

## EXECUTIVE SUMMARY

### Introduction

This is the twelfth monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for the “Low Level Radioactive Waste Storage Facility at Siu A Chau” (the Project). This report documents the findings of Environmental Monitoring and Audit (EM&A) Works conducted in between 1<sup>st</sup> and 31<sup>st</sup> August 2004 inclusively.

The major site activities undertaken in the reporting month were:

- Construction of Superstructure (Main Building);
- Construction of Permanent Jetty; and
- Manufacturing, delivery and installation of E&M equipment.

### Environmental Monitoring and Audit Works

Environmental monitoring for the Project was performed regularly as stipulated in the EM&A Manual and the results were checked and reviewed. A monthly site audit for this reporting month was conducted on 30<sup>th</sup> August 2004. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.

Summary of the non-compliance of the reporting month is tabulated in Table I.

### *Water Quality Monitoring*

Water quality monitoring was conducted as scheduled in the reporting month.

#### Routine Water Quality Monitoring

A total of twenty-two events showing exceedances of Action/Limit Levels for suspended solids (SS) were recorded at the monitoring stations W1, W2 and W3 on 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup>, 20<sup>th</sup>, 23<sup>rd</sup>, 24<sup>th</sup> and 30<sup>th</sup> in the reporting month.

There were three events showing exceedances of Action/Limit Levels for turbidity recorded at the monitoring stations W1, W2 and W3 on 30<sup>th</sup> in the reporting month.

A total of forty-nine events showing exceedances of Action/Limit Levels for dissolved oxygen (DO) at the monitoring stations W1, W2 and W3 were recorded on 5<sup>th</sup>, 6<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 23<sup>rd</sup>, 24<sup>th</sup>, 27<sup>th</sup> and 30<sup>th</sup> in the reporting month.

#### 12-hr Continuous Water Quality Monitoring

For the continuous water quality monitoring at station WS, there was one event showing exceedances of Action/Limit levels for turbidity on 30<sup>th</sup> August 2004. Six events showing exceedances of Action/Limit levels for DO levels were recorded on 10<sup>th</sup>, 11<sup>th</sup>, 17<sup>th</sup>, 23<sup>rd</sup>, 24<sup>th</sup>, and 30<sup>th</sup> in the reporting month.

According to the ET's investigation, no direct evidence demonstrating that the exceedances

of Action/Limit levels for SS and turbidity on 4<sup>th</sup>, 5<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup>, 20<sup>th</sup> and 30<sup>th</sup> were caused by the Project was identified. The cause of exceedances might be due to the high natural background outside Sum Wan, as the SS levels of station W1 (the closest monitoring station to the Project area) were lower than those of stations W2 (Control Station during the mid-ebb tide) and W3 (Control Station during the mid-flood tide).

However, Limit Level exceedances of SS were recorded during ebb-tide on 6<sup>th</sup>, 23<sup>rd</sup> and 24<sup>th</sup> August 2004 at stations W1, W2 and W3. The causes of the exceedances were likely due to the effluent from the piling works for the permanent jetty as the SS levels of station W1 were higher than that of station W2. The exceedances were therefore considered to be valid. It was noted that an additional silt curtain was installed in the reporting month.

All the exceedances of Action/Limit levels for DO were unlikely due to the Project owing to the high water temperature during the reporting month. It is understood that the concentration of DO decreases with the increasing water temperature.

Table I summarizes the number of exceedances recorded in the reporting month.

**Table I Summary Table for Non-compliance Recorded in the Reporting Month**

| Parameter            | No. of Events Exceeding |             | No. of Exceedances due to the Project | Action Taken   |
|----------------------|-------------------------|-------------|---------------------------------------|--|
|                      | Action Level            | Limit Level |                                       |  |
| <b>Station W1-W3</b> |                         |             |                                       |  |
| DO (mg/L)            | 8                       | 41          | 0                                     | N/A  |
| Turbidity (NTU)      | 0                       | 3           | 0                                     | N/A  |
| SS (mg/L)            | 3                       | 19          | 6 (on 6, 23 & 24 August 2004)         | ET Leader informed all relevant parties and identified the cause of exceedances. Proper mitigation measures were recommended to the Contractor to improve the situation: <ul style="list-style-type: none"> <li>• collecting and diverting the effluent to the sedimentation tank prior to discharge;</li> <li>• regular desilting of the sedimentation facilities and good site house keeping;</li> <li>• taking preventive measures to avoid the materials/debris on the temporary jetty from flushing into the sea during high tide days;</li> </ul> An additional silt curtain was installed in the reporting month. |
| <b>Station WS</b>    |                         |             |                                       |  |
| DO (mg/L)            | 6                       |             | 0                                     | ET Leader informed all relevant parties. Although no direct evidence demonstrated that the exceedances were due to the Project, the Contractor was reminded to implement proper mitigation measures such as regularly desilting of sedimentation facilities and ensure the effectiveness of the silt curtain.  |
| Turbidity (NTU)      | 1                       |             | 0                                     |  |

## Environmental Licensing and Permitting

License/Permits granted to the Project include the Environmental Permit (EP), the Further Environmental Permit (FEP), the Water Discharge License (WDL) and Construction Noise Permit (CNP) for the Project.

## Complaints and Prosecutions

No environmental complaint or prosecution was received in this reporting month.

## Status of Waste Management

The Waste Management Plan (WMP) was accepted with conditions by EPD on 30<sup>th</sup> September 2003 and the Contractor resubmitted WMP (Rev. B) on 9<sup>th</sup> October 2003.

No C&D materials generated was collected in the reporting month. The waste management should follow the procedures in the approved WMP.

## Key Information in the Reporting Month

Summary of key information in this reporting month is tabulated in Table II.

**Table II Summary Table for Key Information in the Reporting Month**

| Event  | Event Details |        | Action Taken | Status | Remark |
|--|---------------|--------|--------------|--------|--------|
|  | Number        | Nature |              |        |        |
| Complaint received   | 0             | ---    | N/A          | N/A    | ---    |
| Changes to the assumptions and key construction / operation activities recorded  | 0             | ---    | N/A          | N/A    | ---    |
| Status of submissions under EP   | 0             | ---    | N/A          | N/A    | ---    |
| Notifications of any summons & prosecutions received   | 0             | ---    | N/A          | N/A    | ---    |
| <p><b><u>Future Key Issues:</u></b></p> <p>Major site activities for the coming month include:</p> <ul style="list-style-type: none"> <li>• Permanent site formation;</li> <li>• Boulder stabilization works;</li> <li>• Construction of superstructure;</li> <li>• Construction of permanent jetty; and</li> <li>• E&amp;M works</li> </ul> <p>The anticipated environmental impacts will be mainly on dust and noise due to earthworks, and surface runoff during rainy days and the water quality associated with the marine construction activities.</p> |               |        |              |        |        |