

**Central Reclamation, Phase III  
EM&A – TDD Progress Report  
Quarterly Report No. 1  
(August through October 2003)**



<i>Client</i>	<b>Territory Development Department, Hong Kong Hong Kong Island and Islands Development Office</b>		
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ACL	Atkins China Limited
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 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 first quarterly EM&A - TDD Progress 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 August to 31 October 2003.

### ***Environmental Monitoring and Audit Progress***

Noise and water quality monitoring was conducted during this quarter.

### ***Exceedances of Action and Limit Levels***

The noise monitoring carried out during this quarter did not find any exceedances that were attributable to the project works. Although the continuous monitoring data indicated several instances where the Leq (30 minutes) exceeded 75 dB(A) during October 2003, investigations into these levels found that they were due to local noise conditions at the City Hall monitoring location and were not due to the project. An off-site inspection carried out by the IEC on 21 October 2003 confirmed these findings. The IEC's observations noted that the main sources of noise near City Hall were from helicopter and vehicle traffic in the area.

From the analysis of water quality monitoring results collected during this quarter, no exceedances were found to be attributable to the project marine works. Although the monitoring data indicated that levels of dissolved oxygen (DO) and suspended solids (SS) beyond the water quality criteria were found, investigations into these exceedances determined that they were due to natural variation in ambient conditions and/or local influencing factors in proximity of the affected monitoring stations, and they were not due to the project. The investigations considered the conditions from baseline monitoring, which was conducted during February to April 2003, and results from the control stations located outside the project's influence. A review of the monitoring results showed that control stations located outside the project's influence had similar values as marine impact stations. Seawater intake monitoring data showed variable results and exceedances were found to be localised near existing stormwater outfalls. These findings were similar to the conditions observed during baseline monitoring. Further, silty discharges from outfalls within the project area have been documented on various occasions. Based on the investigations and analyses of the water quality data, it was confirmed that the project marine works did not cause any of the exceedances of the water quality criteria.

### ***Complaint Log***

There were no environmental complaints received during the reporting period.

### ***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. Several minor deficiencies were noted during the site inspections but the Contractor rectified all deficiencies upon receipt of notification.



## **1. INTRODUCTION**

### **1.1 Basic Project Information**

The Territory Development Department (TDD) 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 28<sup>th</sup> 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 not yet commenced. The Contractor is presently preparing for commencement of land and marine based construction works. Activities under this contract to date include marine and land-based site investigations, demolition at Pier No.7 and dredging works at IRAW.

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, 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:

- Demolition work at Pier No. 7;
- Dredging and reclamation works at IRAW;
- Marine pile splicing and welding of pile shoes;
- Marine site investigation works at the Eastern Seawall;
- Site investigation works for the Man Yiu Street Footbridge; and
- Temporary traffic and pedestrian diversion arrangements near Pier No. 7.

A suspension of all construction works took place between 28 September and 8 October 2003. All marine piling works and any reclamation above the original seabed level are still being suspended until further notice while other marine works and land-based activities have resumed.

**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**

<b>Parameters</b>	<b>Descriptions</b>	<b>Locations</b>	<b>Frequencies</b>	<b>Duration</b>
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 <sub>10</sub> , L <sub>90</sub> .	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 have commenced, results of air quality monitoring will be presented with graphical plots to depict trends over a 4-month period (including the last month of the previous quarter and the present quarter).

#### **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**. An analysis of the monitoring results did not find any construction impacts on suspended solids (SS) at the project site. Although elevated levels of SS were found, particularly at the seawater intake stations (M1 to M6 and M11 and M12), these were investigated and were found to be not due to project works. The elevated SS levels were generally localised and occurred at seawater intake stations located near outfalls. Silty discharges from outfalls that are unrelated to the project works have been observed and documented in the reporting period. These discharges have been reported to the Environmental Protection Department (EPD) and are currently being investigated.

#### **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 related to site investigation works, minor demolition works and dredging 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, noise and water quality due to the project works found during the reporting quarter.

##### **4.2 Summary of Actions Taken for Non-Compliance**

As there were no instances of non-compliance due to the project works in this reporting quarter, no actions and follow-up procedures were required.

##### **4.3 Environmental Complaints and Prosecutions**

No environmental complaints were received during the reporting quarter. Further, no environmental prosecution notices or summons were received during the reporting quarter.

##### **4.4 Record of Environmental Complaints and Summons & Prosecutions**

The following table summarises all the complaints 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**

<b>Month/ Date of Complaint</b>	<b>Media</b>	<b>Complaint &amp; Action</b>	<b>Liaison/ Consultation Taken</b>	<b>Follow-up Action</b>
August 2003	N/A	None	N/A	N/A
September 2003	N/A	None	N/A	N/A
October 2003	N/A	None	N/A	N/A

There were no notifications of summons and prosecutions for the period between 1 August and 31 October 2003.

## **5. CONCLUSION**

During the reporting quarter, no exceedances of environmental performance criteria were found to be caused by the project works. For water quality monitoring, low DO levels and elevated SS concentrations recorded were investigated and have been attributed to either ambient conditions or adverse influencing factors unrelated to project marine works. It was found that discharges from outfalls located near seawater intake monitoring stations are major influencing factors that adversely impact water quality within the works site area.

The marine-based impact monitoring stations established to monitor the overall impact of the reclamation activities on water quality in Victoria were shown to have similar results as the control stations which are located outside the influence of project works. As such, the water quality monitoring results did not indicate that the marine works were adversely affecting water quality outside the works boundary in Victoria Harbour.

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