

**Central Reclamation, Phase III
Quarterly EM&A Report No. 6
(November 2004 through January 2005)**

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ACL	Atkins China Limited
CEDD	Civil Engineering and Development Department
CRIII	Central Reclamation Phase III
EIA	Environmental Impact Assessment
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
TDD	Territory Development Department
TSP	Total Suspended Particulates

Executive Summary

Atkins China Limited (ACL) has been appointed by TDD (now called the Civil Engineering and Development Department (CEDD) after the merger of the Civil Engineering Department and the Territory Development Department on 1 July 2004) to implement the Environmental Monitoring and Audit (EM&A) programme that was identified in the EIA Report for the CRIII Project and is providing Environmental Team services during the duration of the construction works.

This is the sixth 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 1 November 2004 to 31 January 2005.

Environmental Monitoring and Audit Progress

Noise and water quality monitoring was conducted during this quarter. Weekly environmental site inspections were also conducted during the reporting quarter. Joint site inspections with the IEC were also carried out on 18 November 2004, 9 December 2004 and 19 January 2005. The IEC's environmental site inspection reports are included in ***Annex H***.

Exceedances of Action and Limit Levels

Continuous noise monitoring was carried out during the reporting period and noise quality exceedances were recorded on 22 and 24 November 2004, on 1, 3 and 29 December 2004, and on 3, 4, 5, 13 and 28 January 2005. The exceedances were investigated and were found not to be attributed to the project works. Instead, the noise level were due to both passerby activities in front of City Hall and exterior renovation works for City Hall, which are not project related. Communications with the building management for City Hall noted that the renovation works are expected to continue until February 2005.

Complaint Log

No environmental complaints were received during the 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. Any minor deficiencies noted during the site inspections were rectified by the Contractor upon receipt of notification.

1. INTRODUCTION

1.1 Basic Project Information

The Territory Development Department (TDD) (now called the Civil Engineering and Development Department (CEDD) after the merger of the Civil Engineering Department and the Territory Development Department on 1 July 2004) of the Hong Kong Special Administrative Region (HKSAR) is constructing the Central Reclamation Phase III project (CRIII).

The Main Works Contract HK 12/02 for CRIII commenced on 28th February 2003. Leighton China State Van Oord Joint Venture (LCSVO-JV) was awarded the Contract No. HK 12/02 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.

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 TDD (now called CEDD), the employer, to undertake the environmental monitoring and audit work for the project. ACL is also the Resident Engineers for the project and LCSVO-JV is the main contractor. An Independent Environmental Checker (IEC) has been employed to audit the EM&A programme. The contacts of key management are provided 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 the quarter included:

- Architectural works for Pier No. 7;
- Obstruction removal and preparation work for pile cap construction at Pier No. 8;
- Removal of piling obstructions at Public Pier West and piling works;
- Rock and sand filling works at IRAW;
- In-situ work for the pumping stations installed at IRAW;
- Placing of armour rock for the temporary seawall at IRAW;
- Land piling works and substructure construction for the Central Terminal Building (CTB);
- Land piling work for the Man Yiu Street Footbridge;
- Seawall construction at IRAE;
- Rock filling and sand filling works at IRAE;
- In-situ work for the pumping station and caissons installed at IRAE;
- Detach buoyancy tanks from installed caisson units at IRAE;
- Temporary intake pipes installation;

- Cooling watermain work at Lung Wui Road;
- Remedial work for Culvert F;
- Excavation to bored piling at Eastern Seawall; and
- Maintenance and necessary repair works for seawater intake silt screens.

2. EM&A REQUIREMENTS

2.1 Summary of Impact EM&A Requirements

The EM&A programme requires environmental monitoring for air quality, noise, water 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), L ₁₀ , L ₉₀ .	1 Location	Continuous measurements	Two weeks before Construction and During Construction
Water Quality	Dissolved Oxygen; Salinity; Temp; Suspended Solids; Turbidity.	14 Locations	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

2.2 Environmental Quality Performance Limits

Environmental Quality Performance Limits for dust, 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, 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. Seawater intake silt screens have been installed prior to the start of the dredging works and a silt curtain attached to a floating steel frame has been installed around the grab dredger.

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

Once dust generating construction works as identified in the EIA have commenced, air quality monitoring will be undertaken and the results of air quality monitoring will be presented with graphical plots.

3.4 Noise Quality Monitoring Results

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

3.5 Water Quality Monitoring Results

The graphical plot of water quality monitoring results for this quarter is provided in **Annex G**. A statistical analysis (**Annex I**) of the monitoring results generally did not find any construction impacts on suspended solids (SS) at the project site.

Elevated levels of SS were found, particularly at the seawater intake stations (M1 to M6 and M11 and M12). These exceedances were investigated and all but two were found to be attributable to poor ambient conditions and/or influences not related to project works. The investigations generally found no significant gradient effects between those stations close to the project works and those more remote to the works area. However, one SS exceedance recorded on 17 December 2004 may have been attributed to sand filling works at IRAW. Another exceedance recorded on 26 January 2005 was found to have been caused by bermstone removal works at IRAE. Appropriate actions were undertaken in accordance with the Event and Action Plan and the Contractor has implemented additional mitigation measures to further reduce SS impacts. The Contractor has installed an additional floating frame type silt curtain to protect the affected seawater intake.

Silty discharges from outfalls that are unrelated to the project works have been observed and documented in the reporting period. Two particularly silty discharges were observed at Outfall I, located adjacent to HSBC's seawater intake, during December 2004. Investigations into these exceedances found that the discharges were not project related.

Additional SS sampling were also undertaken at Culvert J and at the Queensway Government Offices outfall during November. The results indicate that the discharges from these locations contained high SS levels, and as such, may have significantly influenced water quality in the surrounding area.

3.6 Solid and Liquid Waste Management Status

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

3.7 Landscape and Visual Audit

As the works undertaken during the reporting month were mainly related to marine works, the landscape and visual impacts are considered to be minimal.

4. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

4.1 Environmental Exceedances

There were no exceedances of air quality attributable to the project works found during the reporting quarter.

Noise exceedances were detected during November and December 2004 and January 2005. These exceedances were investigated and were found to be not due to project works. The noise levels were attributed to passer-by activities at the drop-off area in front of City Hall. It is also noted that external contractors are still undertaking exterior renovation works at City Hall.

Two suspended solids exceedances were recorded between November 2004 and January 2005. These were found to have been attributable to project marine works. Appropriate actions were undertaken in accordance with the Event and Action Plan for Water Quality and the Contractor has implemented additional mitigation measures to further reduce suspended solids impacts.

4.2 Summary of Actions Taken for Non-Compliance

The Event and Action Plan for Water Quality was undertaken immediately after investigations into the exceedances found that the increase in levels were likely due to project marine works. Following the exceedances, the Contractor has installed an additional floating frame type silt curtain to protect the affect seawater intake. Further, increased visual inspections of the seawater intake silt screens were undertaken.

4.3 Environmental Enquiries

No environmental enquiries were received during the reporting quarter.

4.4 Environmental Complaints and Prosecutions

No environmental complaints or prosecutions were received between November 2004 and January 2005.

4.5 Record of Environmental Complaints and Summons & Prosecutions

The following table summarises all the complaints attributable to project works received (both written and verbal) and the liaison/consultation undertaken, and the actions and follow-up procedures taken.

Table 4.1 - Summary of Complaints Received

Month/ Date of Complaint	Media	Complaint & Action	Liaison/ Consultation Taken	Follow-up Action
November 2004	N/A	None	N/A	N/A
December 2004	N/A	None	N/A	N/A
January 2005	N/A	None	N/A	N/A

There were no notifications of summons and prosecutions for the reporting quarter.

5. CONCLUSION

The water quality within the project area was found to be generally good during the reporting period. However, visual observations noted the presence of floating debris in the harbour, but it was noted that the debris did not originate from the project works.

Investigations into two elevated SS levels recorded during the reporting quarter found that they were likely caused by project works. Appropriate actions were undertaken in accordance with the Event and Action Plan and the Contractor implemented additional mitigation measures to further reduce SS impacts. Other water quality exceedances were also investigated but the levels were found to be not attributed to project works. The water quality monitoring results showed that DO levels increased significantly from November 2004 to January 2005.

Noise exceedances were also detected during the reporting period. However, investigations into the exceedances found that the noise levels were not due to project works.

During environmental site inspections conducted during the reporting quarter, minor deficiencies were noted. However, the Contractor rectified all deficiencies after receipt of notification.

No environmental complaints or prosecutions were received during the reporting quarter.