

CASTLE PEAK POWER COMPANY LIMITED

Enhanced Ash Utilisation and Water Management Facilities at Castle Peak Power Station

Monthly Audit Report for December 2019

January 2020

AECOM ASIA CO. LTD.

Disclaimer:

*This report is prepared for **Castle Peak Power Company Limited (CAPCO)** and is given for its sole benefit in relation to and pursuant to **Enhanced Ash Utilisation and Water Management Facilities at Castle Peak Power Station** and may not be disclosed to, quoted to or relied upon by any person (other than **CAPCO**) without our prior written consent. No person other than **CAPCO** into whose possession a copy of this report comes may rely on this report without our express written consent and **CAPCO** may not rely on it for any purpose other than as described above.*

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1 INTRODUCTION

1.1 Project Background

- 1.1.1 Pursuant to the Environmental Impact Assessment Ordinance (EIAO), the Director of Environmental Protection (DEP) granted an environmental permit (No. EP-441/2012) to the Castle Peak Power Company Limited (CAPCO) on 23 July 2012 to construct and operate the designated project for Enhanced Ash Utilisation and Water Management Facilities at Castle Peak Power Station (hereinafter referred to as “the Project”). An application for variation of environmental permit (VEP) was subsequently made and the revised EP (No: EP-441/2012/A) was issued by DEP on 29 June 2018.
- 1.1.2 CAPCO appointed AECOM Asia Company Limited (AECOM) as the Independent Checker (IC) to undertake environmental audit work for the Project.

1.2 Purpose of the Report

- 1.2.1 Under the EP Condition 2.3, the audit for the implementation of all mitigation measures recommended in the Project Profile (Register No. PP-468/2012) commenced in December 2019. This is the second Monthly Audit Report which summarises the audit findings for the Project during the reporting period from 1 to 31 December 2019.

1.3 Report Structure

- 1.3.1 This Monthly Audit Report is organised as follows:
- Section 1: Introduction
 - Section 2: Project Information
 - Section 3: Environmental Site Inspection
 - Section 4: Implementation Status of Environmental Mitigation Measures
 - Section 5: Conclusions

2 PROJECT INFORMATION

2.1 Site Description

2.1.1 The Project site is located within the boundary of the existing Castle Peak Power Station (CPPS). The locations of the key project components are shown in **Appendix A**.

2.2 Construction Programme and Activities

2.2.1 The major construction activities undertaken in the reporting month are summarised below:

- Demolition of Silo A1 structural beams;
- Flame cut the structural beams into pieces for scrap;
- Demolition of the upper part of Silo A2 ;
- Demolition of the lower part of Silo A2;
- Flame cut the structural beams from Silo A2;
- Transportation scrapped metal out of station; and
- Site Clearance.

2.2.2 The major construction activities for the coming month are summarised below:

- Demolish of pad footing.

2.2.3 The construction programme is presented in **Appendix B**.

2.3 Status of Environmental Licences, Notification and Permits

2.3.1 Relevant environmental licences, permits and/or notifications on environmental protection for this Project and valid in the reporting month are summarised in **Table 2.1**.

Table 2.1 Status of Environmental Licences, Notifications and Permits

Permit / Licence No. / Notification/ Reference No.	Valid Period		Status	Remarks
	From	To		
<i>Environmental Permit</i>				
EP-441/2012/A	29 June 2018	--	Valid	
<i>Billing Account for Construction Waste Disposal</i>				
7033071	25 January 2019	--	Valid	
<i>Notification Under Air Pollution Control (Construction Dust) Regulation</i>				
444243	15 April 2019	--	Valid	

3 ENVIRONMENTAL SITE INSPECTION

3.1 Environmental Site Inspection

3.1.1 Site inspections were carried out by the IC on a bi-weekly basis to monitor the implementation of mitigation measures for the Project.

3.1.2 In the reporting month, the site inspection was carried out on 4 and 19 December 2019, respectively. Both IC inspections were conducted jointly with the Contractor. No non-compliance was recorded during the site inspections. Findings and recommendations for the site inspection in this reporting month are summarised as follows and details of observations recorded during the site inspections are presented in **Appendix C**.

- 4 December 2019:
 - Ash spread at the construction site was observed. The Contractor was advised to implement dust control measure for dust suppression.
- 19 December 2019:
 - Oil stain was observed at the site. The Contractor was advised to remove the oil stain and treat it properly.
 - Ash sprayed during demolition works was observed. The Contractor was advised to implement dust control measure for dust suppression.

3.1.3 All follow-up actions requested by IC during the site inspections were taken as reported by the Contractor and confirmed by the IC in the subsequent site inspection conducted during the reporting period. There is no outstanding follow-up action at the time of this report.

4 IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

4.1.1 The Contractor has implemented all the relevant environmental mitigation measures as recommended in the Project Profile. The implementation status of the environmental mitigation measures during the reporting period is summarised in **Appendix D**.

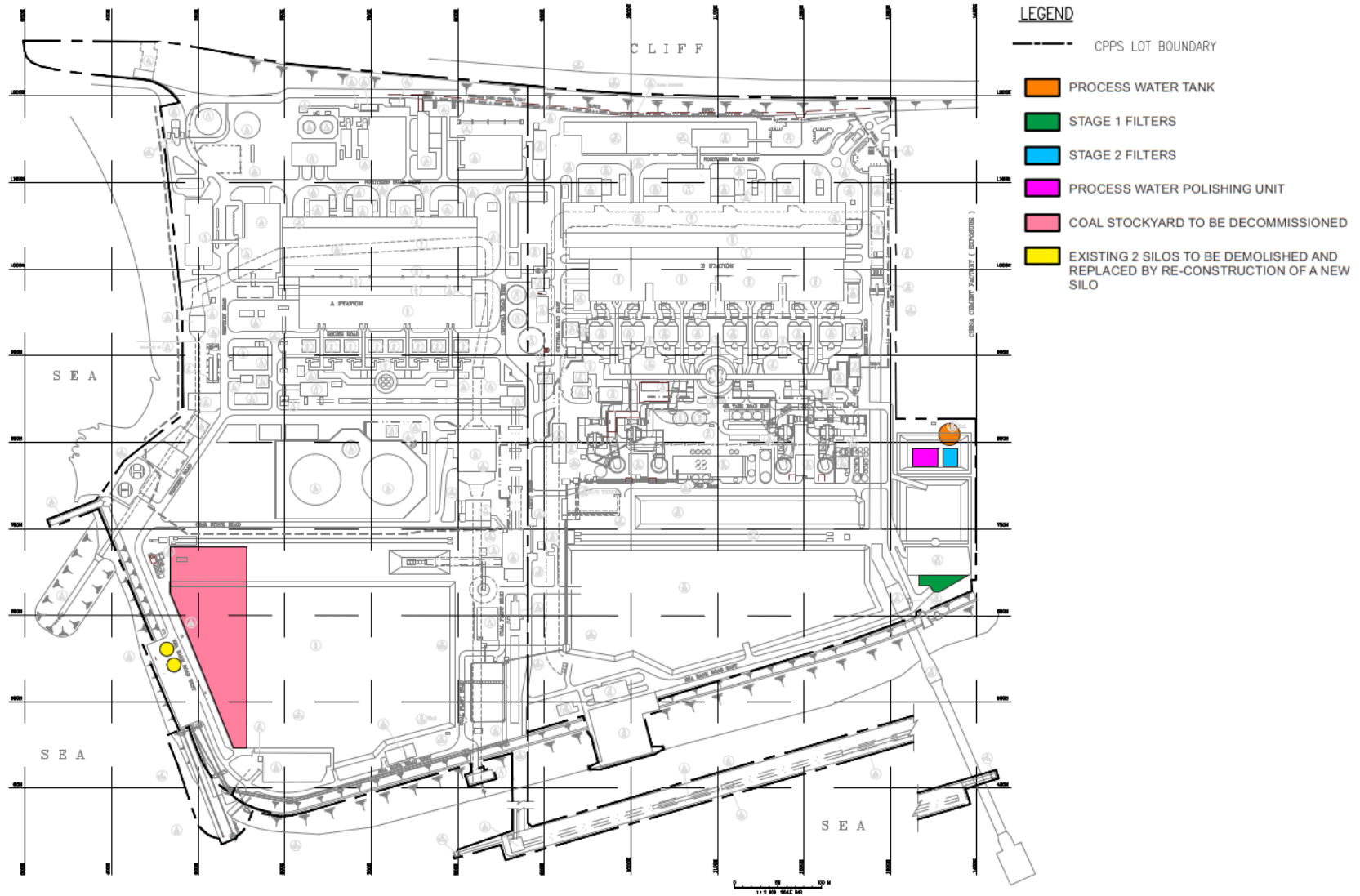
5 CONCLUSION

- 5.1.1 Two environmental site inspections were carried out for the Project in the reporting month of December 2019. No non-compliance was recorded during the site inspections. Based on the observations during the site inspections, the Contractor has implemented all the relevant environmental mitigation measures as recommended in the Project Profile (Register No. PP-468/2012).
- 5.1.1 Referring to the information provided by the Contractor, no complaint, notification of summons and successful prosecution was received in the reporting month.

Appendix A

Location Plan of Key Project Components (2017 Scheme)

Appendix A Layout Plan of 2017 Scheme



Source: Environmental Review Report of "Enhanced Ash Utilisation and Water Management Facilities at castle Peak Power Station", January 2018, Castle Peak Power Company Limited

Appendix B
Construction Programme

ID	Task Name	Start	Finish	% Comp.	2019												2020											
					Feb M1	Mar M2	Apr M3	May M4	Jun M5	Jul M6	Aug M7	Sep M8	Oct M9	Nov M10	Dec M11	Jan M12	Feb M13	Mar M14	Apr M15	May M16	Jun M17	Jul M18	Aug M19	Sep M20	Oct M21	Nov M22	Dec M23	Jan M24
1	Contract Period	Thu 14/2/19	Fri 1/1/21	15%																								
2	Site Possession	Thu 14/2/19	Thu 14/2/19	100%																								
3	Design Submission and Statutory Requirements	Tue 12/3/19	Thu 6/8/20	26%																								
4	Demolition Works Submission	Tue 12/3/19	Fri 10/5/19	50%																								
5	Design Submission of Demolition Amendment (if any)	Thu 12/3/19	Wed 10/4/19	50%																								
6	BD Approval & Consent for Demolition Works	Thu 11/4/19	Fri 10/5/19	50%																								
7	Foundation & Superstructure Works Submission	Sat 11/5/19	Thu 6/8/20	0%																								
8	BD Consent for Foundation Works	Sat 11/5/19	Fri 7/6/19	0%																								
9	BD Consent for Superstructure Works	Fri 10/7/20	Thu 6/8/20	0%																								
10	General Site Works	Thu 14/2/19	Mon 30/9/19	38%																								
11	Site Setup	Thu 14/2/19	Wed 20/2/19	100%																								
12	Pre-Construction Condition Survey	Thu 14/2/19	Wed 27/2/19	100%																								
13	UU Survey	Thu 14/2/19	Wed 27/2/19	100%																								
14	Setting Out	Thu 14/2/19	Wed 20/2/19	100%																								
15	Installation of monitoring Instrument	Thu 21/2/19	Wed 6/3/19	100%																								
16	Plant Mobilization	Thu 28/2/19	Wed 6/3/19	100%																								
17	Erection of Chain Link Fence/ Water Barriers	Thu 7/3/19	Wed 20/3/19	100%																								
18	Disconnection of Existing E&M Services	Thu 14/3/19	Mon 30/9/19	2%																								
19	Demolition of existing conveyor belts and associated supporting frames down to existing ground level	Thu 21/3/19	Wed 10/4/19	100%																								
20	Removal of Dust Filters of both Ash Silos	Thu 28/3/19	Wed 10/4/19	60%																								
21	Condition Survey of Interior of Ash Silo A1 & A2	Thu 11/4/19	Wed 24/4/19	100%																								
22	Demolition of Existing Ash Silo A1 & A2	Thu 25/4/19	Mon 4/5/20	22%																								
23	Demolition of Ash Silo A1	Thu 25/4/19	Fri 21/2/20	49%																								
24	Removal of ash accumulated in Ash Silo	Thu 25/4/19	Sat 25/5/19	100%																								
25	Demolition of Appendages	Sun 26/5/19	Sat 1/6/19	100%																								
26	Erection of Metal Scaffolding	Mon 2/9/19	Sun 15/9/19	60%																								
27	Demolition of Silo & Hopper	Tue 12/11/19	Tue 19/11/19	0%																								
28	Demolition of Steel Supporting Frame	Wed 20/11/19	Tue 10/12/19	0%																								
29	Demolition of Existing Footings	Fri 13/12/19	Wed 25/12/19	0%																								
30	Demolition of Ash Silo A2	Fri 13/12/19	Mon 4/5/20	0%																								
31	Removal of ash accumulated in Ash Silo	Wed 9/10/19	Wed 9/10/19	100%																								
32	Demolition of Appendages	Fri 13/12/19	Thu 19/12/19	0%																								
33	Erection of Metal Scaffolding	Fri 20/12/19	Fri 27/12/19	0%																								
34	Demolition of Silo & Hopper	Sat 28/12/19	Fri 24/1/20	0%																								
35	Demolition of Steel Supporting Frame	Sat 25/1/20	Fri 14/2/20	0%																								
36	Demolition of Existing Footings	Sat 15/2/20	Fri 28/2/20	0%																								
37	Submission and BD Acknowledgement of BA14A for Demolition Works	Sat 29/2/20	Fri 3/4/20	0%																								
38	Milestone 1 (305 days from Contract Commencement)	Sun 15/12/19	Sun 15/12/19	0%																								
39	Construction of New Ash Silo A1	Sun 5/1/20	Fri 1/1/21	0%																								
40	Foundation Works	Mon 2/3/20	Sun 4/10/20	0%																								
41	Excavate to Formation Level of Raft Footing	Sat 4/4/20	Fri 17/4/20	0%																								
42	Carry out Plate Load Test	Sat 18/4/20	Thu 7/5/20	0%																								
43	Cast Blinding Layer	Fri 8/5/20	Thu 14/5/20	0%																								
44	Erection of Formwork and Rebar Fixing	Fri 15/5/20	Thu 11/6/20	0%																								
45	Concreting for Raft Footing	Fri 12/6/20	Thu 2/7/20	0%																								
46	Submission and BD Acknowledgement of BA14 for Foundation Works	Fri 3/7/20	Thu 6/8/20	0%																								
47	Milestone 2 (501 days from Contract Commencement)	Thu 6/8/20	Thu 6/8/20	0%																								
48	Superstructure Works	Sun 5/1/20	Fri 1/1/21	0%																								
49	Erection of Metal Scaffolding	Sun 30/8/20	Sat 28/11/20	0%																								
50	Fabrication & Delivery of Silo & Hopper	Sun 5/1/20	Fri 3/7/20	0%																								
51	On-site preparation works for subsequent installation of Silo & Hopper	Fri 3/7/20	Thu 6/8/20	0%																								
52	Erection of Steel Supporting Frame & Staircases	Fri 7/8/20	Sun 20/9/20	0%																								
53	Installation of Silo & Hopper	Mon 21/9/20	Mon 26/10/20	0%																								
54	Allow Others for Installation of E&M	Mon 28/9/20	Wed 11/11/20	0%																								
55	Construction of Silo Top Frame including Removable Grating	Tue 27/10/20	Fri 13/11/20	0%																								
56	Erection of Maintenance Platform at Silo Top	Sat 14/11/20	Fri 27/11/20	0%																								
57	Submission and BD Acknowledgement of BA13	Sat 28/11/20	Sun 27/12/20	0%																								
58	Installation of Aluminium Cladding	Sat 28/11/20	Fri 11/12/20	0%																								
59	Install 2nrs of Height Warning Post	Sat 28/11/20	Sat 12/12/20	0%																								
60	Removal of Metal Scaffolding & Site Clearance	Sun 13/12/20	Fri 1/1/21	0%																								

Appendix C

Environmental Audit Records

Environmental Audit Checklist

Project: Enhanced Ash Utilisation and Water Management Facilities at the Castle Peak Power Station (CPPS)
Contract no.: -----
Contractor: Yee Hop Engineering Co. LTD
Inspection Date: 4 Dec 2014
Time: 13:30

Inspected by
Client: -----
ER: -----
IEC: Alex Chan
Contractor: So Chun Long

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy
Temperature: 18.9 °C
Humidity: High Moderate Low
Wind: Strong Breeze Light Calm

PART B: SITE AUDIT

Section 1: Water Quality

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
1.01 Is wetting of materials and surfaces avoided excess use of water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02 Are channels, earth bunds or sand bag barriers provided on-site to properly direct stormwater to desilting facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03 Are existing on-site silt removal facilities, channels and manholes, if any, maintained and the deposited silt and grit removed regularly, at the onset of and after each rainstorm and to ensure that these facilities are functioning properly at all times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04 Are other manholes, if any, including any newly constructed ones adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05 Are open stockpiles of materials on site avoided or where unavoidable covered with tarpaulin or similar fabric during rainstorm? Are measures taken to prevent the washing away of construction materials, soil, silt or debris?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06 Is sewage arising from the construction workers on-site collected by temporary sanitary facilities where necessary, e.g. portable chemical toilets? Are portable toilets used coupled with tankering away services provided by a reputable collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07 Are all site drainages comply with the terms and conditions of a valid discharge licence issued by EPD?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08 Are vehicle washing facilities drained into desilting facilities before discharge? Is water recycled on-site wherever possible? Is the wash water from wheel wash basins either reused for site watering or pumped to the on-site desilting facilities for treatment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09 Are desilting facilities checked and the deposited silt and grit removed regularly to ensure that they are working properly at all times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10 Are all fuel tanks and chemical storage sited on sealed and bunded areas and provided with locks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11 Are storage areas surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent accidental spillage, if necessary?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12 Are oil and grease removal facilities provided where appropriate, e.g. in area near plant workshop/maintenance area, if any?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13 Is chemical waste arising from the site properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Audit Checklist

		Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
Section 2: Air Quality							
2.01	Are all areas involving site clearance and excavation works sprayed with water before, during and after the operations to maintain the entire surface wet?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are materials dropped from restricting heights as far as practicable to minimize the fugitive dust arising from loading/unloading?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Is hoarding of not less than 2.4m high from ground level along the major work site boundary erected, for the new process water tank and the new PFA storage silo, where appropriate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are all vehicles washed to remove any dusty materials from the bodies and wheels immediately before leaving a work site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the load of the vehicle leaving a work site is carrying a load of dusty materials covered entirely by clean impervious sheeting to ensure that the dusty materials will not be released from the vehicle?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Is stockpile of dusty materials on-site covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and 4 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is stockpile of dusty materials on-site sprayed with water immediately prior to any loading, unloading or transfer operation to dampen the dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the travelling speed of vehicles within the work sites controlled to within 10 km/h to reduce the traffic induced dusty dispersion and re-suspension?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is unpaved haul road sprayed with water to maintain the entire road surface wet?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is coal dust suppressed by water sprays using the spray guns and water browser as existing normal operations at the coal stockyard during the clearance of the coal pile?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Observation ↑
Section 3: Noise							
3.01	Is unused equipment turned off?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is PME kept to a minimum and the parallel use of noisy equipment / machinery avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Are all plant and equipment maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are material stockpiles and other on-site structures effectively used as noise barriers, where practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are purpose-built movable noise barrier, silencer and quiet plant used as necessary?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Section 4: Waste/Chemical Management							
4.01	Is reuse / recycling of all materials on-site investigated and exhausted prior to treatment / disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are all waste materials sorted on-site into inert and non-inert C&D materials, and where the materials recycled or reused, are they further segregated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is trip-ticket system implemented in accordance with the contract and the requirements of WBTC 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Material"?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is the Contractor registered as a Chemical Waste Producer if chemical wastes are generated on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are licensed chemical waste collectors employed to collect any chemical waste generated at site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are handling, storage, transportation and disposal of chemical wastes conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by EPD?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.07	Are sufficient number of covered bins provided on-site for the containment of general refuse to prevent visual impacts and nuisances? Are these bins emptied daily and the collected waste disposed of to WENT Landfill?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the site maintained clean and hygienic throughout the project works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Audit Checklist

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
4.09 Are toolbox talks provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Section 5: Others (in according to the EP)						
5.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times??	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Remarks:

Observation

1. Ash spread at the construction site was observed. The contractor was advised to implement dust control measure for dust suppression.

Client

ER

IEC

Contractor

(/)

(/)

(Alex Chan)

(So Chun Long)

Environmental Audit Checklist

Project: Enhanced Ash Utilisation and Water Management Facilities at the Castle Peak Power Station (CPPS)
Contract no: -----
Contractor: Yee Hop Engineering Co. LTD
Inspection Date: 19 Dec 2014
Time: 10:00

Inspected by
Client: -----
ER: -----
IEC: Alex Chan
Contractor: So Chun Long

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy
Temperature: 23.6 °C
Humidity: High Moderate Low
Wind: Strong Breeze Light Calm

PART B: SITE AUDIT

Section 1: Water Quality

		Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
1.01	Is wetting of materials and surfaces avoided excess use of water?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.02	Are channels, earth bunds or sand bag barriers provided on-site to properly direct stormwater to desilting facilities?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.03	Are existing on-site silt removal facilities, channels and manholes, if any, maintained and the deposited silt and grit removed regularly, at the onset of and after each rainstorm and to ensure that these facilities are functioning properly at all times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.04	Are other manholes, if any, including any newly constructed ones adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.05	Are open stockpiles of materials on site avoided or where unavoidable covered with tarpaulin or similar fabric during rainstorm? Are measures taken to prevent the washing away of construction materials, soil, silt or debris?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.06	Is sewage arising from the construction workers on-site collected by temporary sanitary facilities where necessary, e.g. portable chemical toilets? Are portable toilets used coupled with tankering away services provided by a reputable collector?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.07	Are all site drainages comply with the terms and conditions of a valid discharge licence issued by EPD?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.08	Are vehicle washing facilities drained into desilting facilities before discharge? Is water recycled on-site wherever possible? Is the wash water from wheel wash basins either reused for site watering or pumped to the on-site desilting facilities for treatment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.09	Are desilting facilities checked and the deposited silt and grit removed regularly to ensure that they are working properly at all times?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.10	Are all fuel tanks and chemical storage sited on sealed and bunded areas and provided with locks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.11	Are storage areas surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent accidental spillage, if necessary?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.12	Are oil and grease removal facilities provided where appropriate, e.g. in area near plant workshop/maintenance area, if any?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1.13	Is chemical waste arising from the site properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the Waste Disposal (Chemical Waste) (General) Regulation?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Audit Checklist

		Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
Section 2: Air Quality							
2.01	Are all areas involving site clearance and excavation works sprayed with water before, during and after the operations to maintain the entire surface wet?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.02	Are materials dropped from restricting heights as far as practicable to minimize the fugitive dust arising from loading/unloading?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.03	Is hoarding of not less than 2.4m high from ground level along the major work site boundary erected, for the new process water tank and the new PFA storage silo, where appropriate?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.04	Are all vehicles washed to remove any dusty materials from the bodies and wheels immediately before leaving a work site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.05	Is the load of the vehicle leaving a work site is carrying a load of dusty materials covered entirely by clean impervious sheeting to ensure that the dusty materials will not be released from the vehicle?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.06	Is stockpile of dusty materials on-site covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and 4 sides?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.07	Is stockpile of dusty materials on-site sprayed with water immediately prior to any loading, unloading or transfer operation to dampen the dusty materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.08	Is the travelling speed of vehicles within the work sites controlled to within 10 km/h to reduce the traffic induced dusty dispersion and re-suspension?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.09	Is unpaved haul road sprayed with water to maintain the entire road surface wet?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2.10	Is coal dust suppressed by water sprays using the spray guns and water browser as existing normal operations at the coal stockyard during the clearance of the coal pile?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Observation 2
Section 3: Noise							
3.01	Is unused equipment turned off?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.02	Is PME kept to a minimum and the parallel use of noisy equipment / machinery avoided?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.03	Are all plant and equipment maintained regularly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.04	Are material stockpiles and other on-site structures effectively used as noise barriers, where practicable?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3.05	Are purpose-built movable noise barrier, silencer and quiet plant used as necessary?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Section 4: Waste/Chemical Management							
4.01	Is reuse / recycling of all materials on-site investigated and exhausted prior to treatment / disposal off-site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.02	Are all waste materials sorted on-site into inert and non-inert C&D materials, and where the materials recycled or reused, are they further segregated?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.03	Is trip-ticket system implemented in accordance with the contract and the requirements of WBTC 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Material"?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.04	Is the Contractor registered as a Chemical Waste Producer if chemical wastes are generated on-site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.05	Are licensed chemical waste collectors employed to collect any chemical waste generated at site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.06	Are handling, storage, transportation and disposal of chemical wastes conducted in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme both published by EPD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Observation 1
4.07	Are sufficient number of covered bins provided on-site for the containment of general refuse to prevent visual impacts and nuisances? Are these bins emptied daily and the collected waste disposed of to WENT Landfill?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.08	Is the site maintained clean and hygienic throughout the project works?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Environmental Audit Checklist

	Not Obs.	Yes	No	Follow up	N/A	Photo/Remarks
4.09 Are toolbox talks provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Section 5: Others (in according to the EP)						
5.01 Are relevant Environmental Permits posted at all vehicle site entrances/exits or at a convenient location for public's information at all times??	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Remarks:

Observation

1. Oil Stain Was observed at the site. The Contractor was advised to remove the oil stain and treat it properly
2. Ash sprayed ~~at~~ during demolition works was observed. The Contractor was advised to implement dust control measure for dust suppression

Client

ER

IEC

Contractor

(/)

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(Alex Chan)

(So Chun Long)

Appendix D

Summary of Implementation Status of Environmental Mitigation Measure

Appendix D Implementation Status of Recommended Mitigation Measures during Construction Stage

Environmental Aspect	Recommended Mitigation Measures	Implementation Status
<p><i>Air Quality</i> (Section 4.1 of Project Profile)</p>	<p>Measures for Construction Activities involving Excavations, Loading and Unloading of Soils</p> <ul style="list-style-type: none"> • All areas involving site clearance and excavations works will be sprayed with water before, during and after the operations to maintain the entire surface wet; • Restricting heights from which materials are to be dropped, as far as practicable to minimise the fugitive dust arising from unloading/ loading; • Erection of hoarding of not less than 2.4 m high from ground level along the major work site boundary (the new process water tank and the new PFA storage silo), where appropriate; • Immediately before leaving a work site, all vehicles shall be washed to remove any dusty materials from the bodies and wheels. However, wetting of materials and surfaces should avoid excessive use of water; • Where a vehicle leaving a work site is carrying a load of dusty materials, the load shall be covered entirely by clean impervious sheeting to ensure that the dusty materials will not be released from the vehicle; • Any stockpile of dusty materials on-site will be covered entirely by impervious sheeting; and/or placed in an area sheltered on the top and 4 sides. They should also be sprayed with water immediately prior to any loading, unloading or transfer operation to dampen the dusty materials; • To reduce the traffic induced dust dispersion and re-suspension, the travelling speed of vehicles within the work sites should be controlled to within 10 km/h; • Any unpaved haul road shall be sprayed with water so as to maintain the entire road surface wet. <p>Measures for Partial Decommissioning of the West Coal Stockyard</p> <ul style="list-style-type: none"> • During the clearance of the coal pile, coal dust will be suppressed by water sprays using the spray guns and water browser as existing normal operations at the coal stockyard. 	<p>Y</p> <p>Y</p> <p>N/A</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>Y</p> <p>N/A</p> <p>◇</p>
<p><i>Noise</i> (Section 4.2 of Project Profile)</p>	<p>Good Site Practice</p> <ul style="list-style-type: none"> • Unused equipment should be turned off. PME will be kept to a minimum and the parallel use of noisy equipment/ machinery will be avoided; • Regular maintenance of all plant and equipment; • Material stockpiles and other on-site structures will be effectively used as noise barriers, where practicable; • Use of purpose-built movable noise barrier, silencer and quiet plant as necessary. 	<p>Y</p> <p>Y</p> <p>N/A</p> <p>N/A</p>

Environmental Aspect	Recommended Mitigation Measures	Implementation Status
<p><i>Water Quality (Section 4.3 of Project Profile)</i></p>	<p><i>Measures for Construction Site Runoff and Discharge</i></p> <ul style="list-style-type: none"> • Surface runoff from the affected works areas are to be directed towards desilting facilities before discharging into the stormwater drainage; • Channels, earth bunds or sand bag barriers will be provided on-site to properly direct stormwater to the above-mentioned facilities; • Existing on-site silt removal facilities, channels and manholes, if any, will be maintained and the deposited silt and grit will be removed regularly, at the onset of and after each rainstorm and to ensure that these facilities are functioning properly at all times; • Other manholes, if any, including any newly constructed ones will be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system; • Open stockpiles of materials on site will be avoided or where unavoidable covered with tarpaulin or similar fabric during rainstorms. Measures will be taken to prevent the washing away of construction materials, soil, silt or debris; • Sewage arising from the construction workers on-site will be collected by temporary sanitary facilities where necessary e.g. portable chemical toilets. Portable toilets will be used coupled with tankering away services provided by a reputable collector; • All site discharges will comply with the terms and conditions of a valid discharge licence issued by EPD; • Vehicle washing facilities will be drained into desilting facilities before discharge. Water will be recycled on-site wherever possible. It is suggested that the wash water from wheel wash basins are either reused for site watering or pumped to the on-site desilting facilities for treatment; • Desilting facilities will be checked and the deposited silt and grit will be removed regularly to ensure that they are working properly at all times. <p><i>Protection against Accidental Spillage</i></p> <ul style="list-style-type: none"> • The works may occasionally involve the handling of fuel and generates a small amount of chemical wastes. It must be ensured that all fuel tanks and chemical storage are sited on sealed and bunded areas and provided with locks; • If necessary, the storage areas will be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent accidentally spillage; • Oil and grease removal facilities will be provided where appropriate, for example, in area near plant workshop/ maintenance areas, if any; • Chemical waste arising from the site will be properly stored, handled, treated and disposed of in compliance with the requirements stipulated under the <i>Waste Disposal (Chemical Waste) (General) Regulation</i>. 	<p>N/A</p> <p>Y</p> <p>N/A</p> <p>Y</p> <p>Y</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>

Environmental Aspect	Recommended Mitigation Measures	Implementation Status
<p><i>Waste Management Implications (Section 4.4 of the Project Profile)</i></p>	<p>Waste Management Plan (WMP)</p> <p>The main contractor of the Project shall prepare a <i>Waste Management Plan (WMP)</i>, which will become part of the <i>Environmental Management Plan (EMP)</i>, with reference to the requirements set out in the <i>ETWB TCW No. 19/2005, Waste Management on Construction Sites</i> and the Practice Note for Authorized Persons and Registered Structural Engineers, e.g. <i>Practice Note No. 243 – Construction and Demolition Waste</i>. The WMP shall include monthly Waste Flow Tables (WFT) which indicate the amounts of waste generated, recycled and disposed of (including final disposal site), and it should be updated regularly.</p> <p>General waste management measures during Construction</p> <ul style="list-style-type: none"> • The reuse/recycling of all materials on-site shall be investigated and exhausted prior to treatment/ disposal off-site; • All waste materials shall be sorted on-site into inert and non-inert C&D materials, and where the materials can be recycled or reused, they shall be further segregated. Inert material, or public fill shall be disposed of at Fill Bank at Tuen Mun Area 38 whilst non-inert materials or construction waste shall be disposed of at the WENT Landfill. • The contractor shall be responsible for identifying what materials can be recycled/ reused, whether on-site or off-site. In the event of the latter, the contractor shall arrange for the collection of the recyclable materials. • In order to monitor the disposal of public fill and construction waste at public filling facilities and landfills, and control fly-tipping, a trip-ticket system shall be implemented by the Contractor, in accordance with the contract and the requirements of WBTC 31/2004 “<i>Trip Ticket System for Disposal of Construction and Demolition Material</i>”; • Under the <i>Waste Disposal (Chemical Waste) (General) Regulation</i>, the Contractor shall register as a Chemical Waste Producer if chemical wastes such as spent lubricants and paints are generated on-site. Only licensed chemical waste collectors shall be employed to collect any chemical waste generated at site. The handling, storage, transportation and disposal of chemical wastes shall be conducted in accordance with the <i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes and A Guide to the Chemical Waste Control Scheme</i> both published by EPD; • A sufficient number of covered bins shall be provided on-site for the containment of general refuse to prevent visual impacts and nuisances. These bins shall be emptied daily and the collected waste disposed of to the WENT Landfill. Further to the issue of ETWB TCW No. 6/2002A, Enhanced Specification for Site Cleanliness and Tidiness, the contractor will be required to maintain a clean and hygienic site throughout the project works; • Toolbox talks should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling. 	<p>Y</p> <p>Y</p> <p>◇</p> <p>Y</p> <p>Y</p> <p>N/A</p> <p>Y</p> <p>N/A</p>
<p>Land Contamination (Section 4.5 of Project Profile)</p>	<p>Based on the recent SI result, signs of land contamination were not identified and no mitigation measures are considered necessary. However, the situation will be reconfirmed after the SI work at the coal stockyard proposed in the CAP is completed. The SI results will be documented in a Contamination Assessment Report (CAR). If contamination is identified, the necessary remediation method will be proposed and documented in the Remediation Action Plan (RAP) for EPD’s approval. If remediation is necessary, the CAPCO will clean up the contaminated land according to the approved RAP, and a Remediation Report (RR) will be prepared to demonstrate that the concerned area(s) have been cleaned up to the</p>	<p>N/A</p>

Environmental Aspect	Recommended Mitigation Measures	Implementation Status
	relevant RBRG's standards. The RR will be submitted to EPD for agreement prior to the commencement of any development or redevelopment works.	
Landscape & Visual (Section 4.7 of Project Profile)	No mitigation measures for landscape and visual impacts are considered necessary, as no adverse landscape and visual impacts are identified during the construction and operation of the Project.	N/A

Notes:

- Y Compliance of Mitigation Measures
- N Non-compliance of Mitigation Measures
- D Deficiency of Mitigation Measures
- N/A Not Applicable in Reporting Period
- ◆ Non-compliance of Mitigation Measures but rectified by the Contractor
- ◇ Deficiency of Mitigation Measures but rectified by the Contractor