
191	100 T Mobile Crane on Site	1 day	1 Aug '23	1 Aug '23	100%				
185	GTAB Turbo Block to be removed by Civil Agency (Paul Y)	20 days	13 Dec '23	3 Jan '24	100%				
187	Set Up and Load Test on 250 T Mobile Crane	3 days	18 Dec '23	21 Dec '23	100%	105			
188	250 T Mobile Crane Ready for Use	1 day	21 Dec '23	22 Dec '23	100%	106			
184	Work tasks inside the HRSG enclosure	111 days	20 Sep '23	15 Jan '24	100%				
110	Remove silencers - EL +34400	10 days	20 Sep '23	29 Sep '23	100%				
111	Take out the roofing deck and purlin	21 days	2 Oct '23	23 Oct '23	100%	109			
112	Scaffolding works	31 days	24 Oct '23	24 Nov '23	100%	110			
113	Removal of the equipment and related facilities at HRSG	20 days	27 Nov '23	16 Dec '23	100%	111			
114	Removal of HRSG sub frame	25 days	16 Dec '23	13 Jan '24	100%	112			
115	Scaffolding dismantle works	11 days	15 Jan '24	25 Jan '24	100%	113			
116	Removal of HRSG Roof - above Hot Beam	21 days	16 Oct '23	6 Nov '23	100%				
117	Remove roof structure & cladding to allow access to Top of Hot Beams - EL +24763 - EL +21	16 Oct '23	6 Nov '23	100%					
118	Removal of Modules - Boiler Internal - 5 Stages	146 days	25 Oct '23	29 Mar '24	79%				
119	Setup the Secondary beam structural frame	18 days	20 Dec '23	10 Jan '24	100%	116,89			
120	Remove the bottom steel panel block	21 days	25 Oct '23	16 Nov '23	100%				
121	Setup Bottom Frame	12 days	10 Jan '24	23 Jan '24	100%	118			
122	HP 1/RY - HP / 2RY Eco - Cut and lower to ground level - Total weight T64,2 - EL +13100	12 days	23 Jan '24	5 Feb '24	100%	120			
123	HP Evap. 1/2 - Cut and lower to ground level - Total weight T123 - EL +15800	12 days	5 Feb '24	20 Feb '24	100%	121			
124	HP 2 - Cut and lower to ground level - Total weight T312 - EL +18100	10 days	20 Feb '24	1 Mar '24	100%	122			
125	LP 1/2 - Cut and lower to ground level - Total weight T112 - EL +20350	10 days	1 Mar '24	12 Mar '24	40%	123			
126	HP/L Eco - Cut and lower to ground level - Total weight T60 - EL +22600	10 days	12 Mar '24	22 Mar '24	0%	124			
127	Remove Strad Jack System	7 days	22 Mar '24	29 Mar '24	0%	125			
128	Removal of Gas outlet Duct (GT exhaust)	11 days	20 Nov '23	30 Nov '23	100%				
129	Flame cutting to remove side bottom casing below HRSG 5 - EL +1000 - EL +1300	4 days	20 Nov '23	23 Nov '23	100%				
130	Flame cutting to remove duct between HRSG & Non Metallic Expansion Joint - EL +1000 -	4 days	23 Nov '23	28 Nov '23	100%	128			
131	Remove Non Metallic Expansion Joint	3 days	28 Nov '23	30 Nov '23	100%	129			
132	Removal of Gas Outlet Duct (HRSG exhaust)	18 days	31 Jan '24	22 Feb '24	25%				
133	Flame cut and remove Gas Duct - part1 - G, - EL +26763 - EL +29300	10 days	31 Jan '24	14 Feb '24	35%	141			
134	Remove Non-Metallic Expansion Joint & Support - EL+26763 - EL+29300	3 days	14 Feb '24	16 Feb '24	0%	132			
135	Remove all Steel segment for Outlet Duct	5 days	17 Feb '24	22 Feb '24	20%	133			
136	Removal of HRSG External platforms in controlled manner	36 days	22 Dec '23	31 Jan '24	100%				
137	Remove HP Steam Drum - 3289(KG)	6 days	22 Dec '23	29 Dec '23	100%	107			
138	Remove platforms steel structures - EL +34400	6 days	29 Dec '23	6 Jan '24	100%	136			
139	Remove platforms steel structures - EL +29300	6 days	6 Jan '24	12 Jan '24	100%	137			
140	Remove LP Steam Drum - 7323(KG)	6 days	12 Jan '24	18 Jan '24	100%	138			
141	Remove Platforms steel structures - EL +27200	6 days	18 Jan '24	25 Jan '24	100%	139			
142	Remove Platforms steel structures - EL +24800	6 days	25 Jan '24	31 Jan '24	100%	140			
143	OCGT Demolition	1249 days	7 Feb '23	29 Aug '26	70%				
144	Demolition of GT7	315 days	7 Feb '23	30 Dec '23	100%				
145	Set Up and Load Test on 300T Mobile Crane	3 days	20 Feb '23	22 Feb '23	100%				
146	300T Mobile Crane Ready for Use	0 days	22 Feb '23	22 Feb '23	100%	144			
147	Dismantle of air cooling fan	11 days	18 Feb '23	15 Mar '23	100%	145			
148	Design of Gantry Crane	21 days	27 Mar '23	17 Apr '23	100%	146			
149	Fabrication of Gantry Crane	47 days	7 Feb '23	28 Feb '23	100%				
150	Assemble of Gantry Crane in Mainland	14 days	14 Mar '23	29 Apr '23	100%	149			
151	280 T Load Test	4 days	29 Apr '23	15 May '23	100%	149			
152	Disassemble of Gantry Crane	12 days	18 May '23	31 May '23	100%	151			
153	Deliver the Gantry Crane to HK	9 days	31 May '23	9 Jun '23	100%	152			
154	Loading On Barge at HK	23 days	9 Jun '23	3 Jul '23	100%	153			
155	Gantry Crane Materials Unloaded at Lamma Stockyard	8 days	4 Jul '23	12 Jul '23	100%	154			
156	Design & Method Statement for Concrete Beam	10 days	14 Jul '23	24 Jul '23	100%				
157	Submission and approval of Gantry crane design + Method Statement	52 days	22 May '23	14 Jul '23	100%				
158	Gantry Crane Concrete Beam Curing + Test Report	55 days	14 Jul '23	9 Sep '23	100%	157			
159	Set Up Mobile Gantry Crane	34 days	11 Sep '23	17 Oct '23	100%	158FS+42 days			
160	Load Test on Gantry Crane	2 days	17 Oct '23	18 Oct '23	100%	159FS+1 day			
161	Gantry Crane Ready for Use	0 days	18 Oct '23	18 Oct '23	100%				
162	Disconnect the Pipe and Associated Equipment from Generator	18 days	21 Sep '23	9 Oct '23	100%				
163	LIFT and Move the Generator from GT Foundation to the SPM/T	1 day	18 Oct '23	19 Oct '23	100%	162,161			

Re-provision of Open Cycle Gas Turbines at Lamma Power Station
 Monthly EM&A Report for February 2024



Re-provision of Open Cycle Gas Turbines at Lamma Power Station
 Monthly EM&A Report for February 2024



Appendix C Summary of EMIS

Table C.1 Mitigation Measures and their Implementation in the Reporting Month

EM&A Log Ref.	Recommended Mitigation Measures	Implementation Status
	AIR QUALITY	
EM&A: S2	Impervious sheet will be provided for skip hoist for material transport.	Complied
EM&A: S2	The area where dusty work takes place should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after dusty activities as far as practicable.	Complied
EM&A: S2	All dusty materials should be sprayed with water or a dust suppression chemical immediately prior to any loading, unloading or transfer operation.	Complied
EM&A: S2	Dropping heights for excavated materials should be controlled to a practical height to minimise the fugitive dust arising from unloading.	Complied
EM&A: S2	During transportation by truck, materials should not be loaded to a level higher than the side and tail boards, and should be dampened or covered before transport.	Complied
EM&A: S2	Temporary stockpiles of dusty materials will be either covered entirely by impervious sheets or sprayed with water to maintain the entire surface wet all the time.	Complied
EM&A: S2	Stockpiles of more than 20 bags of cement, dry pulverised fuel ash and dusty construction materials will be covered entirely by impervious sheeting sheltered on top and 3-sides.	Complied
EM&A: S2	All exposed areas will be kept wet always to minimise dust emission.	Complied
EM&A: S2	Ultra-low-sulphur diesel (ULSD) will be used for all construction plant on-site, as defined as diesel fuel containing not more than 0.005% sulphur by weight) as stipulated in Environment, Transport and Works Bureau Technical Circular (ETWB-TC(W)) No 19/2005 on Environmental Management on Construction Sites.	Complied
EM&A: S2	The engine of the construction equipment during idling will be switched off.	Complied
EM&A: S2	Regular maintenance of construction equipment deployed on-site will be conducted to prevent black smoke emission.	Complied
EM&A: S2	All marine vessels fuelled in Hong Kong will operate using marine light diesel with Sulphur content lower than 0.05%.	Complied
EM&A: S2	NRMMs, e.g. mobile generator and air compressor, will comply with the prescribed emission standards with a proper label approved by EPD.	Complied
EM&A: S2	Electric power supply for on-site machinery will be provided as far as practicable for construction activities.	Complied
EM&A: S2	To ensure proper implementation of the recommended dust mitigation measures and good construction site practices during the decommissioning/ demolition/ construction phases, environmental site audits on weekly basis is recommended throughout the construction period.	Complied

EM&A Log Ref.	Recommended Mitigation Measures	Implementation Status
APCO	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving construction site.	Complied
	NOISE	
EM&A: S3	Machines and construction plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	Complied
EM&A: S3	Only well-maintained construction plant should be operated on-site and should be serviced regularly.	Complied
NCO	Valid construction noise permits, if required, are available for inspection.	Complied
NCO	Conditions of construction noise permits, if any, for the relevant part(s) of the works are implemented accordingly.	Complied
NCO	Valid noise emission labels are fixed at air compressors and hand held percussive breakers.	Complied
	WATER QUALITY	
EM&A: S4	Wastewater, chemical waste and effluent from cleaning of existing OCGTs would be collected, stored for proper disposal by licensed contractor.	Complied
EM&A: S4	Silt removal facilities such as silt traps or sedimentation facilities will be provided where necessary to remove silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected on a regular basis and maintained to confirm proper and efficient operation at all times and particularly during rainstorms. Deposited silt and grit will be removed regularly.	Complied
EM&A: S4	Appropriate surface drainage will be designed and provided, where necessary.	Complied
EM&A: S4	The precautions to be taken at any time of year when rainstorms are likely together with the actions to be taken when a rainstorm is imminent or forecasted and actions to be taken during or after rainstorms are summarised in Appendix A2 of ProPECC PN 1/94.	Complied
EM&A: S4	Oil interceptors will be provided in the drainage system where necessary and regularly emptied to prevent the release of oil and grease into the stormwater drainage system after accidental spillages.	Complied
EM&A: S4	Temporary and permanent drainage pipes and culverts provided to facilitate runoff discharge, if any, will be adequately designed for the controlled release of storm flows.	Complied
EM&A: S4	The temporary diverted drainage, if any, will be reinstated to the original condition when the construction work has finished or when the temporary diversion is no longer required.	Complied
EM&A: S4	Appropriate numbers of portable toilets shall be provided by a licensed contractor where necessary to serve the construction workers over the construction site to prevent direct disposal of sewage into the water environment.	Complied
EM&A: S4	To ensure proper implementation of the recommended water quality mitigation measures and good construction site practices during the decommissioning/ demolition, and construction phases, environmental	Complied

EM&A Log Ref.	Recommended Mitigation Measures	Implementation Status
	site audits on weekly basis is recommended throughout the construction period.	
	WASTE MANAGEMENT	
EM&A: S5	The contractor(s) must ensure that all the necessary waste disposal licences are obtained prior to the commencement of the decommissioning/ demolition and construction works.	Complied
EM&A: S5	The contractor will open a billing account with EPD in accordance with the Waste Disposal (Charges for Disposal of Construction Waste) Regulation for the payment of disposal charges.	Complied
EM&A: S5	A trip-ticket system will be established in accordance with DEVB TC(W) No. 6/2010 to monitor the reuse of surplus excavated materials off-site and disposal of construction waste and general refuse at transfer facilities/ landfills, and to control fly-tipping.	Complied
EM&A: S5	A WMP as stated in the PNAP ADV-19 for the amount of waste generated, recycled and disposed of (including the disposal sites) will be established and implemented during the construction phase as part of the Environmental Management Plan (EMP). The Contractor will be required to prepare the EMP and submits it to the Architect/ Engineer under the Contract for approval prior to implementation.	Complied
EM&A: S5	C&D materials will be segregated on-site into public fill and construction waste and stored in different containers or skips to facilitate reuse of the public fill and proper disposal of the construction waste. Specific areas of the Site will be designated for such segregation and storage if immediate use is not practicable. Prefabrication will be adopted as far as practicable to reduce the construction waste arisings.	Complied
EM&A: S5	The contractor(s) will register as a chemical waste producer with the EPD. Chemical waste will be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.	Complied
EM&A: S5	Containers used for storage of chemical wastes will: <ul style="list-style-type: none"> • Be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed; • Have a capacity of less than 450 L unless the specifications have been approved by the EPD; and • Display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the Regulations. 	Complied
EM&A: S5	The storage area for chemical wastes will: <ul style="list-style-type: none"> • Be clearly labelled and used solely for the storage of chemical waste; • Be enclosed on at least 3 sides; • Have an impermeable floor and bunding, of capacity to accommodate 110% of the volume of the largest container or 20% by volume of the chemical waste stored in that area, whichever is the greatest; • Have adequate ventilation; • Be covered to prevent rainfall entering (water collected within the bund must be tested and disposed of as chemical waste, if necessary); and • Be arranged so that incompatible materials are appropriately separated. 	Complied
EM&A: S5	Chemical waste will be disposed of: <ul style="list-style-type: none"> • Via a licensed chemical waste collector; and 	Complied

EM&A Log Ref.	Recommended Mitigation Measures	Implementation Status
	<ul style="list-style-type: none"> To a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility which also offers a chemical waste collection service and can supply the necessary storage containers. 	
EM&A: S5	General refuse will be stored in enclosed bins separately from construction and chemical wastes. The general refuse will be delivered separately from construction and chemical wastes for offsite disposal on a daily basis to reduce odour, pest and litter impacts.	Complied
EM&A: S5	Recycling bins will be provided at strategic locations within the Project Site to facilitate recovery of recyclable materials (including aluminium cans, waste papers, glass bottles and plastic bottles, etc.). Materials recovered will be sold for recycling.	Not applicable at this stage
EM&A: S5	To avoid any odour and litter impact, appropriate number of portable toilets will be provided for workers on-site where appropriate.	Not applicable at this stage
EM&A: S5	At the commencement of the decommissioning/demolition and construction works, training will be provided to workers on the concepts of site cleanliness and on appropriate waste management procedures, including waste reduction, reuse and recycling.	Complied
EM&A: S5	General refuse and non-recyclables will be stored in enclosed bins and collected by existing waste management contractor at Lamma Power Station for disposal at the landfills on a daily basis for avoidance of pest and odour nuisance.	Complied
EM&A: S5	Recycling bins for recyclable materials (including aluminium cans, waste papers, glass bottles and plastic bottles) will be placed at the site office and transported off- site for recycling on a regular basis.	Complied
EM&A: S5	It is recommended that weekly audits of the waste management practices be carried out during the decommissioning/demolition, and construction phases to determine if wastes are being managed in accordance with the recommended good site practices and WMP. The audits will investigate all aspects of waste management including waste generation, storage, handling, recycling, transportation and disposal.	Complied
LAND CONTAMINATION		
EM&A: S6	During the demolition stage, a Land Contamination Specialist shall oversee the removal / demolition activities and record any new visual signs of potential contamination such as oil leakage or oil stains. The Land Contamination Specialist shall also review the need of additional sampling to capture potential contamination observed during the demolition stage.	Complied
EM&A: S6	SI and sampling shall be carried out when the proposed sampling locations are available after the demolition stage.	Complied
EM&A: S6	Soil and groundwater sampling works will be supervised by a Land Contamination Specialist.	Complied
EM&A: S6	Prior to commencement of demolition works in the Project site, the leftover diesel or other petroleum products in the equipment to be demolished shall be removed as much as possible. The removed diesel or other petroleum products will be reused as far as practicable. The removed diesel and other petroleum products, which cannot be reused are considered as chemical waste and are controlled under the Waste Disposal (Chemical Waste)(General) Regulation. The demolition contractor who will generate the chemical waste or cause it to be	Complied

EM&A Log Ref.	Recommended Mitigation Measures	Implementation Status
	<p>produced should register with the EPD as a chemical waste producer. Removed diesel and petroleum products shall be labelled and stored in accordance with the requirement stipulated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes issued by EPD. The removed petrol and petroleum products are required to be collected by licensed chemical waste collector for disposal. Trip tickets system shall be implemented during the collection and disposal of removed petrol and diesel.</p>	
EM&A: S6	<p>During demolition and construction phases, the following good housekeeping practices shall be implemented to ensure that risk of ground contamination as a result of oil spills or leaks is kept to a practical minimum:</p> <ul style="list-style-type: none"> • Regular visual inspections to detect any early signs of fuel leakage prior to demolition; • Provision of impermeable lining or absorbent materials to contain leaks; • Provision of secondary containment for the temporary storage of removed diesel or petroleum products, demolished structures and pipes; and • Provision of spill control materials and equipment 	Complied
EM&A: S6	<p>To ensure proper implementation of the good housekeeping practices, weekly site inspections should be carried out during the decommissioning/demolition, and construction phases of the Project.</p>	Complied

Remarks:

APCO: Air Pollution Control Ordinance
 EM&A: EM&A Manual
 NCO: Noise Control Ordinance

Appendix D Summary of Site Audit Findings or Recommendation

Civil contractor

Dates of Inspection: 6/2/2024, 16/2/2024, 20/2/2024 and 27/2/2024

Summary of Findings or Recommendation

Air Quality

- No environmental deficiency identified.

Noise

- No environmental deficiency identified.

Water Quality

- No environmental deficiency identified.

Waste Management

- No environmental deficiency identified.

Land Contamination

- No environmental deficiency identified.

E&M contractor

Dates of Inspection: 2/2/2024, 9/2/2024, 16/2/2024 and 20/2/2024

Summary of Findings or Recommendation

Air Quality

- No environmental deficiency identified.

Noise

- No environmental deficiency identified.

Water Quality

- No environmental deficiency identified.

Waste Management

- No environmental deficiency identified.

Land Contamination

- No environmental deficiency identified.

Appendix E

Monthly Waste Flow Table for February 2024

Appendix E1 Monthly Waste Flow Table for February 2024 (Civil Contractor)

Monthly Waste Flow Table for February 2024

Project: Civil Works for Re-Provision of Open Cycle Gas Turbine at Lamma Power Station

Contractor: Paul Y. Construction Company, Limited

Record by: Ben Lam

Year of Record: 2022, 2023 & 2024

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				Metals (steel bar / metal strip) ⁽¹⁾	Metals (aluminum can) ⁽¹⁾	Paper / cardboard packaging ⁽¹⁾	Plastics ^{(1) & (4)}	Chemical waste (wasted lubricant oil/oil container)	Chemical waste (wasted lubricant oil/oil container)	Other, e.g. general refuse
	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							
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)							
Jul 2022	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	0.00
Aug 2022	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	0.00
Sep 2022	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	0.00
Oct 2022	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	0.00
Nov 2022	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	0.00
Dec 2022	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	11.21
Jan 2023	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	2.72
Feb 2023	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	6.32
Mar 2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.26	0.00	0.00	0.00	0.00	0.00	0.00
Apr 2023	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	7.37
May 2023	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	5.07
Jun 2023	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	4.09
Jul 2023	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	5.87
Aug 2023	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	41.53
Sep 2023	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	11.80
Oct 2023	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	21.25
Nov 2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.59	0.00	0.00	0.00	0.00	0.00	34.67
Dec 2023	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.58	0.00	0.00	0.00	0.00	0.00	5.34
Jan 2024	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	16.36
Feb 2024	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.10	0.00	0.00	0.00	0.60	0.00	43.89
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36.53	0.00	0.00	0.00	0.60	0.42	217.49

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	36.53 tonnes	217.49 tonnes	0.60 kiloliters

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) 10100 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.

