

**ASB Biodiesel (Hong Kong) Limited**

**Development of a Biodiesel Plant at  
Tseung Kwan O Industrial Estate**

Monthly EM&A Report

December 2011

(Version 1.0)

Certified By



(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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|                |                              |                     |                 |
|----------------|------------------------------|---------------------|-----------------|
| <i>To:</i>     | Cinotech                     | <i>Date:</i>        | 16 January 2012 |
| <i>Attn:</i>   | Ms. Ivy Tam / Mr. Felix Kwan | <i>Fax:</i>         | 3107 1388       |
| <i>From:</i>   | Mr. Mark Cheung              | <i>Ref:</i>         | D1067/G00167    |
| <i>Job No.</i> | D1067                        | <i>Total Pages:</i> | 1               |

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**SUBJECT: Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate  
Monthly EM&A Report for December 2011**

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Dear Sir / Madam,

We refer to your submission of the Monthly EM&A Report for December 2011 via email dated 16 January 2012.

We write to advise that we have no comment on the captioned report.

Regards,

  
Mark Cheung  
Independent Environmental Checker

KTC/gk

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## EXECUTIVE SUMMARY

### Introduction

1. This is the 31<sup>st</sup> monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate". This report documents the findings of EM&A Works conducted in December 2011.
2. The major site activities undertaken in the reporting month included:
  - General site cleaning and tidying;
  - FRP Painting Works at Processing Building;
  - Zone 1A Administration Building – RC Superstructure Construction Works;
  - Zone 1B Fat Preparation and Steam Boiler Room Building – RC Superstructure Works;
  - Zone 2A Tank Farm – RC Footing Construction Works;
  - Zone 2A GTWSR – Sheet Piling Works for ELS;
  - Building Services – P&D U/G pipe cast-in works;
  - Building Services – Fire Service U/G pipe cast-in works;
  - Building Services – Cable duct cast-in works; and
  - Building Services – Pressure Test works.

### Environmental Monitoring and Audit Works

3. Environmental monitoring and audit works for the Project were performed regularly as stipulated in the EM&A Manual and the results were checked and reviewed. The implementation of the environmental mitigation measures and environmental complaint handling procedures were also checked.

### Environmental Licenses and Permits

4. Licenses/Permits granted to the Project include the Environmental Permit (EP) for the Project, An Environmental Permit No. EP-319/2009 and EP-319/2009/A was issued on 11 March 2009 and 7 April 2009 respectively. The Contractor has applied for the Registration of Chemical Waste Producer (WPN-5113-839-C1186-15), Construction Noise Permit (GW-RE0828-11) and Wastewater Discharge License (WT00004508-2009).

### Key Information in the Reporting Month

5. Summary of key information in this reporting month is tabulated in **Table I**.

**Table I 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  | 1             | Monthly EM&A Report for November 2011 | Submitted to EPD on 22 December 2011 | Verified by IEC | ---    |
| Notifications of any summons & prosecutions                                     | 0             | ---                                   | N/A                                  | N/A             | ---    |

**Future Key Issues**

6. Major site activities for the coming three months will include:
- General site cleaning and tidying;
  - Administration Building – RC Superstructure Construction Works;
  - Administration Building – Steel and Metal Works at MEK Room;
  - Administration Building – Installation of roof waterproofing system works;
  - Processing Building – Cladding Wall Works;
  - Fat Preparation Building – RC Superstructure Construction Works;
  - Steam Boiler Room – RC Superstructure Construction Works;
  - Fat Preparation Building and Boiler Room – Steel works;
  - Tank Farm 2A – Footing and Bund Wall concrete works;
  - Fat Preparation Building and Boiler Room – Roof waterproofing system works;
  - Tank Farm 2A – Tank Erection Works;
  - Grease Trap Waste Screening Room (GTWSR) – ELS and Foundation Construction Works;
  - Tank Farm 2B-2E Bund Wall Concreting Works;
  - WWTP – Foundation Construction Works;
  - WWTP – Structural Concreting Works;
  - Jetty – Temporary Construction and Bored Piles Works; and
  - Pipe Bridge – Pipe Bridge Erection Works.
7. The future environmental concerns are air quality, waste management and surface runoff from construction works.

## 1 INTRODUCTION

### Background

- 1.1 Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate is a Designated Project (hereafter referred to as “the Project”) under the Environmental Impact Assessment Ordinance (Cap. 449). A study of environmental impact assessment (EIA) was undertaken to consider the key issues of air quality, noise, water quality, ecological and identify possible mitigation measures associated with the works. An EIA Report was approved by the Environmental Protection Department (EPD) on 26 February 2009.
- 1.2 The project is to construct and operate a 100,000 tonnes per annum biodiesel plant at Tseung Kwan O Industrial Estate. The plant will use a multi-feedstock which consists of waste cooking oil (WCO), oil and grease recovered from grease trap waste (GTW), Palm Fatty Acid Distillate (PFAD) and animal fats. The proposed biodiesel plant not only offers a convenient recycling outlet for GTW and WCO but also converts the oil and grease recovered from these wastes into useful products. The Project also offers a cleaner alternative to diesel fuel to the Hong Kong market. The main processes include the followings:-
- Construction of feedstock reception and storage facilities, and offices;
  - Construction of a grease trap waste pre-treatment facility (with a designated treatment capacity of about 200,000 tonnes per annum);
  - Construction of a wastewater treatment plant (with a designed treatment capacity of about 170,000 m<sup>3</sup> per annum);
  - Installation of biodiesel production and glycerine purification system;
  - Construction of product storage and ancillary facilities;
  - Pretreatment of grease trap waste;
  - Treatment of wastewater generated from feedstock pre-treatment and glycerine dewatering process, and filtrates from dewatering process of sludge treatment;
  - Transesterification of feedstock with alcohol-catalyst; and
  - Purification of biodiesel.
- 1.3 The general layout of the Project is shown in **Figure 1.1**.
- 1.4 Layout plan of tank farm **2A, 2B to 2E** is revised and a report is made by Environmental Resources Management (ERM) regarding such change. The report concluded that no deviation is found from the approved EIA report.
- 1.5 An Environmental Permit (EP) No. EP-319/2009 and EP-319/2009/A was issued on 11 March 2009 and 7 April 2009 respectively for Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate to ASB Biodiesel (Hong Kong) Limited as the Permit Holder.
- 1.6 Cinotech Consultants Limited was commissioned by the Contractor to undertake the Environmental Monitoring and Audit (EM&A) works for the Project. This is the 31<sup>st</sup> Monthly EM&A report summarizing the EM&A works for the Project in December 2011.

### Project Organizations

1.7 Different parties with different levels of involvement in the project organization include:

- Project Proponent – ASB Biodiesel (Hong Kong) Limited
- Project Manager – AECOM
- Contractor – China Harbour Engineering Company Limited (CHEC)
- Environmental Team (ET) – Cinotech Consultants Limited
- Independent Environmental Checker (IEC) – Mannings (Asia) Consultants Ltd.

1.8 The responsibilities of respective parties are detailed in Section 1.10 of the Final EM&A Manual of the Project.

1.9 The key contacts of the Project are shown in **Table 1.1**.

**Table 1.1 Key Project Contacts**

| Party    | Role                              | Name            | Position  | Phone No. | Fax No.   |
|----------|-----------------------------------|-----------------|---|-----------|-----------|
| ASB      | Project Proponent                 | Ms. Sylvia Har  | Senior Plant Engineer                             | 9479 0949 | 3741 1661 |
| Cinotech | Environmental Team                | Dr. HF Chan     | ET Leader   | 2151 2088 | 3107 1388 |
|          |                                   | Ms. Ivy Tam     | Project Coordinator                               | 2151 2090 |           |
|          |                                   | Mr. Felix Kwan  | Audit Team Leader                                 | 2151 2077 |           |
| Mannings | Independent Environmental Checker | Mr. Mark Cheung | Independent Environmental Checker                 | 3168 2028 | 3168 2022 |
|          |                                   | Mr. Gavin Kwok  | Assistant to Independent Environmental Checker    | 3168 2028 |           |
| AECOM    | Project Manager                   | Mr. Matthew Lau | Construction Manager                              | 9363 5586 | N/A       |
| CHEC     | Contractor                        | Mr. Peter Chung | Project Manager                                   | 9471 2438 | 2623 9226 |
|          |                                   | Mr. Anson Wong  | Safety and Environmental Officer                  | 9656 3837 |           |
|          |                                   | Mr. Simon Li    | Environmental Supervisor (Ass. Planning Engineer) | 6152 7867 |           |

## **Construction Programme**

1.10 The site activities undertaken in the reporting month were:

- General site cleaning and tidying;
- FRP Painting Works at Processing Building;
- Zone 1A Administration Building – RC Superstructure Construction Works;
- Zone 1B Fat Preparation and Steam Boiler Room Building – RC Superstructure Works;
- Zone 2A Tank Farm – RC Footing Construction Works;
- Zone 2A GTWSR – Sheet Piling Works for ELS;
- Building Services – P&D U/G pipe cast-in works;
- Building Services – Fire Service U/G pipe cast-in works;
- Building Services – Cable duct cast-in works; and
- Building Services – Pressure Test works.

## **Summary of EM&A Requirements**

1.11 The EM&A requirements are described in the following sections, including:

- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.12 The advice on the implementation status of environmental protection and pollution control/ mitigation measures is summarized in Section 3 of this report.



## 2 ENVIRONMENTAL AUDIT

### Site Audits

- 2.1 Site audits were carried out by ET on monthly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site. The summary of the site audit in this reporting month is attached in **Appendix A**.
- 2.2 Site audit was conducted on 20<sup>th</sup> December 2011 by ET in the reporting month. No non-compliance was observed during the site audits.

### Status of Environmental Licensing and Permitting

- 2.3 All permits/licenses obtained for the Project are summarized in **Table 2.1**.

### Status of Waste Management

- 2.4 The quantities of waste generated in this reporting month are summarized in **Appendix C**. No Chemical Waste was generated. 5m<sup>3</sup> general refuse and no Inert Construction and Demolition (C&D) Waste were generated.

### Implementation Status of Environmental Mitigation Measures

- 2.5 According to the EIA Study Report, Environmental Permit and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the EMIS is provided in **Appendix B**.

**Table 2.1 Summary of Environmental Licensing and Permit Status**

| Permit / License No.                           | Valid Period |            | Details   | Status |
|--|--------------|------------|---|--------|
|  | From         | To         |   |        |
| <b>Environmental Permit (EP)</b>               |              |            |   |        |
| EP-319/2009/A                                  | 07/04/2009   | N/A        | Construction and operation of<br>(i) a biochemical plant with a storage capacity of more than 500 tonnes and in which substances are processed and produced;<br>(ii) a storage, transfer and trans-shipment of oil facility with a storage capacity of not less than 1,000 tonnes; and<br>(iii) a dangerous goods godown with a storage capacity exceeding 500 tonnes . | Valid  |
| <b>Registration of Chemical Waste Producer</b> |              |            |   |        |
| WPN-5113-839-C1186-15                          | 12/06/2009   | -          | Spent Lubrication oil.  | Valid  |
| <b>Construction Noise Permit (CNP)</b>         |              |            |   |        |
| GW-RE0828-11                                   | 27/11/2011   | 26/05/2012 | Use of Powered Mechanical Equipment during 0000-2400 hours on general holidays (including Sundays), 0000-0700 hours and 1900-2400 hours on any day not being a general holiday.   | Valid  |
| <b>Wastewater Discharge License</b>            |              |            |   |        |
| WT00004508-2009                                | 07/09/2009   | -          | -   | Valid  |

- 2.6 During the site inspection in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit session are summarized in **Table 2.2**.

**Table 2.2 Observations and Recommendations of Site Audit**

| Parameters | Date       | Observations and Recommendations   | Follow-up |
|------------|------------|--|-----------|
| --         | 20/12/2011 | No major environmental deficiency was observed during the site inspection. | --        |

### Summary of Complaint and Prosecution

- 2.7 No environmental related complaint, prosecution or notification of summons was received in the reporting month.
- 2.8 There was no environmental complaint, prosecution or notification of summons received since the Project commencement. The Complaint Log is attached in **Appendix D**.

### 3 FUTURE KEY ISSUES

#### Key Issues for the Coming Month

3.1 Key issues to be considered in the coming month include:

- Noise from operation of the equipment and machinery on-site;
- Effluent discharge generated from surface runoff;
- Dust generated from excavation works and stockpile of dusty materials;
- Maintenance of de-silting facilities and drainage system, such as U-channels;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Accumulation of stagnant water in the site areas; and
- Accumulation of C&D waste and general waste on site.

#### Construction Program for the Next Month

3.2 A tentative construction programme is provided in **Appendix E**. The major construction activities in the coming three months will include:

- General site cleaning and tidying;
- Administration Building – RC Superstructure Construction Works;
- Administration Building – Steel and Metal Works at MEK Room;
- Administration Building – Installation of roof waterproofing system works;
- Processing Building – Cladding Wall Works;
- Fat Preparation Building – RC Superstructure Construction Works;
- Steam Boiler Room – RC Superstructure Construction Works;
- Fat Preparation Building and Boiler Room – Steel works;
- Tank Farm 2A – Footing and Bund Wall concrete works;
- Fat Preparation Building and Boiler Room – Roof waterproofing system works;
- Tank Farm 2A – Tank Erection Works;
- Grease Trap Waste Screening Room (GTWSR) – ELS and Foundation Construction Works;
- Tank Farm 2B-2E Bund Wall Concreting Works;
- WWTP – Foundation Construction Works;
- WWTP – Structural Concreting Works;
- Jetty – Temporary Construction and Bored Piles Works; and
- Pipe Bridge – Pipe Bridge Erection Works.

## 4 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 4.1 Environmental audit works were conducted in the reporting month. Site inspections were conducted on a monthly basis. The results were reviewed and checked.
- 4.2 There was no environmental complaint, prosecution or notification of summons received.

### Recommendations

- 4.3 According to the environmental audit performed in the reporting month, the following recommendations were made:

#### *Water Impact*

- To identify any wastewater discharges from site.
- To ensure properly maintenance for de-silting facilities.
- To clear the silt and sediment in the sedimentation tanks.
- To review the capacity of de-silting facilities for discharge.
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge.
- To avoid accumulation of stagnant and ponding water on site.
- To clear the drainage channel regularly to prevent blockage.

#### *Dust Impact*

- To remove fugitive dusty material on the haul road periodically.
- Excavated dusty materials or stockpile of dusty materials should be covered by impervious sheeting, or sprayed with water so as to maintain entire surface wet.

#### *Noise Impact*

- To space out noisy equipment and position as far away as possible from sensitive receivers.
- To inspect the noise sources inside the site.

#### *Waste / Chemical Management*

- To provide proper rubbish bins / skips for waste collection.
- To provide proper storage area for oil container on site.
- To avoid and check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment.

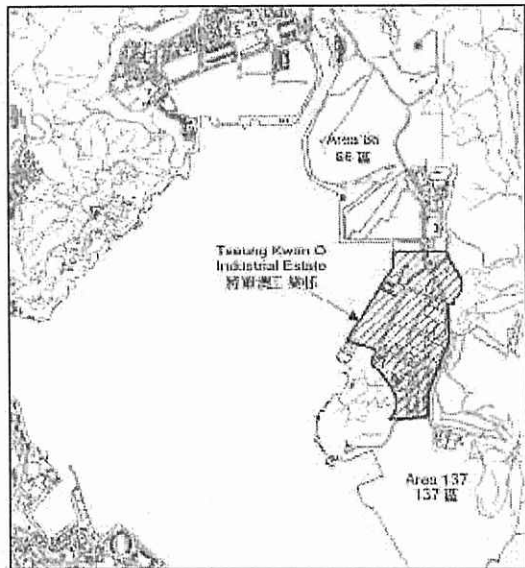
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**FIGURES**

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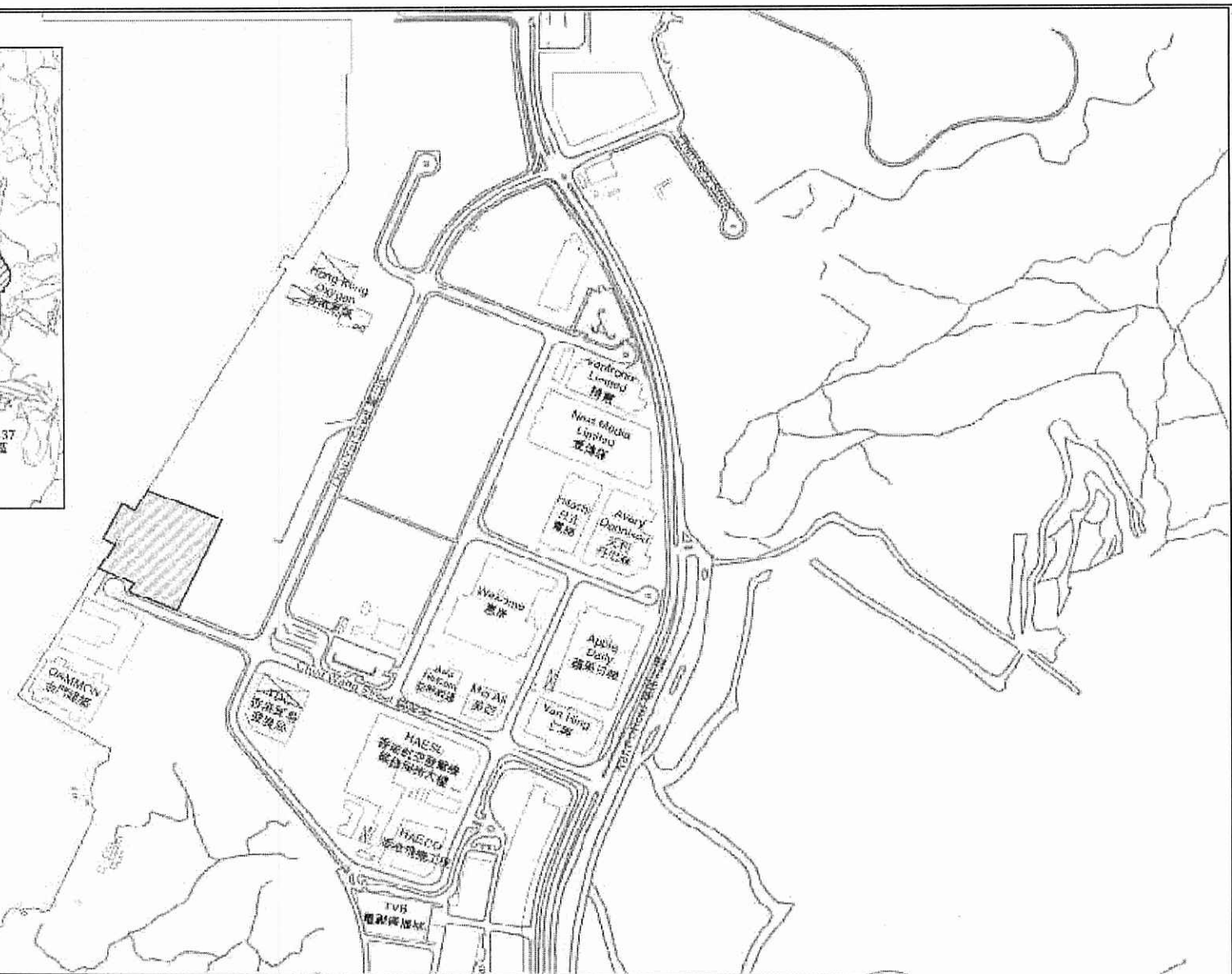
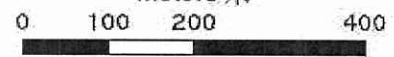


**Key 圖例**

 Proposed Site



Meters 米



Title Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Site Layout Plan

|       |        |             |        |
|-------|--------|-------------|--------|
| Scale | N.T.S  | Project No. | MA9021 |
| Date  | Jun-09 | Figure      | 1.1    |



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**APPENDIX A  
SITE AUDIT SUMMARY**

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*Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate*

**Monthly Site Inspection Record Summary**

**Inspection Information**

|                            |                            |
|----------------------------|----------------------------|
| Checklist Reference Number | 111220                     |
| Date                       | 20 December 2011 (Tuesday) |
| Time                       | 15:20 – 16:50              |

| Ref. No. | Non-Compliance | Related Item No. |
|----------|----------------|------------------|
| -        | None           | -                |

| Ref. No. | Remarks/Observations  | Related Item No. |
|----------|---|------------------|
|          | <p><b>A. Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>B. Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>C. Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>D. Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>E. Permit / Licenses</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>F. Reminders</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul> <p><b>G. Others</b></p> <p>Follow-up on previous audit section (Ref. No.:111124):</p> <ul style="list-style-type: none"> <li>All environmental deficiencies were improved/rectified by the Contractor.</li> </ul> |                  |

|             | Name        | Signature      | Date             |
|-------------|-------------|----------------|------------------|
| Recorded by | Felix Kwan  | <i>Felix</i>   | 20 December 2011 |
| Checked by  | Dr. HF Chan | <i>HF Chan</i> | 20 December 2011 |

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**APPENDIX B  
UPDATED ENVIRONMENTAL  
MITIGATION IMPLEMENTATION  
SCHEDULE**

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**Appendix B - Summary of Environmental Mitigation Implementation Schedule (Construction Phase)**

| Types of Impacts                 | Mitigation Measures   | Status   |
|----------------------------------|---|--|
| <p><b>Construction Dust</b></p>  | <ul style="list-style-type: none"> <li>• Dust control measures such as water spaying on roads and dusty areas, covering of lorries by impervious sheets and controlling of the falling height of fill materials will be implemented;</li> <li>• Effective dust screens, sheeting or netting will be provided to enclose the scaffolding from the ground level of the facility during the building construction;</li> <li>• All debris and materials will be covered or stored in a sheltered debris collection area;</li> <li>• Hoarding from ground level will be provided along the entire length of the site boundary except for a site entrance or exit;</li> <li>• Every stockpile of dusty materials will be covered entirely by impermeable sheeting or placed in an area sheltered on the top and the 3 sides;</li> <li>• Regular maintenance and checking of the diesel powered mechanical equipment will be adopted to avoid any black smoke emissions and to minimize gaseous emissions.</li> <li>• Monthly site audits will be conducted to ensure the implementation of suitable dust control measures and good site practices.</li> </ul> | <p>^</p> <p>N/A</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> |
| <p><b>Construction Noise</b></p> | <ul style="list-style-type: none"> <li>• Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction program;</li> <li>• Silencers or mufflers on construction equipment will be utilized and will be properly maintained during the construction program;</li> <li>• Mobile plant, if any, will be sited as far from NSRs as possible;</li> <li>• Machines and plant (such as trucks) that may be in intermittent use will be shut down between work periods or will be throttled down to a minimum;</li> <li>• Plant known to emit noise strongly in one direction will, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and</li> <li>• Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from onsite construction activities.</li> </ul>  | <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>            |

| Types of Impacts | Mitigation Measures  | Status           |
|------------------|--|------------------|
| Water Quality    | <u>Piling Activities</u> <ul style="list-style-type: none"> <li>Silt curtain will be installed around the marine piling area to contain any suspended mud and sediments generated during the piling works. Silt removal facilities such as silt traps or sedimentation facilities will be provided to remove silt particles from groundwater (if pumping is required) to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected monthly and maintained to ensure proper and efficient operation at all times and particularly during rainstorms.</li> </ul>   | N/A              |
|                  | <u>Construction Site Run-off and Drainage</u> <ul style="list-style-type: none"> <li>Silt removal facilities such as silt traps or sedimentation facilities will be provided to remove silt particles from runoff to meet the requirements of the TM standard under the WPCO. The design of silt removal facilities will be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures will be inspected monthly and maintained to ensure proper and efficient operation at all times and particularly during rainstorms.</li> <li>Careful programming of the works to minimise surface excavations for the construction works during the wet season. If excavation of soil cannot be avoided during the wet season, exposed slope surfaces will be covered by a tarpaulin or other means. Other measures that need to be implemented before, during, and after rainstorms are summarised in ProPECC PN 1/94.</li> <li>Exposed soil surfaces will be protected by paving or fill material as soon as possible to reduce the potential of soil erosion.</li> <li>Open stockpiles of construction materials or construction wastes on-site of more than 50m<sup>3</sup> will be covered with tarpaulin or similar fabric during rainstorms. These materials will not be placed near the seawall area.</li> </ul> | ^<br>^<br>^<br>^ |
|                  | <u>General Construction Activities</u> <ul style="list-style-type: none"> <li>Debris and refuse generated on-site will be collected, handled and disposed of properly to avoid entering the nearby water sensitive receivers (WSRs). Stockpiles of cement and other construction materials will be kept covered when not being used.</li> <li>Oils and fuels will only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas will be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund will be drained of rainwater after a rain event.</li> </ul>  | ^<br>^           |

| Types of Impacts                           | Mitigation Measures  | Status  |
|--|--|---|
|  | <p data-bbox="454 276 902 304"><u>Sewage generated from On-site Workforce</u></p> <ul data-bbox="499 336 1843 453" style="list-style-type: none"> <li data-bbox="499 336 1843 395">• Temporary sanitary facilities, such as portable chemical toilets, will be provided on-site. A specialised contractor will be responsible for regular collection and appropriate disposal of the sewage and maintenance of these facilities.</li> <li data-bbox="499 395 1843 453">• Monthly site inspections will be carried out during construction to ensure that the mitigation measures listed above are properly implemented. The site audit frequency will be increased to weekly intervals during the piling works.</li> </ul> | <p data-bbox="1899 336 1955 360">N/A</p> <p data-bbox="1910 395 1933 419">^</p> |
| <p data-bbox="297 507 387 536">Ecology</p> | <ul data-bbox="499 491 1843 576" style="list-style-type: none"> <li data-bbox="499 491 1843 576">• Mitigation measures for minimising water quality impacts are presented in detail above. These measures will be properly implemented and good construction practices will be adopted to minimise potential adverse impacts to marine ecological resources.</li> </ul>  | <p data-bbox="1910 504 1933 528">^</p>  |

Remarks: ^ Compliance of mitigation measure; X Non-compliance of mitigation measure;  
 N/A Not Applicable at this stage; • Non-compliance but rectified by the contractor;  
 \* Recommendation was made during site audit but improved/rectified by the contractor;  
 # Non-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

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**APPENDIX C  
WASTE GENERATION IN THE  
REPORTING MONTH**

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## Appendix C - Monthly Summary Waste Flow Table

**Biodiesel Plant Tseung Kwan O Project**  
**Reporting Month: December 2011**

| Month           | Actual Quantities of Inert C&D Materials Generated / Imported (in '000 m <sup>3</sup> ) |   |                                 |                                   |                                  |                       | Actual Quantities of Other C&D Materials / Wastes Generated |  |  |                            |   |
|-----------------|---|---|---------------------------------|-----------------------------------|----------------------------------|-----------------------|---|--|--|----------------------------|---|
|                 | Total Quantities Generated<br>[a+b+c+d]   | Broken Concrete (including rock for recycling into aggregates)<br>( a ) | Reused in the Contract<br>( b ) | Reused in Other Projects<br>( c ) | Disposed as Public Fill<br>( d ) | Imported C&D Material | Metal (in '000 kg)  | Paper/ cardboard packaging (in '000kg) | Plastics (bottles/containers, plastic sheets/ foams from package material) (in '000kg) | Chemical Waste (in '000kg) | Others (e.g. General Refuse etc.) (in '000m3) |
| January         |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| February        |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| March           |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| April           |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| May             |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| June            |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| Half-year Total |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| July            |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| August          |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| September       |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| October         |   |   |                                 |                                   |                                  |                       |   |  |  |                            |   |
| November        | 5.06  | 0   | 0                               | 0                                 | 5.06                             | 1.82                  | 0   | 0.01                                   | 0  | 0                          | 0.005   |
| December        | 0.00  | 0   | 0                               | 0                                 | 0.00                             | 0.08                  | 0   | 0.01                                   | 0  | 0                          | 0.005   |
| Yearly Total    | 5.06  | 0   | 0                               | 0                                 | 5.06                             | 1.90                  | 0   | 0.02                                   | 0  | 0                          | 0.010   |

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**APPENDIX D  
COMPLAINT LOG**

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**APPENDIX D – COMPLAINT LOG**

**Reporting Month:** December 2011

| <b>Log Ref.</b> | <b>Location</b> | <b>Received Date</b> | <b>Details of Complaint</b> | <b>Investigation/Mitigation Action</b> | <b>Status</b> |
|-----------------|-----------------|----------------------|-----------------------------|--|---------------|
| N/A             | N/A             | N/A                  | N/A                         | N/A                                    | N/A           |

**Remarks:** No environmental complaint was received in the reporting month.

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**APPENDIX E**  
**CONSTRUCTION PROGRAMME**

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# HEC CHINA HARBOUR ENGINEERING COMPANY LIMITED

| Activity ID   | Activity Name   | Duration | Start       | Finish    | 2011                             |          |          | 2012     |          |          |
|---|---|----------|-------------|-----------|----------------------------------|----------|----------|----------|----------|----------|
|   |   |          |             |           | Oct<br>-1                        | Nov<br>1 | Dec<br>2 | Jan<br>3 | Feb<br>4 | Mar<br>5 |
| <b>C270MC-3M-Rolling Programme Ver.1.0-(301211)</b>   |   |          |             |           |                                  |          |          |          |          |          |
| <b>Milestones</b>                                     |   |          |             |           |                                  |          |          |          |          |          |
| CHEC Subletting Works                                 |   |          |             |           | 30-Dec-11, CHEC Subletting Works |          |          |          |          |          |
| <b>Remaining Construction Works</b>                   |   |          |             |           |                                  |          |          |          |          |          |
| <b>1A - Administration Building</b>                   |   |          |             |           |                                  |          |          |          |          |          |
| Administration Building Structural and Builder's Work |   |          |             |           |                                  |          |          |          |          |          |
| A17000  | AB-Superstructure Construction Works upto +10.15mPD (1st Floor)   | 80       | 04-Nov-11 A | 05-Apr-12 |                                  |          |          |          |          |          |
| A17010  | AB-Superstructure Construction Works upto +14.17mPD (2nd Floor)   | 20       | 23-Jan-12   | 11-Feb-12 |                                  |          |          |          |          |          |
| A17020  | AB-Superstructure Construction Works upto +17.05mPD (Roof Floor)  | 13       | 12-Feb-12   | 24-Feb-12 |                                  |          |          |          |          |          |
| A17030  | AB-Superstructure Construction Remaining Works                    | 11       | 25-Feb-12   | 06-Mar-12 |                                  |          |          |          |          |          |
| A17040  | AB-Steel and Metal Works at MEK Room                              | 30       | 07-Mar-12   | 05-Apr-12 |                                  |          |          |          |          |          |
| A17440  | AB-Installation of roof waterproofing system works                | 30       | 07-Mar-12   | 05-Apr-12 |                                  |          |          |          |          |          |
| <b>AB-Electrical</b>                                  |   |          |             |           |                                  |          |          |          |          |          |
| A17130  | AB-BS Cable laying works(Electrical) 1st stage                    | 30       | 07-Mar-12   | 05-Apr-12 |                                  |          |          |          |          |          |
| <b>AB-Fire Services</b>                               |   |          |             |           |                                  |          |          |          |          |          |
| A17170  | AB-BS Piping works(Fire Services) 1st stage                       | 35       | 07-Mar-12   | 10-Apr-12 |                                  |          |          |          |          |          |
| <b>AB-Plumbing and Drainage</b>                       |   |          |             |           |                                  |          |          |          |          |          |
| A17110  | AB-BS Piping works (P&D) 1st stage                                | 40       | 07-Mar-12   | 15-Apr-12 |                                  |          |          |          |          |          |
| <b>AB-MVAC</b>  |   |          |             |           |                                  |          |          |          |          |          |
| A17150  | AB-BS Installation of piping and ducting works (MVAC)             | 70       | 07-Mar-12   | 15-May-12 |                                  |          |          |          |          |          |
| <b>1B - Process Building</b>                          |   |          |             |           |                                  |          |          |          |          |          |
| Processing Building Structural and Builder's Work     |   |          |             |           |                                  |          |          |          |          |          |
| A18090  | PB-Material procurement   | 60       | 04-Nov-11 A | 02-Jan-12 |                                  |          |          |          |          |          |
| A18100  | Primary support modification                                      | 60       | 04-Nov-11 A | 02-Jan-12 |                                  |          |          |          |          |          |
| A18110  | PB-Cladding wall for Processing Building                          | 31       | 03-Jan-12   | 02-Feb-12 |                                  |          |          |          |          |          |
| A18120  | PB-Cladding roof for Processing Building                          | 31       | 03-Feb-12   | 04-Mar-12 |                                  |          |          |          |          |          |
| <b>PB-Plumbing and Drainage</b>                       |   |          |             |           |                                  |          |          |          |          |          |
| A18010  | PB-BS Piping works(P&D) 1st stage                                 | 45       | 05-Mar-12   | 18-Apr-12 |                                  |          |          |          |          |          |
| <b>PB-Electrical</b>                                  |   |          |             |           |                                  |          |          |          |          |          |
| A18030  | PB-Cable laying works(Electrical) 1st stage                       | 45       | 05-Mar-12   | 18-Apr-12 |                                  |          |          |          |          |          |
| <b>PB-MVAC</b>  |   |          |             |           |                                  |          |          |          |          |          |
| A18060  | PB-BS Installation of piping and Ducting Works (MVAC)             | 90       | 05-Mar-12   | 02-Jun-12 |                                  |          |          |          |          |          |
| <b>PB-Fire Services</b>                               |   |          |             |           |                                  |          |          |          |          |          |
| A18070  | PB-BS piping works (Fire Services) 1st stage                      | 45       | 05-Mar-12   | 18-Apr-12 |                                  |          |          |          |          |          |
| <b>PB-Processing Works</b>                            |   |          |             |           |                                  |          |          |          |          |          |
| A17900  | PB-BDI Piping, Electrical, Insulation & Instrumentation Works     | 175      | 03-Jan-12   | 25-Jun-12 |                                  |          |          |          |          |          |
| <b>1B - Fat Preparation Building</b>                  |   |          |             |           |                                  |          |          |          |          |          |
| Fat Preparation Structural and Builder's Work         |   |          |             |           |                                  |          |          |          |          |          |
| A18510  | FP-RC superstructure construction works upto +10.4mPD (1st floor) | 60       | 04-Nov-11 A | 02-Jan-12 |                                  |          |          |          |          |          |

Actual Work  
 Remaining Work  
 Critical Remaining Work  
 Critical Milestone  
 Milestone  
 Summary

Proposed Biodiesel Plant at T.K.O.T. Lot 39 Main Contract for All Remaining Works

## 3 Months Rolling Programme (30 Dec 2011)

| Date      | Revision | Checked | Approved |
|-----------|----------|---------|----------|
| 02-Dec-11 |          |         |          |
| 16-Dec-11 |          |         |          |
| 30-Dec-11 |          |         |          |

# HEC CHINA HARBOUR ENGINEERING COMPANY LIMITED

| Activity ID  | Activity Name  | Duration | Start       | Finish    | 2011      |          |          | 2012     |          |          |
|--|--|----------|-------------|-----------|-----------|----------|----------|----------|----------|----------|
|  |  |          |             |           | Oct<br>-1 | Nov<br>1 | Dec<br>2 | Jan<br>3 | Feb<br>4 | Mar<br>5 |
| A18520   | FP-RC superstructure construction works upto +15.1mPD (2nd floor)  | 20       | 03-Jan-12   | 22-Jan-12 |           |          |          |          |          |          |
| A18530   | FP-RC superstructure construction works upto +20.0mPD (roof floor) | 5        | 23-Jan-12   | 27-Jan-12 |           |          |          |          |          |          |
| A18600   | FP-Fat Preparation Steel Works                                     | 30       | 28-Jan-12   | 26-Feb-12 |           |          |          |          |          |          |
| A18700   | FP-Cooling Tower Installation                                      | 62       | 11-Feb-12   | 12-Apr-12 |           |          |          |          |          |          |
| A19140   | FP-Installation of roof waterproofing system works                 | 30       | 28-Jan-12   | 26-Feb-12 |           |          |          |          |          |          |
| <b>FP-Processing Works</b>                                       |  | 29       | 27-Feb-12   | 26-Mar-12 |           |          |          |          |          |          |
| A18800   | FP-BDI Fat Prep. Equipment Installation Works                      | 29       | 27-Feb-12   | 26-Mar-12 |           |          |          |          |          |          |
| <b>1B - Boiler Room</b>  |  | 159      | 04-Nov-11 A | 17-Apr-12 |           |          |          |          |          |          |
| <b>Boiler Room Structural and Builder's Work</b>                 |  | 159      | 04-Nov-11 A | 17-Apr-12 |           |          |          |          |          |          |
| A19410   | BR-RC superstructure construction works 1st stage                  | 59       | 04-Nov-11 A | 01-Jan-12 |           |          |          |          |          |          |
| A19420   | BR-RC superstructure construction works 2nd stage                  | 16       | 02-Jan-12   | 17-Jan-12 |           |          |          |          |          |          |
| A19430   | BR-RC superstructure construction works 3rd stage                  | 7        | 18-Jan-12   | 24-Jan-12 |           |          |          |          |          |          |
| A19500   | BR-Boiler Room Steel Works   | 70       | 08-Feb-12   | 17-Apr-12 |           |          |          |          |          |          |
| A20140   | BR-Installation of roof waterproofing system works                 | 30       | 28-Jan-12   | 26-Feb-12 |           |          |          |          |          |          |
| <b>BR-Processing Works</b>                                       |  | 70       | 25-Jan-12   | 03-Apr-12 |           |          |          |          |          |          |
| A19600   | BR-BDI Boiler Room & Utility Equipment Installation Works          | 70       | 25-Jan-12   | 03-Apr-12 |           |          |          |          |          |          |
| <b>2A - Tank Farm</b>  |  | 121      | 30-Dec-11   | 28-Apr-12 |           |          |          |          |          |          |
| <b>Tank Farm 2A Structural and Builder's Work</b>                |  | 121      | 30-Dec-11   | 28-Apr-12 |           |          |          |          |          |          |
| A20430   | 2A-3rd pour concrete of Tank Farm 2A Footing                       | 31       | 30-Dec-11   | 29-Jan-12 |           |          |          |          |          |          |
| A20440   | 2A-Concreting works for RC pipe support wall                       | 22       | 21-Jan-12   | 11-Feb-12 |           |          |          |          |          |          |
| A20510   | 2A-Bund walls structural concrete works 1st stage                  | 39       | 12-Feb-12   | 21-Mar-12 |           |          |          |          |          |          |
| A20520   | 2A-Bund walls structural concrete works 2nd stage                  | 38       | 22-Mar-12   | 28-Apr-12 |           |          |          |          |          |          |
| A20610   | 2A-Erection of tanks in Tank Farm 2A 1st stage                     | 38       | 12-Feb-12   | 20-Mar-12 |           |          |          |          |          |          |
| A20620   | 2A-Erection of tanks in Tank Farm 2A 2nd stage                     | 38       | 21-Mar-12   | 27-Apr-12 |           |          |          |          |          |          |
| <b>2A - GTW Separation Room</b>                                  |  | 163      | 13-Dec-11 A | 13-May-12 |           |          |          |          |          |          |
| <b>GTWSR Structural and Builder's Work</b>                       |  | 132      | 13-Dec-11 A | 12-Apr-12 |           |          |          |          |          |          |
| A21220   | GTWSR-Excavation and dewatering system for ELS                     | 54       | 13-Dec-11 A | 04-Feb-12 |           |          |          |          |          |          |
| A21300   | GTWSR-Foundation Construction                                      | 37       | 05-Feb-12   | 12-Mar-12 |           |          |          |          |          |          |
| A21410   | GTWSR-Concreting works for GTWSR 1st Stage                         | 31       | 13-Mar-12   | 12-Apr-12 |           |          |          |          |          |          |
| <b>GTWSR-Processing Works</b>                                    |  | 62       | 13-Mar-12   | 13-May-12 |           |          |          |          |          |          |
| A21500   | GTWSR-Paques Process Equipment Installation Works                  | 62       | 13-Mar-12   | 13-May-12 |           |          |          |          |          |          |
| <b>2B-E Tank Farm</b>  |  | 78       | 21-Jan-12   | 07-Apr-12 |           |          |          |          |          |          |
| <b>Tank Farm 2B-2E Structural and Builder's Work</b>             |  | 78       | 21-Jan-12   | 07-Apr-12 |           |          |          |          |          |          |
| A22410   | 2BE-Bund wall concreting works 1st stage                           | 39       | 21-Jan-12   | 28-Feb-12 |           |          |          |          |          |          |
| A22420   | 2BE-Bund wall concreting works 2nd stage                           | 39       | 29-Feb-12   | 07-Apr-12 |           |          |          |          |          |          |
| <b>3 - Waste Water Treatment Plant</b>                           |  | 69       | 05-Feb-12   | 13-Apr-12 |           |          |          |          |          |          |
| <b>Waste Water Treatment Plant Structural and Builder's Work</b> |  | 69       | 05-Feb-12   | 13-Apr-12 |           |          |          |          |          |          |
| A23200   | WWTP-Foundation Construction                                       | 39       | 05-Feb-12   | 14-Mar-12 |           |          |          |          |          |          |
| A23310   | WWTP-Structural concreting works 1st pour                          | 30       | 15-Mar-12   | 13-Apr-12 |           |          |          |          |          |          |
| <b>4A - Jetty</b>  |  | 140      | 20-Dec-11 A | 07-Apr-12 |           |          |          |          |          |          |
| <b>Jetty Structural and Builder's Work</b>                       |  | 140      | 20-Dec-11 A | 07-Apr-12 |           |          |          |          |          |          |

Proposed Biodiesel Plant at T.K.O.T. Lot 39 Main Contract for All Remaining Works

## 3 Months Rolling Programme (30 Dec 2011)

|  |                         |  |                    |
|--|-------------------------|--|--------------------|
|  | Actual Work             |  | Critical Milestone |
|  | Remaining Work          |  | Milestone          |
|  | Critical Remaining Work |  | Summary            |

| Date      | Revision | Checked | Approved |
|-----------|----------|---------|----------|
| 02-Dec-11 |          |         |          |
| 16-Dec-11 |          |         |          |
| 30-Dec-11 |          |         |          |



# CHINA HARBOUR ENGINEERING COMPANY LIMITED

| Activity ID                                | Activity Name  | Duration | Start       | Finish    | 2011 |     |     | 2012 |     |     |
|--|--|----------|-------------|-----------|------|-----|-----|------|-----|-----|
|  |  |          |             |           | Oct  | Nov | Dec | Jan  | Feb | Mar |
|  |  |          |             |           | -1   | 1   | 2   | 3    | 4   | 5   |
| A24105                                     | 4A-Temporary works construction  | 58       | 20-Dec-11 A | 15-Feb-12 |      |     |     |      |     |     |
| A24120                                     | 4A-Construct upto 6 nos of Jetty Bored Piles                                   | 82       | 16-Feb-12   | 07-Apr-12 |      |     |     |      |     |     |
| <b>Pipe Bridge &amp; Pipe Trench Works</b> |  |          |             |           |      |     |     |      |     |     |
| A24910                                     | Erection of steel pipe racks at Tank Farm 2A                                   | 30       | 13-Jan-12   | 11-Feb-12 |      |     |     |      |     |     |
| A24920                                     | Erection of pipe bridge between Tank Farm 2A and Tank Farm 2B-2E               | 30       | 13-Jan-12   | 11-Feb-12 |      |     |     |      |     |     |
| A24930                                     | Erection of steel pipe racks at Tank Farm 2B-2E                                | 30       | 13-Jan-12   | 11-Feb-12 |      |     |     |      |     |     |
| A25000                                     | Pipe Bridge Between PB and FP  | 34       | 28-Jan-12   | 01-Mar-12 |      |     |     |      |     |     |
| <b>External Works</b>                      |  |          |             |           |      |     |     |      |     |     |
| A25200                                     | External Drainage Works. (Divided into 6 Areas)                                | 160      | 07-Mar-12   | 13-Aug-12 |      |     |     |      |     |     |
| A25210                                     | Storm water manhole works 1st stage  | 9        | 07-Mar-12   | 15-Mar-12 |      |     |     |      |     |     |
| A25220                                     | Storm water manhole works 2nd stage  | 31       | 16-Mar-12   | 15-Apr-12 |      |     |     |      |     |     |
| A25270                                     | Faul Water manhole and the pipe works between the manholes with the associated | 30       | 07-Mar-12   | 05-Apr-12 |      |     |     |      |     |     |

|  |                         |  |                    |
|--|-------------------------|--|--------------------|
|  | Actual Work             |  | Critical Milestone |
|  | Remaining Work          |  | Milestone          |
|  | Critical Remaining Work |  | Summary            |

Proposed Biodiesel Plant at T.K.O.T. Lot 39 Main Contract for All Remaining Works

## 3 Months Rolling Programme (30 Dec 2011)

| Date      | Revision | Checked | Approved |
|-----------|----------|---------|----------|
| 02-Dec-11 |          |         |          |
| 16-Dec-11 |          |         |          |
| 30-Dec-11 |          |         |          |