ASB Biodiesel (Hong Kong) Limited

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Monthly EM&A Report November 2012 (Version 1.0)

Man
v (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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Ms. Ivy Tam / Ms. Betty Choi	Fax:	3107 1388
Mr. Mark Cheung	Ref:	D1067/G05159
D1067	Total Pages:	1
	Mr. Mark Cheung	Mr. Mark Cheung Ref:

Dear Madam,

We refer to your submission of the Monthly EM&A Report for November 2012 via email dated 13 December 2012.

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

Regards, Mark Cheung Independent Environmental Checker KTČ/gk C

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EXECUTIVE SUMMARY

Introduction

- 1. This is the 42nd 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 November 2012.
- 2. The major site activities undertaken in the reporting month included:
 - General site cleaning and tidying.
 - Zone 1A Administration Building Finishing works.
 - Zone 1B Processing Building Cladding system installation works
 - Zone 1A Administration Building Windows, louver and doors installation works
 - Zone 1B Processing Building Windows, louver and doors installation works
 - Zone 1B Fat Preparation Building Fire paint works
 - Zone 1B Fat Preparation Building Windows, louver and doors installation works
 - Zone 1B Fat Preparation Building Finishing works
 - Zone 1B Steam Boiler Room Building Equipment installation works
 - Zone 1B Steam Boiler Room Building Steel platform erection works
 - Zone 1B Steam Boiler Room Building Cladding system installation works
 - Zone 2A Tank Farm Steel tank fabrication works
 - Zone 2A Tank Farm Tank sand blasting and painting works
 - Zone 2A Tank Farm Tank cladding installation works
 - Zone 2A GTWSR Equipment installation works
 - Zone 2B-2E Tank Farm Steel tank fabrication works
 - WWTP RC superstructure construction works
 - WWTP Equipment installation works
 - WWTP IC Reactor delivery and erection works
 - Jetty Bore piles installation works
 - Building Services P&D works
 - Building Services Fire Service works
 - Building Services MVAC works
 - Building Services Electrical works
 - Building Services Lift installation works
 - External Works Boundary wall construction works
 - External Works Storm water drainage works
 - External Works Foul water drainage works
 - External Works Fire Services pipes laying works
 - External Works Cable laying works
 - External Works Pavement 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. Environmental Permits No. EP-319/2009 and EP-319/2009/A were 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-RE0757-12), Wastewater Discharge License (WT00004508-2009), Notification of Works under APCO (337009) and Waste Discharge Account (7013917).

Key Information in the Reporting Month

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

Event	Event Details		Action Taken	Status	Remark	
Event	Number	Nature	Action Taken	Status	кетагк	
Complaint received	1	Noise nuisance	Communicated with complainant	Closed		
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 October 2012	Submitted to EPD on 15 November 2012	Verified by IEC		
Notifications of any summons & prosecutions	0		N/A	N/A		

Table ISummary Table for Key Information in the Reporting Month

Future Key Issues

- 6. Major site activities for the coming three months will include:
 - General site cleaning and tidying.
 - Zone 1A Administration Building Finishing works
 - Zone 1B Fat Preparation Building Finishing works
 - Zone 1B Steam Boiler Room Structural steel works
 - Zone 1B Steam Boiler Room ABWF works excluding windows, louvers and doors
 - Zone 1B Steam Boiler Room Cladding Roof Installation
 - Tank Farm 2A Tanks fabrication works
 - Tank Farm 2A Tank sand blasting and painting works
 - Tank Farm 2A Steel tanks cladding installation works
 - Tank Farm 2A GTWSR Equipment installation works
 - Tank Farm 2A GTWSR ABWF works excluding windows, louvers and doors
 - Tank Farm 2B-2E Tank fabrication works
 - Tank Farm 2B-2E Tank sand blasting and painting works
 - Tank Farm 2B-2E Finishing works

- WWTP Water proofing system installation works
- WWTP ABWF works excluding windows, louvers and doors
- Jetty Bore pile installation works
- Jetty Bore pile testing works
- Jetty Deck superstructure preparation works
- Pipe Bridge Pipe support construction works and pipe bridge erection works.
- Building Services Fire services works
- Building Services MVAC works
- Building Services Electrical works
- Building Services P&D works
- Building Services Lift installation works
- External Boundary wall construction works.
- External Works Storm water drainage works
- External Works Foul water drainage works
- External Works Plumbing laying works
- External Works Fire Services piping laying works
- External Works Cable laying works
- External Works Pavement works
- 7. The future environmental concerns are air quality, water 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 m³ 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 42nd Monthly EM&A report summarizing the EM&A works for the Project in November 2012.

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**.

Party	Role	Name	Position	Phone No.	Fax No.
ASB	Project Proponent	Ms. Sylvia Har	Senior Plant Engineer	9479 0949	3741 1661
		Dr. HF Chan	ET Leader	2151 2088	
Cinotech	Environmental Team	Ms. Ivy Tam	Project Coordinator	2151 2090	3107 1388
		Ms. Betty Choi	Audit Team Leader	2151 2072	
Mannings	Independent Environmental Checker	Mr. Mark Cheung	Independent Environmental Checker	3168 2028	
		Mr. Gavin Kwok	Assistant to Independent Environmental Checker	3168 2028	3168 2022
AECOM	Project Manager	Mr. Matthew Lau	Construction Manager	9363 5586	N/A
		Mr. Peter Chung	Project Manager	9471 2438	
CHEC	Contractor	Mr. Anson Wong	Safety and Environmental Officer	9656 3837	2623 9226
		Mr. Simon Li	Environmental Supervisor (Ass. Planning Engineer)	6152 7867	2023 9220

Table 1.1Key Project Contacts

Construction Programme

- 1.10 The site activities undertaken in the reporting month were:
 - General site cleaning and tidying.
 - Zone 1A Administration Building Finishing works.
 - Zone 1B Processing Building Cladding system installation works
 - Zone 1A Administration Building Windows, louver and doors installation works
 - Zone 1B Processing Building Windows, louver and doors installation works
 - Zone 1B Fat Preparation Building Fire paint works
 - Zone 1B Fat Preparation Building Windows, louver and doors installation works
 - Zone 1B Fat Preparation Building Finishing works
 - Zone 1B Steam Boiler Room Building Equipment installation works
 - Zone 1B Steam Boiler Room Building Steel platform erection works
 - Zone 1B Steam Boiler Room Building Cladding system installation works
 - Zone 2A Tank Farm Steel tank fabrication works
 - Zone 2A Tank Farm Tank sand blasting and painting works
 - Zone 2A Tank Farm Tank cladding installation works
 - Zone 2A GTWSR Equipment installation works
 - Zone 2B-2E Tank Farm Steel tank fabrication works
 - WWTP RC superstructure construction works
 - WWTP Equipment installation works
 - WWTP IC Reactor delivery and erection works
 - Jetty Bore piles installation works
 - Building Services P&D works
 - Building Services Fire Service works
 - Building Services MVAC works
 - Building Services Electrical works
 - Building Services Lift installation works
 - External Works Boundary wall construction works
 - External Works Storm water drainage works
 - External Works Foul water drainage works
 - External Works Fire Services pipes laying works
 - External Works Cable laying works
 - External Works Pavement 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 weekly 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 audits were conducted on 2nd, 7th, 14th, 21st and 28th November 2012 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.

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**.

Permit / License No.	Valid Period		Details	Status
From To		Details	Status	
Environmental Permit (E	CP)			
EP-319/2009/A	07/04/2009	N/A	Construction and operation of	Valid
			(i) a biochemical plant with a storage capacity of more than 500 tonnes and in which substances are processed and produced;	
			(ii) a storage, transfer and tran- shipment of oil facility with a storage capacity of not less than 1,000 tonnes; and	
			(iii) a dangerous goods godown with a storage capacity exceeding 500 tonnes.	
Registration of Chemical	Waste Produce	r		
WPN-5113-839-C1186-15	12/06/2009	-	Spent Lubrication oil.	Valid
Construction Noise Perm	it (CNP)			
GW-RE0757-12	21/09/2012	20/03/2013	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
Wastewater Discharge Li	cense			
WT00004508-2009	07/09/2009	-	Discharge of wastewater from construction site including wheel washing water and chemical precipitation tank	Valid
Billing Account for Dispo	sal of Construct	tion Waste		
A/C No.: 7013917	-	-	-	Valid
Notification of Works un	der APCO	<u> </u>		
Ref. no.: 337009	26/10/2011			Valid

Table 2.1Summary of Environmental Licensing and Permit Status

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**.

Parameters	Date	Observations and Recommendations	Follow-up
Water Quality	21/11/2012	A leakage at the connection of the silt curtain was found and Bentonite was observed outside the silt curtain. The integrity or the effectiveness of the silt curtain should be maintained.	Follow up action was taken by the Contractor.
	02/11/2012	Drip tray should be provided under oil/chemical container. Empty container should be stored at designated location.	Follow up action was taken by the Contractor.
Waste/Chemical Management	14/11/2012	Oil was observed on the seawater surface both within and outside the silt curtain. The oil leakage source should be identified and rectified. Oil above water should be removed.	The item was found outstanding during the site inspection and recorded as 121114-R01.
	21/11/2012	Oil was observed on the seawater surface both within and outside the silt curtain. The oil leakage source should be identified and rectified. Oil above water should be removed.	The item was found outstanding during the site inspection and recorded as 121128-R01.
	28/11/2012	Oil was observed on the seawater surface both within and outside the silt curtain. The oil leakage source should be identified and rectified. Oil above water should be removed.	Follow up action was taken by the Contractor.

Table 2.2Observations and Recommendations of Site Audit

Summary of Complaint and Prosecution

2.7 1 environmental related complaint was received in the reporting month. The detail can be found in the following table:

Complaint No.	Date	Complaint Details
COM- 2012-11- 005	23-11- 2012	A resident in Lohas Park complained about noise nuisance from the site at around 3:00 am. The chisel machine used in the jetty area was identified as the noise source. According to the Contractor, the machine was screened by enclosure. Although the machine was covered by valid CNP, the Contractor decided to carry out the corresponding work during 7:00 – 23:00. Contractor explained to the complainant that the bored piling will be completed in early December.

2.8 No prosecution or notification of summons was received in the reporting month.

2.9 Since the Project commencement, there were a total of 5 project-related environmental complaints. No prosecution or notification of summons was 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;
 - Accumulation of C&D waste and general waste on site; and
 - Suspended mud, sediment and potential leakage of bentonite slurry from marine piling work for jetty construction.
- 3.2 In November, bored pile installation was carried out in the jetty area. During the site inspection, silt curtain was erected as a mitigation measure. Bentonite was observed outside the silt curtain during the site inspection on 21 November 2012. The Contractor was reminded to check the integrity or the effectiveness of the silt curtain. The gap between buoys of the double-layer silt curtain was closed and no further leakage was found in the next inspection. Besides, oil was observed on the seawater surface both within and outside the silt curtain. The oil leakage source was identified and rectified. In the following process, any machines or equipments working on the jetty should be double checked for oil leakage and covered by canvas in case of raining. The process will be closely monitored by site staff and during site inspection to prevent leakage.

Construction Program for the Next Months

- 3.3 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.
 - Zone 1A Administration Building Finishing works
 - Zone 1B Fat Preparation Building Finishing works
 - Zone 1B Steam Boiler Room Structural steel works
 - Zone 1B Steam Boiler Room ABWF works excluding windows, louvers and doors
 - Zone 1B Steam Boiler Room Cladding Roof Installation
 - Tank Farm 2A Tanks fabrication works
 - Tank Farm 2A Tank sand blasting and painting works
 - Tank Farm 2A Steel tanks cladding installation works
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 - Tank Farm 2B-2E Tank sand blasting and painting works
 - Tank Farm 2B-2E Finishing works
 - WWTP Water proofing system installation works
 - WWTP ABWF works excluding windows, louvers and doors
 - Jetty Bore pile installation works

- Jetty Bore pile testing works
- Jetty Deck superstructure preparation works
- Pipe Bridge Pipe support construction works and pipe bridge erection works.
- Building Services Fire services works
- Building Services MVAC works
- Building Services Electrical works
- Building Services P&D works
- Building Services Lift installation works
- External Boundary wall construction works.
- External Works Storm water drainage works
- External Works Foul water drainage works
- External Works Plumbing laying works
- External Works Fire Services piping laying works
- External Works Cable laying works
- External Works Pavement works

4 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 4.1 Environmental audit works were conducted in the reporting month. Site inspections were conducted on a weekly basis. The results were reviewed and checked.
- 4.2 1 environmental complaint was received. There was no prosecution or notification of summons.

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.
- To set up silt curtain around marine piling work.
- To check the integrity of bore pile casing and connection pipes to prevent leakage.
- To monitor bentonite flow rate to prevent overflowing.
- To lower bentonite level in bored pile before concreting work.
- To check the integrity of the silt curtain and its effectiveness in preventing bentonite leakage to open water

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.

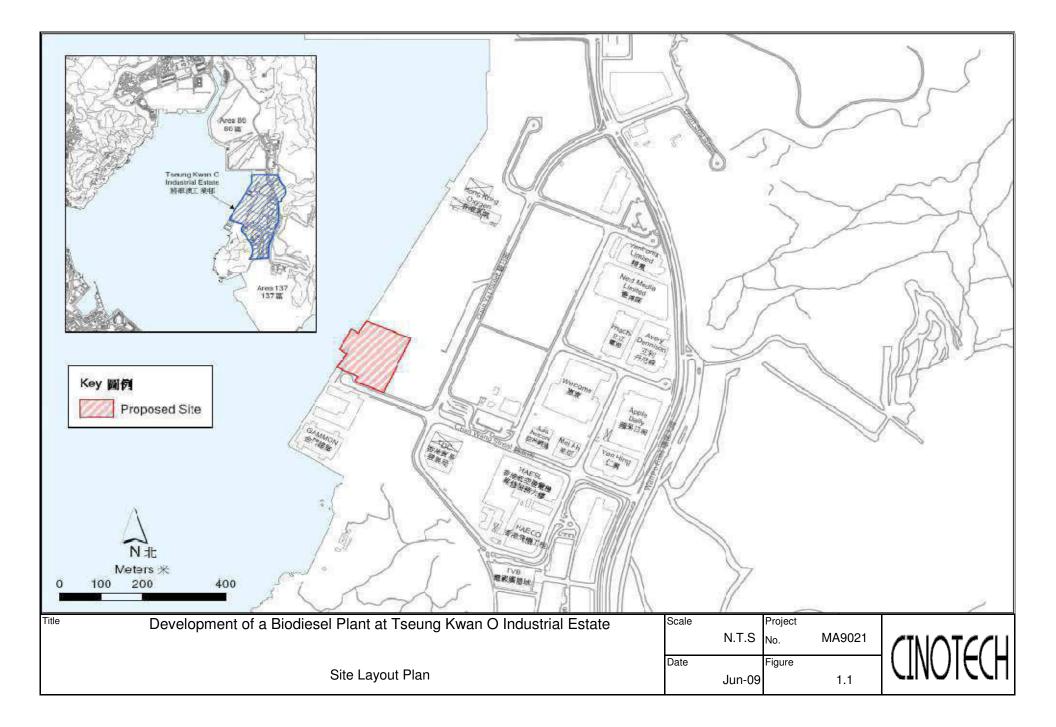
Noise Impact

- 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.

FIGURES



APPENDIX A SITE AUDIT SUMMARY

Inspection Information

-

Checklist Reference Number	121102	
Date	02 November 2012 (Friday)	
Time	16:15 - 16:45	

Ref. No. Non-Compliance

Related Item

		No.
None	i i i i i i i i i i i i i i i i i i i	 -

Related Item Ref. No. **Remarks/Observations** No. A. Water Quality N/A • A bit of bentonite was observed outside the steel casing of pipe, but they 121102-R02 don't escape outside the slit curtain. The steel casing of pipe should be sealed to prevent any leakage of bentonite. Otherwise some containers should be used to temporarily store the leaked bentonite for regular disposal. **B.** Air Quality • No environmental deficiency was identified during site inspection. C. Noise • No environmental deficiency was identified during site inspection. D. Waste / Chemical Management E2, E8 121102-R01 • Drip tray should be provided under oil/chemical container. Empty container should be stored at designated location. E. Permit / Licenses • No environmental deficiency was identified during site inspection. **F. Reminders** • No environmental deficiency was identified during site inspection. G. Others Follow-up on previous audit section (Ref. No.:121024): · Environmental deficiency 121024-R01 was not improved/rectified by the Contractor. It was remarked as 121102-R01 in this site inspection.

	Name	Signature	Date
Recorded by	KW Leung	Loung Kawing	05 November 2012
Checked by	Dr. HF Chan	yth	05 November 2012

Inspection Information		
Checklist Reference Number	121107	
Date	07 November 2012 (Wednesday)	
Time	16:45 - 17:15	

Ref. No. Non-Compliance

Related Item

ĺ

		<u>No.</u>
- 3	Jone	6 4

Ref. No.	Remarks/Observations	Related Item
		No.
	A. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	E. Permit / Licenses	
	• No environmental deficiency was identified during site inspection.	
	F. Reminders	
	• No environmental deficiency was identified during site inspection.	
	G. Others	
	Follow-up on previous audit section (Ref. No.:121102):	2
	 All environmental deficiencies were improved/rectified by the Contractor. 	

······································	Name	Signature	Date
Recorded by	KW Leung	Jenny Kawing	07 November 2012
Checked by	Dr. HF Chan	Ma	07 November 2012

Tuspection	Information
mapection	Annoi mation

Checklist Reference Number	121114
Date	14 November 2012 (Wednesday)
Time	16:15 - 17:00

Ref. No. Non-Compliance

Related Item

Related Item

,

		No
-	None	-

Ref. No. Remarks/Observations

		No.
	 A. Water Quality No environmental deficiency was identified during site inspection. 	
	B. Air QualityNo environmental deficiency was identified during site inspection.	
	C. NoiseNo environmental deficiency was identified during site inspection.	
121114 - R01	 D. Waste / Chemical Management Oil was observed on the seawater surface both within and outside the silt curtain. The oil leakage source should be identified and rectified. Oil above water should be removed. 	E7
	E. Permit / LicensesNo environmental deficiency was identified during site inspection.	
	F. RemindersNo environmental deficiency was identified during site inspection.	
	G. Others Follow-up on previous audit section (Ref. No.:121107):	
	• No environmental deficiency was identified in the last site inspection.	

	Name	Signature	Date
Recorded by	Betty Choi	Betyn	15 November 2012
Checked by	Dr. HF Chan	Thi	15 November 2012
	•		

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Monthly Site Inspection Record Summary

Inspection Information		
Checklist Reference Number	121121	
Date	21 November 2012 (Wednesday)	
Time	16:00 - 16:30	

Ref. No. Non-Compliance

Related Item

Related Item

		No.
-	None	-

Ref. No. Remarks/Observations

		<u>No.</u>
121121 – R02	 A. Water Quality No environmental deficiency was identified during site inspection. 	N/A
	B. Air QualityNo environmental deficiency was identified during site inspection.	
	C. NoiseNo environmental deficiency was identified during site inspection.	
	 D. Waste / Chemical Management Oil was observed on the seawater surface both within and outside the silt curtain. The oil leakage source should be identified and rectified. Oil above water should be removed. 	
121121 – R01	 E. Permit / Licenses No environmental deficiency was identified during site inspection. 	E7
	F. RemindersNo environmental deficiency was identified during site inspection.	
	 G. Others Follow-up on previous audit section (Ref. No.:121114): No environmental deficiency was identified in the last site inspection. 	

	Name Signature		Date
Recorded by	Leung Ka Wing	Leung bang	23 November 2012
Checked by	Dr. HF Chan	Than	23 November 2012

Inspection Information	
Checklist Reference Number	121128
Date	28 November 2012 (Wednesday)
Time	16:15 - 16:45

Ref. No. Non-Compliance.

Related Item

Related Item

		No.
-	None	-

Ref. No. Remarks/Observations

Nel , 140,	Remarks/Observations	No.
	 A. Water Quality No environmental deficiency was identified during site inspection. 	
	B. Air QualityNo environmental deficiency was identified during site inspection.	
	C. NoiseNo environmental deficiency was identified during site inspection.	
121128 – R01	 D. Waste / Chemical Management Oil was observed on the seawater surface both within and outside the silt curtain. The oil leakage source should be identified and rectified. Oil above water should be removed. 	E7
	 E. Permit / Licenses No environmental deficiency was identified during site inspection. 	
	F. RemindersNo environmental deficiency was identified during site inspection.	
	 G. Others Follow-up on previous audit section (Ref. No.:121121): Environmental deficiency 121121-R01 was not improved/rectified by the Contractor. It was remarked as 121128-R01 in this site inspection. 	
	• Environmental deficiency 121121-R02 was improved/rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Leung Ka Wing	Loungking	29 November 2012
Checked by	Dr. HF Chan	Than	29 November 2012

APPENDIX B UPDATED ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE

Types of Impacts	Mitigation Measures	Status
	• 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;	^
	• Effective dust screens, sheeting or netting will be provided to enclose the scaffolding from the ground level of the facility during the building construction;	^
	• All debris and materials will be covered or stored in a sheltered debris collection area;	^
Construction	• Hoarding from ground level will be provided along the entire length of the site boundary except for a site entrance or exit;	^
Dust	• 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;	^
	• Regular maintenance and checking of the diesel powered mechanical equipment will be adopted to avoid any black smoke emissions and to minimize gaseous emissions.	
	 Monthly site audits will be conducted to ensure the implementation of suitable dust control measures and good site practices. 	^
	• Wonding site addits will be conducted to ensure the implementation of suitable dust control measures and good site practices.	^
	• Only well-maintained plant will be operated on-site and plant will be serviced regularly during the construction program;	٨
	• Silencers or mufflers on construction equipment will be utilized and will be properly maintained during the construction	
	program;	^
	• Mobile plant, if any, will be sited as far from NSRs as possible;	^
Construction	• 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;	^
Noise	• 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	^
	• Material stockpiles and other structures will be effectively utilised, wherever practicable, in screening noise from onsite construction activities.	^

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

Compliance of mitigation measure; Remarks: ^

- 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;
Mon-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

Types of Impacts	Mitigation Measures	Status
	 <u>Piling Activities</u> 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. <u>Construction Site Run-off and Drainage</u> 	*
Water Quality	 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. 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. Exposed soil surfaces will be protected by paving or fill material as soon as possible to reduce the potential of soil erosion. Open stockpiles of construction materials or construction wastes on-site of more than 50m³ will be covered with tarpaulin or similar fabric during rainstorms. These materials will not be placed near the seawall area. 	^ ^ ^
	 <u>General Construction Activities</u> 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. 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. 	^

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;
Mon-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

Types of Impacts	Mitigation Measures						
	Sewage generated from On-site Workforce						
	 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. 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. 	^					
Ecology	 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. 	۸					

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;
Mon-compliance but rectified/improved by the contractor and awaiting IEC's further comment.

APPENDIX C WASTE GENERATION IN THE REPORTING MONTH

	Actual Quantities of Inert C&D Materials Generated / Imported (in '000 m ³)							Actual Quantities of Other C&D Materials / Wastes Generated			
Month	Total Quantities Generated [a+b+c+d]	Broken Concrete (including rock for recycling into aggregates) (a)	Reused in the Contract (b)	Reused in Other Projects (c)	Disposed as Public Fill (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	0.048	0	0	0	0.048	0.949	0	0.001	0	0	0.005
February	0.087	0	0	0	0.087	0	0	0.001	0	0	0.005
March	0.022	0	0	0	0.022	0	0	0.001	0	0	0.003
April	0.042	0	0	0	0.042	0.583	0	0.001	0	0	0.004
May	0.090	0	0	0	0.090	0	0	0.001	0	0	0.005
June	0	0	0	0	0	0	0	0.001	0	0	0.004
Half-year Total	0.289	0	0	0	0.289	1.532	0	0.006	0	0	0.026
July	0.050	0	0	0	0.050	0	0	0.001	0	0	0.005
August	0.013	0	0	0	0.013	0	0	0.001	0	0	0.006
September	0.072	0	0	0	0.072	0	0	0.001	0	0	0.003
October	0.146	0	0	0	0.146	0	0	0.001	0	0	0.006
November	0.912	0	0	0	0.912	0	0	0.001	0	0	0.004
December											
Yearly Total											

APPENDIX D COMPLAINT LOG

APPENDIX D – COMPLAINT LOG

Reporting Month: November 2012

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
COM- 2012- 08-001	Jetty Area	28-08- 2012	A resident in Lohas Park complained about noise nuisance from the site.	Investigation by EPD identified the source to be chiselling work at the jetty area. Although the chisel machines were covered by valid CNP, the Contractor decided to suspend the corresponding work during restricted hours. The machine was later covered by sound proof canvas to minimize noise transmission. Subsequent inspection and noise measurement by the EPD on 3 rd September 2012 concluded that the noise reduction measure was effective and acceptable at Lohas Park.	Closed
COM- 2012- 09-002	Jetty Area	07-09- 2012	A resident in Lohas Park complained about noise nuisance from the site.	Investigation by EPD identified the source to be chiselling work at the jetty area. Only one chisel machine was operated on the day of complain and it was screened by sound proof canvas. Although the machine was covered by valid CNP, the Contractor decided to suspend the corresponding work during restricted hours during investigation period. Subsequent inspection and noise measurement (daytime at site, night time at Lohas Park) by the EPD on 12 th September 2012 concluded that the noise levels were acceptable at Lohas Park.	Closed
COM- 2012- 09-003	Jetty Area	27-09- 2012	A resident in Lohas Park complained about noise nuisance from the site.	The chisel machine used at JP3 of the jetty area was identified as the noise source. According to the Contractor, the machine was screened by sound proof canvas. Although the machine was covered by valid CNP, the Contractor decided to carry out the corresponding work during normal operation hours only. This was agreed with the complainant in Lohas Park.	Closed
COM- 2012- 09-004	Not Specified	04-10- 2012	A resident in Lohas Park complained about noise nuisance from the site at	According to the Contractor, only one drilling machine and chiselling machine were in use, which were covered by valid CNP. We advised the Contractor to communicate with the residents in Lohas Park given consistent	Closed

ASB Biodiesel (Hong Kong) Limited

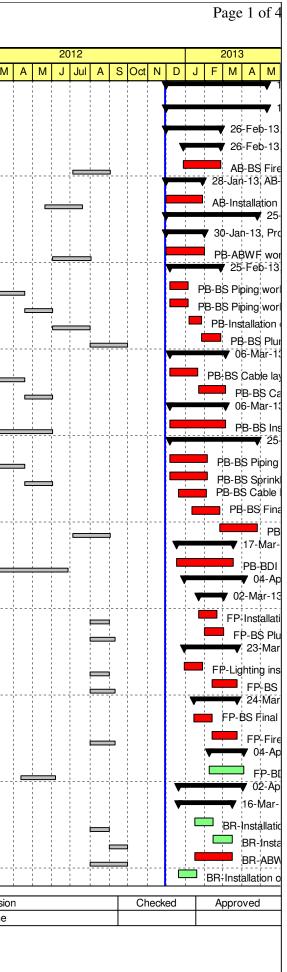
Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate Monthly EM&A Report for November 2012

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			11:18pm.	noise complains. The Contractor explained to the complainant that chiselling work will stop at 11pm every day and start after 10am during weekends to minimize noise nuisance. Further in November, a noise enclosure was erected to cover the noisy part of the chiselling machine.	
COM- 2012- 11-005	Jetty Area	23-11- 2012	A resident in Lohas Park complained about noise nuisance from the site at around 3:00 am.	The chisel machine used of the jetty area was identified as the noise source. According to the Contractor, the machine was screened by enclosure. Although the machine was covered by valid CNP, the Contractor decided to carry out the corresponding work during 7:00 – 23:00. Contractor explained to the complainant that the bored piling will be completed in early December.	Closed

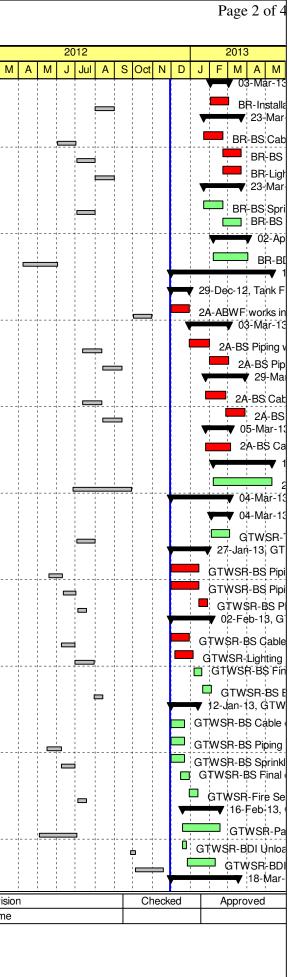
Remarks: N/A

APPENDIX E CONSTRUCTION PROGRAMME

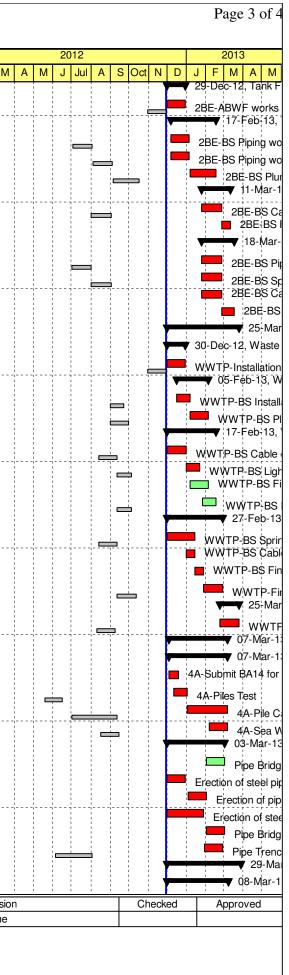
rity ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complet	Delay from Initial	Total Float	NI	J J	F M
C270MC-3M	- -Rolling Programme Ver.2.0 (301112)	03-Jan-12	12-Dec-12	162	30-Nov-12	10-May-13		-149	325			<u> </u>
Remaining (Construction Works	03-Jan-12	12-Dec-12	162	30-Nov-12	10-May-13		-149	325			
1A - Administr		21-May-12		89	30-Nov-12	26-Feb-13		-177	-106			
AB-Fire Servic			02-Sep-12			26-Feb-13		-177	-106			
AD-T life Servic	AB-BS Fire Service Testing	05-00-12 05-Jul-12	02-Sep-12 02-Sep-12	60	28-Dec-12	26-Feb-13		-177	-106			
AB-Plumbing	-	21-May-12	19-Jul-12	60	30-Nov-12	28-Jan-13		-193	-131			
A17155	AB-Installation of sanitary fittings	21-May-12 21-May-12	19-Jul-12	60	30-Nov-12	28-Jan-13		-193	-131			
1B - Process			30-Sep-12	147	30-Nov-12	25-Jan-13 25-Apr-13	0 /8	-193	-134	-		
	ilding Structural and Builder's Work	03-Jun-12			30-Nov-12	30-Jan-13		-180	-174			
A18230	PB-ABWF works excluding windows, louvers and doors		03-Aug-12	62	30-Nov-12	30-Jan-13	0%	-180	-174			
PB-Plumbing	-	05-001-12 05-Mar-12		81	07-Dec-12	25-Feb-13		-148	-174			
A18010		05-Mar-12 05-Mar-12			07-Dec-12 07-Dec-12	ļ	0%	-148				
	PB-BS Piping works (Plumbing)		18-Apr-12	30		05-Jan-13			-105	_		
A18020	PB-BS Piping works (Drainage)	19-Apr-12	02-Jun-12	30	07-Dec-12	05-Jan-13	0%	-217	-105	_		
A18025	PB-Installation of sanitary fittings	03-Jun-12	01-Aug-12	21	06-Jan-13	26-Jan-13	0%	-178	-105	_		
A18300	PB-BS Plumbing and Drainage Testing	02-Aug-12	30-Sep-12	30	27-Jan-13	25-Feb-13	0%	-148	-105	.		
PB-Electrical		05-Mar-12	02-Jun-12		07-Dec-12	06-Mar-13		-277	-174			
A18030	PB-BS Cable laying works(Electrical) 1st stage	05-Mar-12	18-Apr-12	45	07-Dec-12	20-Jan-13	0%	-277	-174			
A18040	PB-BS Cable laying works(Electrical) 2nd stage	19-Apr-12	02-Jun-12	45	21-Jan-13	06-Mar-13	0%	-277	-174			
PB-MVAC		05-Mar-12		90	07-Dec-12	06-Mar-13		-277	-84			
A18060	PB-BS Installation of piping and Ducting Works (MVAC)	05-Mar-12	02-Jun-12	90	07-Dec-12	06-Mar-13		-277	-84			
PB-Fire Servic	es	05-Mar-12	02-Sep-12	140	07-Dec-12	25-Apr-13		-235	-134			
A18070	PB-BS Piping installation works (Fire Services)	05-Mar-12	18-Apr-12	60	07-Dec-12	04-Feb-13	0%	-292	-134			
A18080	PB-BS Sprinkler installation works (Fire Services)	19-Apr-12	02-Jun-12	60	07-Dec-12	04-Feb-13	0%	-247	-134			
A18081	PB-BS Cable laying works			45	21-Dec-12	03-Feb-13	0%		-134			
A18082	PB-BS Final connection works			45	11-Jan-13	24-Feb-13	0%		-134			
A18400	PB-Fire Service Testing	05-Jul-12	02-Sep-12	60	25-Feb-13	25-Apr-13	0%	-235	-134			
PB-Processing	Works	03-Jan-12	26-Jun-12	90	18-Dec-12	17-Mar-13		-264	-107			
A17900	PB-BDI Pipe insulation, Process Electrical & Instrumentation	on Works 03-Jan-12	26-Jun-12	90	18-Dec-12	17-Mar-13	0%	-264	-107			
B - Fat Prepa	ration Building	13-Apr-12	10-Sep-12	97	29-Dec-12	04-Apr-13		-206	225			
FP-Plumbing		02-Aug-12	10-Sep-12	40	21-Jan-13	02-Mar-13		-173	-110			
A19055	FP-Installation of sanitary fittings		31-Aug-12			20-Feb-13	0%	-173	-110			
A19200	FP-BS Plumbing and Drainage Testing	-	10-Sep-12	30	31-Jan-13	02-Mar-13	0%	-173	-110	-		
FP-Electrical		02-Aug-12			29-Dec-12	23-Mar-13		-194	-101			
A19050	FP-Lighting installation works		31-Aug-12	30	29-Dec-12	27-Jan-13	0%	-149	-101			
A19090	FP-BS Electrical Testing	02-Aug-12	10-Sep-12	40	12-Feb-13	23-Mar-13	0%	-194	-101	-		
FP-Fire Servic	-	02-Aug-12			14-Jan-13	24-Mar-13		-195	-102			
A19160	P-BS Final connection works (Fire Services)		10-060-12	30	14-Jan-13	12-Feb-13		-135	-102			
A19300	FP-Fire Service Testing	02 Aug 12	10-Sep-12	40	13-Feb-13	24-Mar-13	0%	-195	-102	-		
	-											
FP-Processing		13-Apr-12			08-Feb-13	04-Apr-13		-301	225			
A18900	FP-BDI Pipe insulation, Process Electrical & Instrumentation	-	07-Jun-12	56	08-Feb-13	04-Apr-13	0%	-301	225	_		
1B - Boiler Ro			30-Sep-12	104	20-Dec-12	02-Apr-13		-184	363			
	Structural and Builder's Work		30-Sep-12	86	20-Dec-12	16-Mar-13		-166	18			
A20110	BR-Installation of windows, louvers and doors 1st stage		31-Aug-12	30	15-Jan-13	14-Feb-13		-166	-13			
A20120	BR-Installation of windows, louvers and doors 2nd stage		30-Sep-12	30	14-Feb-13	16-Mar-13		-166	16			
A20130	BR-ABWF works excluding windows, louvers and doors	02-Aug-12	30-Sep-12	60	15-Jan-13	16-Mar-13	0%	-166	-132			
A20140	BR-Installation of roof waterproofing system works	21-Jan-12	19-Feb-12	30	20-Dec-12	19-Jan-13	0%	-334	74			<u> </u>
								Date			P	Revisio
BL	Milestone	Proposed Bio-Diesel Plant at T.K.O. L	Proposed Bio-Diesel Plant at T.K.O. Lot 39 Main Contract for All Remaining Works								Progra	
Actual Wo	-										, ogi a	
Remaining		5 Wonth Kolling Prog	gramme (3	ou movemb	er 2012)							
Critical Re	maining Work											
	maining Work	3 Month Rolling Prog	gramme (3	ou Novemb	er 2012)							



y ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complete	Delay e from Initial	Total Float	ND	JF
BR-Plumbin	ng and Drainage	02-Aug-12	31-Aug-12	30	01-Feb-13	03-Mar-13		-184	-132		
A20055	BR-Installation of sanitary fittings	02-Aug-12	31-Aug-12	30	01-Feb-13	03-Mar-13	0%	-184	-132		
BR-Electrica	al	03-Jun-12	31-Aug-12	60	22-Jan-13	23-Mar-13		-203	-131		
A20030	BR-BS Cable laying works(Electrical) 1st stage	03-Jun-12	02-Jul-12	30	22-Jan-13	21-Feb-13	0%	-233	-131		
A20040	BR-BS Cable laying works(Electrical) 2nd stage	03-Jul-12	01-Aug-12	30	21-Feb-13	23-Mar-13	0%	-233	-131		
A20050	BR-Lighting installation works	02-Aug-12	31-Aug-12	30	21-Feb-13	23-Mar-13	0%	-203	-131		
BR-Fire Serv	vices	03-Jul-12	01-Aug-12	60	22-Jan-13	23-Mar-13		-233	-51		
A20080	BR-BS Sprinkler installation works(Fire Services)	03-Jul-12	01-Aug-12	30	22-Jan-13	21-Feb-13	0%	-203	-51		
A20100	BR-BS Cable laying works (Fire Services)			30	21-Feb-13	23-Mar-13	0%		-51		
BR-Process	ing Works	08-Apr-12	03-Jun-12	56	06-Feb-13	02-Apr-13		-304	363		
A19700	BR-BDI Pipe insulation, Process Electrical & Instrumentation	on Works 08-Apr-12	03-Jun-12	56	06-Feb-13	02-Apr-13	0%	-304	363		
A - Tank Fa	arm	26-Jun-12	30-Oct-12	162	30-Nov-12	10-May-13		-192	-71		
Tank Farm 2	2A Structural and Builder's Work	01-Oct-12	30-Oct-12	30	30-Nov-12	29-Dec-12		-60	-125		
A21100	2A-ABWF works in Tank Farm 2A	01-Oct-12	30-Oct-12	30	30-Nov-12	29-Dec-12	0%	-60	-125		
A-Plumbin	g and Drainage	12-Jul-12	13-Sep-12	64	30-Dec-12	03-Mar-13		-171	-125	· i	
A20810	2A-BS Piping works(Plumbing) 1st Stage	12-Jul-12	12-Aug-12	32	30-Dec-12	30-Jan-13	0%	-171	-125		
A20820	2A-BS Piping works(Plumbing) 2nd stage	13-Aug-12	U	32	31-Jan-13	03-Mar-13	0%	-171	-125		
A-Electrica		12-Jul-12	-		25-Jan-13	29-Mar-13		-197	-131		
A20830	2A-BS Cable laying works stage 1 (Electrical)	12-Jul-12	12-Aug-12	32	25-Jan-13	25-Feb-13	0%	-197	-131		
A20840	2A-BS Cable laying works stage 2 (Electrical)	13-Aug-12	-	32	26-Feb-13	29-Mar-13	0%	-197	-131		
2A-Fire Serv				40	25-Jan-13	05-Mar-13		107	-144		
A20880	2A-BS Cable laying works(Fire Services)			40	25-Jan-13	05-Mar-13	0%		-144		
2A-Processi		26. lun-12	28-Sep-12	94	06-Feb-13	10-May-13		-224	-71		
A20700	2A-BDI Pipe insulation, Process Electrical & Instrumentatio			94	06-Feb-13	10-May-13	0%	-224	-71		
	eparation Room	05-May-12		95	30-Nov-12	04-Mar-13	070	-107	290		
	uctural and Builder's Work		01-Aug-12	30	03-Feb-13	04-Mar-13		-215	290		
A22100	GTWSR-Testing for Ventilation System (odour test)	03-Jul-12		30	03-Feb-13	04-Mar-13	0%	-215	290		
	mbing and Drainage	19-May-12		59	30-Nov-12	27-Jan-13		-193	-76		
A21910	GTWSR-BS Piping works(Plumbing)	19-May-12		45	30-Nov-12	13-Jan-13	0%	-217	-76		
A21920	GTWSR-BS Piping works(Drainage)	11-Jun-12	02-Jul-12	45	30-Nov-12	13-Jan-13	0%	-195	-76		
A21920	GTWSR-BS Plumbing and Drainage Testing	05-Jul-12	18-Jul-12	43	14-Jan-13	27-Jan-13	0%	-193	-76		
GTWSR-Elec			13-Aug-12			02-Feb-13		-193	-76		
A21940	GTWSR-BS Cable exposed conduits laying works(Electric			30	30-Nov-12 30-Nov-12	29-Dec-12	0%	-174	-97		
A21940 A21950	GTWSR-BS Cable exposed conduits laying works (Electric	30-Jun-12	30-Jul-12	30	07-Dec-12	05-Jan-13	0%	-160	-97	-	
	GTWSR-Eighting installation works	30-Juli-12	30-Jul-12					-160	-52		
A21951		00.1.1.10	10 Aug 10	14	06-Jan-13	19-Jan-13	0%	174		-	
A21980	GTWSR-BS Electrical Testing	30-Jul-12 16-May-12	13-Aug-12 18-Jul-12	14 44	20-Jan-13	02-Feb-13	0%	-174	-52 -31		
GTWSR-Fire			18-JUI-12		30-Nov-12	12-Jan-13		-178			
A21959	GTWSR-BS Cable exposed conduits laying works(Fire Second and Secon		00 hun 10	23	30-Nov-12	22-Dec-12	0%	100	-31	-	
A21960	GTWSR-BS Piping installation works(Fire Services)	16-May-12	08-Jun-12	23	30-Nov-12	22-Dec-12	0%	-198	-31		
A21970	GTWSR-BS Sprinkler installation works(Fire Services)	08-Jun-12	30-Jun-12	23	30-Nov-12	22-Dec-12	0%	-176	-31	-	
A22020	GTWSR-BS Final connection		10 1.10	14	16-Dec-12	29-Dec-12	0%	170	-31		
A22300	GTWSR-Fire Service Testing	05-Jul-12	18-Jul-12	14	30-Dec-12	12-Jan-13	0%	-178	-31		-
	cessing Works	05-May-12	18-Nov-12		19-Dec-12	16-Feb-13		-91	272		
A21600	GTWSR-Paques Piping, Electrical, Insulation & Instrumen	-		60	19-Dec-12	16-Feb-13	0%	-228	-48		
A21700	GTWSR-BDI Unloading Equipment Installation Works	27-Sep-12	04-Oct-12	7	19-Dec-12	25-Dec-12	0%	-83	280		
A21800	GTWSR-BDI Piping, Electrical, Insulation & Instrumentation			45	26-Dec-12	08-Feb-13	0%	-83	280		
2B-E Tank F	farm	01-Jul-12	29-Nov-12	109	30-Nov-12	18-Mar-13		-109	-126		
BL	♦ Milestone	Proposed Bio-Diesel Plant at T.K.O. L	ot 39 Main C	Contract for A	Il Remaining V	Works	_	Date			
Actual V		•			6		3	0-Nov-12	3 Month	Rolling	Progr
	ning Work	3 Month Rolling Prog	3 Month Rolling Programme (30 November 2012)								
	Remaining Work	8	. (-		/						
	tomaning tront										



ty ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complete	Delay from Initial	Total Float	N D	JFM
Tank Farm 2	B-2E Structural and Builder's Work	31-Oct-12	29-Nov-12	30	30-Nov-12	29-Dec-12		-30	-97		
A23100	2BE-ABWF works in Tank Farm 2B-2E	31-Oct-12	29-Nov-12	30	30-Nov-12	29-Dec-12	0%	-30	-97		
Tank Farm 2	B-2E-Plumbing and Drainage	03-Jul-12	17-Oct-12	73	07-Dec-12	17-Feb-13		-123	-97		
A22810	2BE-BS Piping works(Plumbing)	03-Jul-12	03-Aug-12	30	07-Dec-12	05-Jan-13	0%	-155	-97		
A22820	2BE-BS Piping works(Drainage)	04-Aug-12	04-Sep-12	30	07-Dec-12	05-Jan-13	0%	-123	-97		
A22900	2BE-BS Plumbing and Drainage Testing	05-Sep-12	17-Oct-12	43	06-Jan-13	17-Feb-13	0%	-123	-97		
Tank Farm 2	B-2E-Electrical	02-Aug-12	02-Sep-12	46	25-Jan-13	11-Mar-13		-190	-120		
A22840	2BE-BS Cable exposed conduits laying works(Electrical)	02-Aug-12	02-Sep-12	32	25-Jan-13	25-Feb-13	0%	-176	-120		
A22841	2BE-BS Final connection works(Electrical)			14	26-Feb-13	11-Mar-13	0%		-120		
Tank Farm 2	B-2E-Fire Services	01-Jul-12	02-Sep-12	53	25-Jan-13	18-Mar-13		-197	-136		
A22850	2BE-BS Piping installation works(Fire Services)	01-Jul-12	01-Aug-12	32	25-Jan-13	25-Feb-13	0%	-208	-136		
A22860	2BE-BS Sprinkler installation works(Fire Services)	02-Aug-12	02-Sep-12	32	25-Jan-13	25-Feb-13	0%	-176	-136		
A22880	2BE-BS Cable laying works(Fire Services)		· · ·	32	25-Jan-13	25-Feb-13	0%		-136	+	
A22890	2BE-BS Final connection works(Fire Services)			21	26-Feb-13	18-Mar-13	0%		-136		
3 - Waste Wa	ter Treatment Plant	10-Aug-12	29-Nov-12	115	30-Nov-12	25-Mar-13		-116	-103		
	Treatment Plant Structural and Builder's Work		29-Nov-12	30	30-Nov-12	30-Dec-12		-31	-121		
A24020	WWTP-Installation of windows, louvers and doors		29-Nov-12	30	30-Nov-12	30-Dec-12	0%	-31	-121		
	bing and Drainage	01-Sep-12		52	15-Dec-12	05-Feb-13	070	-128	-85		
A23655	WWTP-BS Installation of sanitary fittings		22-Sep-12	22	15-Dec-12	06-Jan-13	0%	-126	-85		
A23800	WWTP-BS Plumbing and Drainage Testing	· ·	30-Sep-12	30	06-Jan-13	05-Feb-13	0%	-128	-85	-	
WWTP-Elect			· ·	78		17-Feb-13	0%	-126	-65		
_		13-Aug-12			01-Dec-12		00/				
A23640	WWTP-BS Cable exposed conduits laying works (Electrical)	13-Aug-12	· · ·	30	01-Dec-12	31-Dec-12	0%	-110	-91		
A23650	WWTP-BS Lighting installation works	12-Sep-12	04-Oct-12	22	31-Dec-12	22-Jan-13	0%	-110	-76	-	
A23651	WWTP-BS Final connection works			30	06-Jan-13	05-Feb-13	0%		-66		
A23680	WWTP-BS Electrical Testing	12-Sep-12	04-Oct-12	22	26-Jan-13	17-Feb-13	0%	-136	-66		
WWTP-Fire S		13-Aug-12		89		27-Feb-13		-138	-107		
A23670	WWTP-BS Sprinkler installation works(Fire Services)	13-Aug-12	12-Sep-12	45	30-Nov-12	14-Jan-13	0%	-124	-107		
A23720	WWTP-BS Cable exposed conduits laying works(Fire Services)			14	31-Dec-12	14-Jan-13	0%		-107		
A23730	WWTP-BS Final connection works(Final Services)			14	14-Jan-13	28-Jan-13	0%		-107		
A23900	WWTP-Fire Service Testing	12-Sep-12	12-Oct-12	30	28-Jan-13	27-Feb-13	0%	-138	-107		
WWTP-Proce	essing Works	10-Aug-12	08-Sep-12	30	23-Feb-13	25-Mar-13		-198	-115		
A23700	WWTP-Treatment Installation Testing	10-Aug-12	08-Sep-12	30	23-Feb-13	25-Mar-13	0%	-198	-115		
4A - Jetty		20-May-12	14-Sep-12	93	04-Dec-12	07-Mar-13		-174	-151		
Jetty Structu	iral and Builder's Work	20-May-12	14-Sep-12	93	04-Dec-12	07-Mar-13		-174	-151		
A24215	4A-Submit BA14 for Pile Works			14	04-Dec-12	18-Dec-12	0%		-151		
A24220	4A-Piles Test	20-May-12	16-Jun-12	21	11-Dec-12	01-Jan-13	0%	-199	-151		
A24310	4A-Pile Cap and Superstructure of Jetty Deck concreting works	01-Jul-12	12-Sep-12	65	01-Jan-13	07-Mar-13	0%	-176	-151		
A24320	4A-Sea Water Pumping House concreting works	17-Aug-12	14-Sep-12	29	06-Feb-13	07-Mar-13	0%	-174	-151		
Pipe Bridge	& Pipe Trench Works	21-Jan-12	03-Aug-12	94	30-Nov-12	03-Mar-13		-212	-66		
A24900	Pipe Bridge Between FAT and WWTP (PB 5)	27-Jan-12	25-Feb-12	30	02-Feb-13	03-Mar-13	0%	-372	-66		
A24910	Erection of steel pipe racks at Tank Farm 2A & GTWSR (Tower 3 & PB type H)	27-Jan-12	25-Feb-12	30	30-Nov-12	29-Dec-12	0%	-308	-90		
A24920	Erection of pipe bridge between Tank Farm 2A and Tank Farm 2B-2E (Tower 2 & F		25-Feb-12	30	03-Jan-13*	01-Feb-13	0%	-342	-93		
A24930	Erection of steel pipe racks at Tank Farm 2B-2E (Tower 1 & PB 7)	27-Jan-12	25-Feb-12	60	30-Nov-12	28-Jan-13	0%	-338	-120		
A25000	Pipe Bridge Between PB and FP (PB3,4)	21-Jan-12	23-Feb-12	30	02-Feb-13	03-Mar-13	0%	-374	-93	-	
A25100	Pipe Trench from WWTP to Jetty	05-Jun-12	03-Aug-12	30	29-Jan-13	27-Feb-13	0%	-208	-143		
External Wo			12-Dec-12	120	30-Nov-12	29-Mar-13	070	-107	-59		
External Drai			03-Aug-12	99		08-Mar-13		-217	-98		
									-90		<u> </u>
BL	♦ ♦ Milestone Propose	d Bio-Diesel Plant at T.K.O. L	ot 39 Main C	Contract for A	ll Remaining V	Works		Date	2 Manth	Dolling	Revisio
Actual W		3 Month Rolling Prog	gramme (3	0 Novemb	er 2012)		3(0-Nov-12		Rolling	Programme



ity ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complete	Delay from Initial	Total Float	N D	J
Storm wate	r manhole and pipe works	05-Jun-12	03-Aug-12	90	30-Nov-12	27-Feb-13		-208	-143		1
A25250	Storm water manhole works 5th stage	05-Jun-12	04-Jul-12	60	30-Nov-12	28-Jan-13	0%	-208	-143		ł.
A25260	Storm water manhole works 6th stage	05-Jul-12	03-Aug-12	60	30-Dec-12	27-Feb-13	0%	-208	-143		
Foul water i	manhole and pipe works	25-Jun-12	03-Aug-12	90	09-Dec-12	08-Mar-13		-217	-98		
A25310	Faul Water manhole and the pipe works between the manholes with the associated branch pipes 5th	25-Jun-12	03-Aug-12	60	09-Dec-12	06-Feb-13	0%	-187	-98		
A25320	Faul Water manhole and the pipe works between the manholes with the associated branch pipes 6th			60	08-Jan-13	08-Mar-13	0%		-98		1
External Plur	nping Works			90	30-Nov-12	27-Feb-13			-107		÷
Fresh water	main installation works			90	30-Nov-12	27-Feb-13			-107		ł
A25550	Installation of external fresh watermain 5th stage			60	30-Nov-12	28-Jan-13	0%		-107		į.
A25560	Installation of external fresh watermain 6th stage			60	30-Dec-12	27-Feb-13	0%		-107		ł
Salt water m	nain installation works			90	30-Nov-12	27-Feb-13			-107		÷
A25580	Installation of external salt watermain 5th stage			60	30-Nov-12	28-Jan-13	0%		-107		ł
A25590	Installation of external salt watermain 6th stage			60	30-Dec-12	27-Feb-13	0%		-107		ł
Fire Services	Works			90	30-Nov-12	27-Feb-13			-107		÷
A25480	External - Fire Services pipe works 5th Stage			60	30-Nov-12	28-Jan-13	0%		-107		
A25490	External - Fire Services pipe works 6th Stage			60	30-Dec-12	27-Feb-13	0%		-107		÷
External Serv	vice Cable Works			120	30-Nov-12	29-Mar-13			-107		
A25710	Exteranl cable duct and draw pits instalation works 4th stage			60	30-Nov-12	28-Jan-13	0%		-107		Ì
A25720	Exteranl cable duct and draw pits instalation works 5th stage			60	30-Dec-12	27-Feb-13	0%		-107		ł
A25730	Exteranl cable duct and draw pits instalation works 6th stage			60	29-Jan-13	29-Mar-13	0%		-107		
Road Works				90	30-Nov-12	27-Feb-13			-29		÷
	Road Works with associated surface channels and catch pits 4th stage			60	30-Nov-12	28-Jan-13	0%		-150		
A25650	Road Works with associated surface channels and catch pits 5th stage			60	30-Dec-12	27-Feb-13	0%		-29		ł
Boundary Wa	all Construction Works	04-Nov-12	12-Dec-12	39	30-Nov-12	07-Jan-13		-26	-129		ł
A25530	Boundary Wall-ABWF works	04-Nov-12	12-Dec-12	39	30-Nov-12	07-Jan-13	0%	-26	-129		ł
Water Supply	y Works	01-Jul-12	16-Sep-12	78	12-Dec-12	27-Feb-13		-164	-107		÷
A25700	WSD pipe laying Works	01-Jul-12	16-Sep-12	78	12-Dec-12	27-Feb-13	0%	-164	-107		ł
Works for Cl	P Energization	02-Aug-12	31-Aug-12	30	21-Feb-13	23-Mar-13		-203	-131		ł
A20060	BR-BS installation of switch board and cable termination works in Switch Rooms	02-Aug-12	31-Aug-12	30	21-Feb-13	23-Mar-13	0%	-203	-131		ł

BL ♦	♦ Milestone	Proposed Bio-Diesel Plant at T.K.O. Lot 39 Main Contract for All Remaining Works	Date	Revisio
Actual Work	Summary		30-Nov-12	3 Month Rolling Programme
Remaining Work	V Cuminary	3 Month Rolling Programme (30 November 2012)		
Critical Remaining Work				
Baseline Milestone				

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