

**Central Reclamation, Phase III
Quarterly EM&A Report No. 29
(August 2010 through October 2010)**

	Page
1. Introduction	1
1.1 Basic Project Information.....	1
1.2 Project Organisation and Management Structure.....	1
1.3 Works Undertaken	1
2. EM&A Requirements	3
2.1 Summary of Impact EM&A Requirements	3
2.2 Environmental Quality Performance Limits.....	3
2.3 Event Action Plan.....	4
3. Environmental Status.....	5
3.1 Implementation of Environmental Measures	5
3.2 Environmental Monitoring Locations.....	5
3.3 Air Quality Monitoring Results.....	5
3.4 Noise Quality Monitoring Results.....	5
3.5 Water Quality Monitoring Results	5
3.6 Solid and Liquid Waste Management Status	5
3.7 Landscape and Visual Audit	5
4. Environmental Complaint and Non-Compliance	6
4.1 Environmental Exceedances.....	6
4.2 Non-Compliance.....	8
4.3 Summary of Actions Taken by the Contractor.....	8
4.4 Environmental Enquiries.....	9
4.5 Environmental Complaints and Prosecutions	9
4.6 Record of Environmental Complaints and Summons & Prosecutions	9
5. Conclusion.....	10

List of Annexes

Annex A	Project Organisation/ Contact Information
Annex B	Quality Performance Limits for Air, Noise and Water Quality
Annex C	Event and Action Plans for Air, Noise and Water Quality
Annex D	Monitoring Stations Locations
Annex E	Contractor's Works Programme
Annex F	Graphical Representation of Air Quality Monitoring Results
Annex G	Graphical Representation of Noise Quality Monitoring Results
Annex H	Graphical Representation of Water Quality Monitoring Results
Annex I	Additional DO Water Monitoring Results
Annex J	Quarterly Assessment of Construction Impacts on Suspended Solids

List of Tables

Table 2.1 - Summary of Impact EM&A Requirements.....	3
Table 4.1 - Summary Water Quality Exceedances from August 2010 to October 2010	6

Abbreviations & Acronyms

ACL	Atkins China Limited
AL	Action Level
CEDD	Civil Engineering and Development Department
CRIII	Central Reclamation Phase III
DO	Dissolved Oxygen
EIA	Environmental Impact Assessment
EIAO	Environmental Impact Assessment Ordinance
EM&A	Environmental Monitoring and Audit
EPD	Environmental Protection Department
ER	Engineer's Representatives
ET	Environmental Team
IEC	Independent Environmental Checker
LCSD	Leisure and Cultural Services Department
LCSVO-JV	Leighton China State Van Oord Joint Venture
LL	Limit Level
PLA	People's Liberation Army Forces Hong Kong
TDD	Territory Development Department
TSP	Total Suspended Particulates
SS	Suspended Solids
WMP	Waste Management Plan

Not Used

Executive Summary

The Central Reclamation Phase III (CRIII) Works, Contract No. HK 12/02, was awarded to Leighton China State Van Oord Joint Venture (LCSVO-JV) by the Civil Engineering and Development Department (CEDD). (Previously called the Territory Development Department before merger with the Civil Engineering Department on 1st July 2004.)

The works under the Contract HK 12/02 commenced on 28th February 2003. Contract HK 16/03 for the CRIII Hinterland Drainage Improvement Works was awarded to Wang Kee Construction Co. Ltd., and works for this contract commenced on 17th December 2003.

Atkins China Limited (ACL) has been commissioned by CEDD as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme described in the approved EM&A Manual for the CRIII Project.

This is the 29th quarterly EM&A Report for the works specified in Section 1.3 of the CRIII EIA Report. This report summarises the monitoring results and audit findings of the EM&A program during the reporting period from 1st August 2010 to 31st October 2010.

Environmental Monitoring and Audit Progress

Air quality, noise and water quality monitoring were conducted during this quarter. Weekly environmental site inspections were also conducted during this reporting quarter.

Additional water quality monitoring was conducted, since 14th December 2009, for the “the water quality of embayment area between the eastern seawall and the Hong Kong Convention and Exhibition Centre (HKCEC) upon completion of eastern seawall”, in accordance with the Environmental Permit No. EP-01/122/2003/D Condition 3.9.

The water quality monitoring conducted by the ET was changed, as approved by EPD, since 11th January 2010, from 8 stations to 3 stations.

Exceedance of Action and Limit Levels

No exceedance in TSP level was recorded at the two monitoring stations during this reporting quarter.

7 exceedances in noise level were recorded at the City Hall monitoring station on 28th August 2010; 2nd, 3rd, 4th and 8th September 2010 and 1st October 2010. On 28th August 2010; 2nd, 3rd, 4th and 8th September 2010, the noise exceedances were considered to be attributed by the extension work at Hong Kong Planning and Infrastructure Exhibition. On 1st October 2010, the noise exceedances are considered to be attributed to the Firework activities at Victoria Harbour. As such, the noise exceedances are considered to be attributed by external factors and unlikely to be related to project works.

Executive Summary

Water quality exceedances were recorded on 39 sampling days in this reporting quarter. All exceedances have been investigated. All exceedances of Action/Limit Level for DO were considered to have not been related to the Project works. The exceedance of Action Level for SS was considered to have not been related to the Project works.

Complaint Log

There were no complaints received in relation to environment impact during this reporting quarter.

Notifications of Summons and Prosecutions

There were no notifications of summons or prosecutions received during this reporting quarter.

Site Inspection and Audit

Weekly environmental site inspections were carried out during this quarter. Minor deficiencies noted during the site inspections were rectified by the Contractor upon receipt of notification. The observations and findings are outlined below:

5th August 2010

N.A.

12th August 2010

N.A.

19th August 2010

N.A.

26th August 2010

N.A.

2nd September 2010

N.A.

9th September 2010

An excavator emitting dark smoke was found in Culvert F of Bay 29. The contractor is suggested to repair or change the excavator.

An oil drum near the diesel-water pump without fasten was found in Culvert F of Bay 29. The contractor was reminded to tie the drum for security.

16th September 2010

N.A.

24th September 2010

N.A.

Executive Summary

30th September 2010

A part of access roads were observed dry in the site area. The contractor was reminded to prevent the dust emission from the access roads by properly watering.

7th October 2010

Chemical drums without drip tray and labels were found near Culvert F. The contractor was provided the drip trays and labels for chemical drums.

14th October 2010

The contractor was reminded to prevent dust emission from site access roads in coming dry season.

21st October 2010

N.A.

28th October 2010

N.A.

1. INTRODUCTION

1.1 Basic Project Information

The Main Works Contract HK 12/02 for CRIII commenced on 28th February 2003 and was awarded to Leighton-China State-Van Oord Joint Venture (LCSVO-JV) for the construction of the CRIII Engineering Works. The main construction works that were identified in the EIA Report for the Project, requiring environmental monitoring and audit, have commenced.

This is the 29th quarterly EM&A Report for the works specified in Section 1.3 of the CRIII EIA Report. This report summarises the monitoring results and audit findings of the EM&A program during the reporting period from 1st August 2010 to 31st October 2010.

The Contractor's works programme for the quarter is provided in **Annex E**.

1.2 Project Organisation and Management Structure

Atkins China Limited (ACL) has been commissioned by CEDD as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme described in the approved EM&A Manual and required under Clause 4 of the Variation of Further Environmental Permit (No. EP-01/122/2003/A) issued to Leighton-China State-Van Oord Joint Venture in December 2007 for the CRIII Project. A variation of the Further Environmental Permit for the Project (EP-01/122/2003/B) and (EP-01/122/2003/C) were granted on 26 May 2008 and 17 July 2009. This was then superseded by another variation of Further Environmental Permit for the Project (EP-01/122/2003/D) granted on 1 September 2009. The CRIII Project Organisation is shown in **Annex A**.

1.3 Works Undertaken

The works undertaken in the project area requiring environmental monitoring and audit as identified in the EIA Report (not including Chai Wan Basin) during this reporting quarter include:

- Type A filling in FRAW and FRAE above +2.5mPD
- General filling works above +2.5mPD in IRAE
- Surcharging in FRAW and FRAE
- Construction of cantilever slab at caisson
- Pile cap and base slab construction at Culvert F
- Construction of storm and foul drainage and gullies in hinterlands for Road P2, Road D7, and Road D9
- Construction of GPO boundary wall
- Road P2 Underpass ramp structures
- Precasting for retaining wall (offsite)
- Installation of cooling mains discharge pipes in FRAE and FRAW
- Diaphragm wall and barrettes for CWB Works

Introduction

- Bulk excavation to formation level at CWB works
- Construction of CWB structure
- Disposal of material off-site to Government fill banks

2. EM&A REQUIREMENTS

2.1 Summary of Impact EM&A Requirements

The EM&A programme requires environmental monitoring for air quality, noise, waster quality, waste management and landscape and visual aspects as specified in the CRIII Project EIA. The EM&A requirements for each issue area are described in subsequent sections including:

- All required monitoring parameters;
- Action and Limit Levels; and
- Event-Action Plans.

A summary of impact EM&A requirements is presented in **Table 2-1**.

Table 2.1 - Summary of Impact EM&A Requirements

Parameters	Descriptions	Locations	Frequencies	Duration
TSP	24-Hour TSP	2 Locations	Once every 6 days	During dust generating construction works
	1-Hour TSP	2 Locations	Three times in every 6 days	During dust generating construction works
Noise	Leq (30 mins), Leq (15 mins), L10, L90,	1 Location	Continuous measurements	Two weeks before Construction and During Construction
Water Quality	Dissolved Oxygen; Salinity; Temp; Suspended Solids; Turbidity.	Since 11 th January 2010 3 Locations ⁽¹⁾	3 times a week, Mid-ebb/flood tides	During Marine Works and for 4 weeks after completion of Marine Works
Waste	On-Site Waste Audit	Active Work Sites	Periodically	During Construction
	On-Site Waste Inspection			
Landscape and Visual	Audits to ensure effective implementation of mitigation measures			During Construction
General Site Conditions	Environmental Site Inspection	Works areas and areas affected by works	Periodically	During Construction

Note ⁽¹⁾ Seawater Intake M01A, M04B and land based Monitoring Station "Culvert F" was monitored since 11th January 2010

2.2 Environmental Quality Performance Limits

Environmental Quality Performance Limits for air quality, noise and water quality have been established as part of the Baseline Monitoring Report and are provided in **Annex B**.

2.3 Event Action Plan

Event Action Plans for air quality, noise and water quality have been developed as part of the Baseline Monitoring Report and are provided in **Annex C**.

3. ENVIRONMENTAL STATUS

3.1 Implementation of Environmental Measures

The Contractor has implemented relevant mitigation measures listed in the EIA Report, EM&A Manual and Further Environmental Permit.

3.2 Environmental Monitoring Locations

Drawings showing the project area and locations of the monitoring stations are provided in **Annex D**.

3.3 Air Quality Monitoring Results

The graphical plot of air quality monitoring results for this reporting quarter is provided in **Annex F**.

3.4 Noise Quality Monitoring Results

The graphical plot of noise monitoring results for this reporting quarter is provided in **Annex G**.

3.5 Water Quality Monitoring Results

The graphical plot of water quality monitoring results for this reporting quarter is provided in **Annex H**.

The additional water quality monitoring results, since 14th December 2009, for the “the water quality of embayment area between the eastern seawall and the Hong Kong Convention and Exhibition Centre (HKCEC) upon completion of eastern seawall”, in accordance with the Environmental Permit No. EP-01/122/2003/D Condition 3.9, are presented in **Annex I**.

3.6 Solid and Liquid Waste Management Status

Solid and liquid waste management was implemented according to the Waste Management Plan during this reporting quarter.

3.7 Landscape and Visual Audit

As the works undertaken during this reporting quarter were mainly related to reclamation, buildings and infrastructure works, the landscape and visual impacts are considered to be minimal.

4. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

4.1 Environmental Exceedances

No exceedance in TSP level was recorded at the two monitoring stations during this reporting quarter.

7 exceedances in noise level were recorded at the City Hall monitoring station on 28th August 2010; 2nd, 3rd, 4th and 8th September 2010 and 1st October 2010. On 28th August 2010; 2nd, 3rd, 4th and 8th September 2010, the noise exceedances were considered to be attributed by the extension work at Hong Kong Planning and Infrastructure Exhibition. On 1st October 2010, the noise exceedances are considered to be attributed to the Firework activities at Victoria Harbour. As such, the noise exceedances are considered to be attributed by external factors and unlikely to be related to project works.

Water quality exceedances were recorded on 39 sampling days in this reporting quarter. All exceedances have been investigated. All exceedances of Action/Limit Level for DO were considered to have not been related to the Project works. The exceedance of Action Level for SS was considered to have not been related to the Project works.

Table 4.1 - Summary Water Quality Exceedances from August 2010 to October 2010

Date	Tide	Parameter	Exceedance	Station
Water Quality Monitoring in Accordance with EM&A Manual				
4 th August 2010	Mid-flood	DO	AL	M4B
6 th August 2010	Mid-ebb	DO	AL	M4B
	Mid-flood	DO	AL	M1A and M4B
9 th August 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A
11 th August 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
13 th August 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
16 th August 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
18 th August 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A
20 th August 2010	Mid-ebb	DO	AL	M1A
23 rd August 2010	Mid-flood	SS	AL	M1A
25 th August 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
27 th August 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
30 th August 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B

1 st September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
3 rd September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
6 th September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
8 th September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
10 th September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
13 th September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
15 th September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
22 nd September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
24 th September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
27 th September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
29 th September 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
2 nd October 2010	Mid-ebb	DO	AL	M1A
	Mid-flood	DO	AL	M1A and M4B
4 th October 2010	Mid-ebb	DO	AL	M4B
	Mid-flood	DO	AL	M1A and M4B
6 th October 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
8 th October 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B

11 th October 2010	Mid-ebb	DO	AL	M1A and M4B
		SS	AL	M1A
	Mid-flood	DO	AL	M1A and M4B
		SS	AL	M1A
13 th October 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
15 th October 2010	Mid-ebb	DO	AL	M1A and M4B
	Mid-flood	DO	AL	M1A and M4B
18 th October 2010	Mid-flood	DO	AL	M4B
20 th October 2010	Mid-flood	SS	AL	M1A
25 th October 2010	Mid-ebb	DO	AL	M1A and M4B
		SS	AL	M1A
	Mid-flood	DO	AL	M1A and M4B
27 th October 2010	Mid-ebb	DO	AL	M1A
29 th October 2010	Mid-ebb	DO	AL	M4B

A statistical analysis (presented in **Annex J**) of the suspended solids monitoring results found that the quarterly mean is significantly less than 1.3 times of the ambient mean recorded during the baseline period. This indicates that the Project construction works did not cause adverse impacts during the reporting period with respect to the baseline condition.

No exceedances in additional DO water monitoring were recorded during the reporting period.

4.2 Non-Compliance

No non-compliance with regard to site environmental audit was recorded during the reporting period.

4.3 Summary of Actions Taken by the Contractor

The Contractor has implemented the following measures to prevent air and water quality impacts:

- Contractor has implemented their Drainage Management Plan to Control Site Run-off for the wet season – actions completed and underway include: repair and improvement of existing bunds/sandbags on the edge of the reclamation; installation of additional bunds; compaction of soil surface and paths where possible to prevent erosion, creation of drainage channels and soak pits;
- Provision of additional settlement tanks to remove suspended solids from discharge waters;
- Provision of catch pits to collect spill over from wheel washing facilities and increased frequency of cleaning of catch-pits; and
- Water browsing of haul roads and other areas of the site and covering of stockpiles.

4.4 Environmental Enquiries

No environmental enquiries were received during this reporting quarter.

4.5 Environmental Complaints and Prosecutions

No environmental complaints were received during this reporting quarter.

4.6 Record of Environmental Complaints and Summons & Prosecutions

There was no record of environmental complaints during this reporting quarter.

There were no notifications of summons and prosecutions during this reporting quarter.

5. CONCLUSION

During the environmental site inspections conducted within this reporting quarter, no non-compliances were noted and no prosecutions were received during this reporting quarter.

No exceedance in TSP level was recorded at the two monitoring stations during this reporting quarter.

7 exceedances in noise level were recorded at the City Hall monitoring station on 28th August 2010; 2nd, 3rd, 4th and 8th September 2010 and 1st October 2010. On 28th August 2010; 2nd, 3rd, 4th and 8th September 2010, the noise exceedances were considered to be attributed by the extension work at Hong Kong Planning and Infrastructure Exhibition. On 1st October 2010, the noise exceedances are considered to be attributed to the Firework activities at Victoria Harbour. As such, the noise exceedances are considered to be attributed by external factors and unlikely to be related to project works.

Water quality exceedances were recorded on 39 sampling days in this reporting quarter. All exceedances have been investigated. All exceedances of Action/Limit Level for DO were considered to have not been related to the Project works. The exceedance of Action Level for SS was considered to have not been related to the Project works.

No exceedances in additional DO water monitoring were recorded during the reporting period.

