ASB Biodiesel (Hong Kong) Limited

Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate

Monthly EM&A Report February 2013 (Version 1.0)

Certified By	Maa
	(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.

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Subject:	bject: Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate Monthly EM&A Summary Report for February 2013			
Job No.	D1067	Total Pages:	1	
From:	Mr. Mark Cheung	Ref:	D1067/H00913	
Attn:	Ms. Ivy Tam / Ms. Betty Choi	Fax:	3107 1388	
To:	Cinotech	Date:	12 March 2013	

Dear Madam,

We refer to your submission of the Monthly EM&A Report for February 2013 via email dated 12 March 2013.

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

Regards, Mark Cheung Independent Environmental Checker KTQ/gk

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EXECUTIVE SUMMARY

Introduction

- 1. This is the 45th 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 February 2013.
- 2. The major site activities undertaken in the reporting month included:
 - General site cleaning and tidying.
 - Zone 1A Administration Building Finishing work
 - Zone 1A Administration Building Windows, louver and doors installation work
 - Zone 1B Processing Building Windows, louver and doors installation work
 - Zone 1B Fat Preparation Building Windows, louver and doors installation work
 - Zone 1B Fat Preparation Building Finishing work
 - Zone 1B Steam Boiler Room Building Equipment installation work
 - Zone 2A Tank Farm Steel tank fabrication work
 - Zone 2A Tank Farm Tank cladding installation work
 - Zone 2A GTWSR Equipment installation work
 - Zone 2B-2E Tank Farm Steel tank fabrication work
 - Zone 2B-2E LV switch room construction work
 - WWTP Roof system installation work
 - WWTP Equipment installation work
 - Jetty Pile cap and deck superstructure construction work
 - Pipe Bridge Pipe Bridge Erection Work
 - Building Services P&D work
 - Building Services Fire Service work
 - Building Services MVAC work
 - Building Services Electrical work
 - External Works Boundary wall construction work
 - External Works Storm water drainage work
 - External Works Foul water drainage work
 - External Works Fresh water main installation work
 - External Works Salt water main installation work
 - External Works Fire Services pipes laying work
 - External Works Cable laying work
 - External Works Pavement work

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-RE0043-13), 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**.

Table ISummary Table for Key Information in the Reporting Month

Event	Event Details		Action Taken	Status	Remark	
Event	Number	Nature	Action Taken	Status	Kelliark	
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 January 2013	Submitted to EPD on 20 February 2012	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.
 - Zone 1A Administration Building Finishing works
 - Zone 1B Steam Boiler Room ABWF works excluding windows, louvers and doors
 - Tank Farm 2A Pipe installation work
 - Tank Farm 2A Bund wall finishing work
 - Tank Farm 2A GTWSR Equipment and pipe installation works
 - Tank Farm 2A GTWSR ABWF works excluding windows, louvers and doors
 - Tank Farm 2B-2E Tank fabrication works
 - Tank Farm 2B-2E Finishing works
 - WWTP ABWF works excluding windows, louvers and doors
 - Jetty Deck superstructure construction works
 - Pipe Bridge Pipe bridge erection work
 - Building Services Fire services work
 - Building Services MVAC work
 - Building Services Electrical work
 - Building Services P&D work
 - Building Services Lift installation work

- External Boundary wall construction work
- External Works Storm water drainage work
- External Works Foul water drainage work
- External Works Plumbing laying work
- External Works Fire Services piping laying work
- External Works Cable laying work
- External Works Pavement work
- 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 Environmental Permits (EP) No. EP-319/2009, EP-319/2009/A and EP-319/2009/B were issued on 11 March 2009, 7 April 2009 and 31 Jan 2013 respectively for Development of a Biodiesel Plant at Tseung Kwan O Industrial Estate to ASB Biodiesel (Hong Kong) Limited as the Permit Holder. A VEP was submitted and the latest EP No. EP-319/2009/C was issued by EPD on 5 Mar 2013.
 - 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 45th Monthly EM&A report summarizing the EM&A works for the Project in February 2013.

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	Environment al Team	Ms. Ivy Tam	Project Coordinator	2151 2090	3107 1388
		Ms. Betty Choi	Audit Team Leader	2151 2072	
	Independent	Mr. Mark Cheung	Independent Environmental Checker	3168 2028	
	Environment al Checker	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	

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 work
 - Zone 1A Administration Building Windows, louver and doors installation work
 - Zone 1B Processing Building Windows, louver and doors installation work
 - Zone 1B Fat Preparation Building Windows, louver and doors installation work
 - Zone 1B Fat Preparation Building Finishing work
 - Zone 1B Steam Boiler Room Building Equipment installation work
 - Zone 2A Tank Farm Steel tank fabrication work
 - Zone 2A Tank Farm Tank cladding installation work
 - Zone 2A GTWSR Equipment installation work
 - Zone 2B-2E Tank Farm Steel tank fabrication work
 - Zone 2B-2E LV switch room construction work
 - WWTP Roof system installation work
 - WWTP Equipment installation work
 - Jetty Pile cap and deck superstructure construction work
 - Pipe Bridge Pipe Bridge Erection Work
 - Building Services P&D work
 - Building Services Fire Service work
 - Building Services MVAC work
 - Building Services Electrical work
 - External Works Boundary wall construction work
 - External Works Storm water drainage work
 - External Works Foul water drainage work
 - External Works Fresh water main installation work
 - External Works Salt water main installation work
 - External Works Fire Services pipes laying work
 - External Works Cable laying work
 - External Works Pavement work

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 19th February 2013 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**.

	Valid Period			<u> </u>
Permit / License No.	From	То	Details	Status
Environmental Permit (H	EP)			
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-RE0043-13	02/01/2013	20/07/2013	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	icense			
WT00004508-2009	07/09/2009	-	Discharge of wastewater from construction site including wheel washing water and chemical precipitation tank	Valid
Billing Account for Dispo	osal of Construct	tion Waste		
A/C No.: 7013917	-	-	-	Valid
Notification of Works un	der APCO			
Ref. no.: 337009	26/10/2011	_		Valid

Table 2.1	Summary of Environmental Licensing and Permit Status
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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
N/A	N/A	N/A	N/A

Summary of Complaint and Prosecution

- 2.7 No environmental related complaint, prosecution or notification of summons was received in the reporting month.
- 2.8 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.

Construction Program for the Next Months

- 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.
 - Zone 1A Administration Building Finishing works
 - Zone 1B Steam Boiler Room ABWF works excluding windows, louvers and doors
 - Tank Farm 2A Pipe installation work
 - Tank Farm 2A Bund wall finishing work
 - Tank Farm 2A GTWSR Equipment and pipe installation works
 - Tank Farm 2A GTWSR ABWF works excluding windows, louvers and doors
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 - External Works Plumbing laying work
 - External Works Fire Services piping laying work
 - External Works Cable laying work
 - External Works Pavement work

4 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 4.1 Environmental audit works were conducted in the reporting month. Site inspections were conducted on monthly 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.

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.

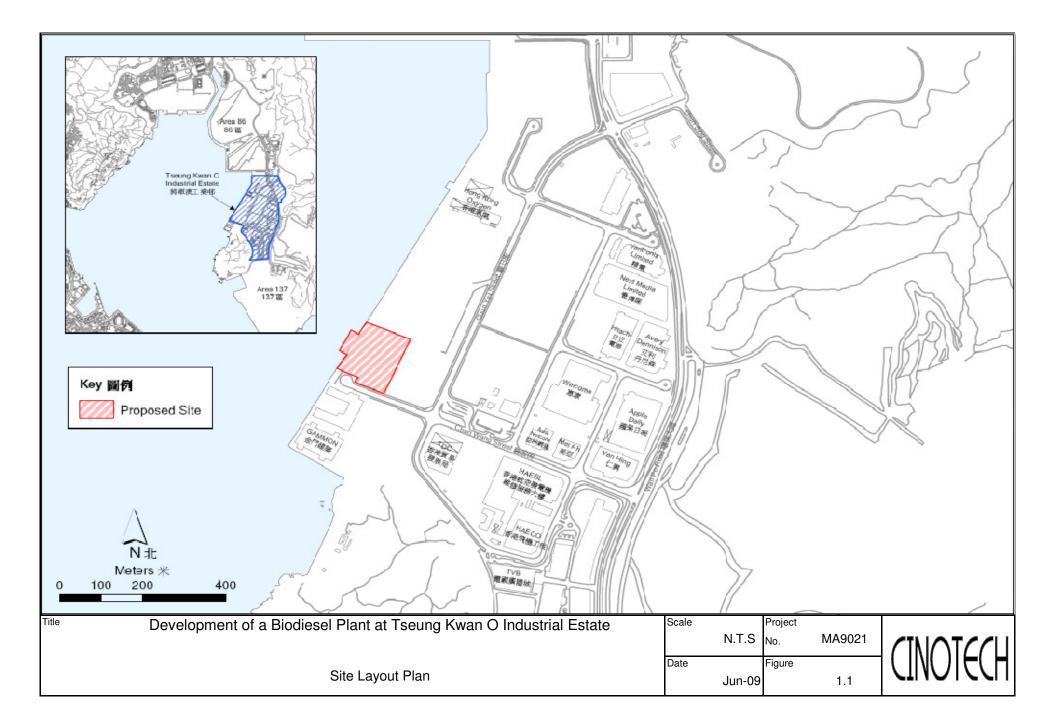
Noise Impact

- 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

Monthly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	130219
Date	19February 2013 (Wednesday)
Time	16:15 - 16:40

Ref. No. Non-Compliance

			INO.
	-	None	-
1			

Ref. No. Remarks/Observations

	No.
A. Water Quality	
• No environmental deficiency was identified during site inspection.	
B. Air Quality	
No environmental deficiency was identified during site inspection.	
• No environmental denoiciety 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.:130116):	
• Environmental deficiencies 130116-R01 and R02 were improved/rectified by	
the Contractor.	

	Name	Signature	Date
Recorded by	KW Leung	Ku Lenny	4 March 2013
Checked by	Dr. HF Chan	Vin	4 March 2013

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Related Item

Related Item

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;	٨
	• 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.	^
	• 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;	٨
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.	٨

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;
Non-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. 	٨
Water Quality	 Construction Site Run-off and Drainage 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. 	^ ^ ^
	 General Construction Activities 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. 	^

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
	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

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.

APPENDIX C WASTE GENERATION IN THE REPORTING MONTH

	Actual	l Quantities of Iner	rt C&D Materi:	als Generated / In	ported (in '0()0 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)	Contract	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	0	0	0	0	0	0	0.005	0	0	0.082				
February	0	0	0	0	0	0	0	0.004	0	0	0.020				
March	0	0	0	0	0	0	0	0	0	0	0				
April	0	0	0	0	0	0	0	0	0	0	0				
May	0	0	0	0	0	0	0	0	0	0	0				
June	0	0	0	0	0	0	0	0	0	0	0				
Half-year Total	0	0	0	0	0	0	0	0	0	0	0.005				
July	0	0	0	0	0	0	0	0	0	0	0				
August	0	0	0	0	0	0	0	0	0	0	0				
September	0	0	0	0	0	0	0	0	0	0	0				
October	0	0	0	0	0	0	0	0	0	0	0				
November	0	0	0	0	0	0	0	0	0	0	0				
December	0	0	0	0	0	0	0	0	0	0	0				
Yearly Total	0	0	0	0	0	0	0	0	0	0	0				

APPENDIX D COMPLAINT LOG

APPENDIX D – COMPLAINT LOG

Reporting Month: February 2013

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, 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	Closed

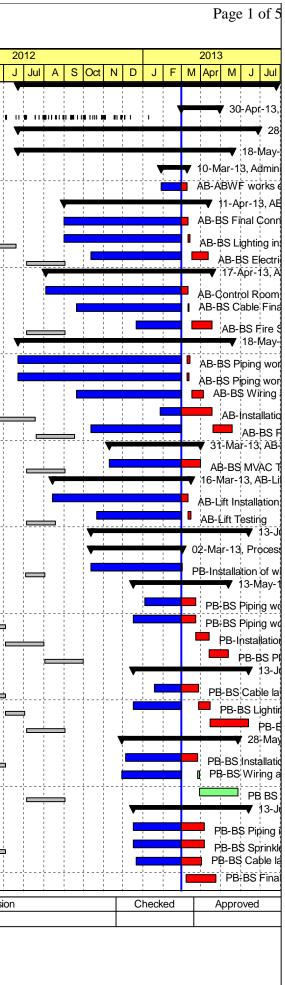
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Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
			11:18pm.	Park given consistent noise complains. The Contractor explained to the complainant that chiselling work will stop at 11pm every day and start after 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 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

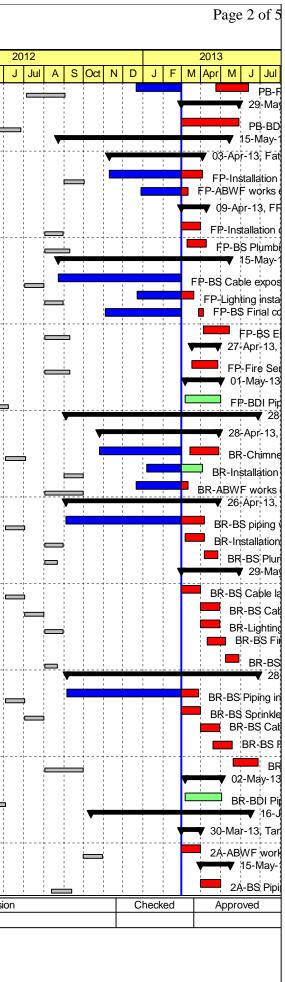
Remarks: N/A

APPENDIX E CONSTRUCTION PROGRAMME

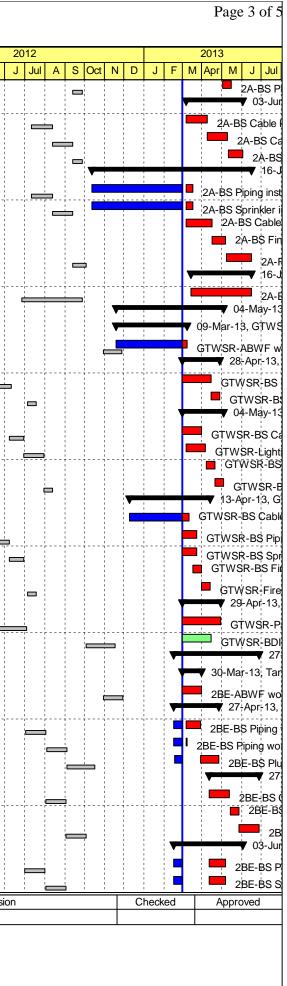
ity ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complete	Delay from Initial	Total Float	Oct N D	JF		or M
	Rolling Programme Ver.2.0 (010313)	03-Jan-12	17-Feb-13	399	23-Jun-12 A	26-Jul-13	· ·	-159	317				pr M
Vilestones		04-Jan-12	10-Jan-13	61	01-Mar-13	30-Apr-13		-110	0				
						· · · · · · · · · · · · · · · · · · ·							• • • • •
<u> </u>	Construction Works	03-Jan-12	12-Dec-12	371	23-Jun-12 A	28-Jun-13		-198	345				
	ation Building	26-Feb-12	17-Sep-12	330	23-Jun-12 A	18-May-13		-243	-157				
-	n Building Structural and Builder's Work			40	30-Jan-13 A	10-Mar-13	0.50/		-222				
A17435	AB-ABWF works excluding windows, louvers & doors 2nd Stage			40	30-Jan-13 A	10-Mar-13	95%	001	-222				
AB-Electrical		21-May-12	02-Sep-12	223	01-Sep-12A	11-Apr-13	0.001	-221	-120				
A17142	AB-BS Final Connection (Electrical) (Isolator/MCB board/Wiring accessories)	04 NA 40	40.1.40	192	01-Sep-12 A	11-Mar-13	99%	0.07	-169				
A17190	AB-BS Lighting installation works	21-May-12	19-Jun-12	194	01-Sep-12 A	14-Mar-13	98%	-267	-164				-
A17610	AB-BS Electrical Testing	05-Jul-12	02-Sep-12	181	13-Oct-12 A	11-Apr-13	60%	-221	-120				
AB-Fire Servic		21-Apr-12	02-Sep-12		04-Aug-12 A	17-Apr-13	0.50/	-227	-156				
A17185	AB-Control Room and Pump Room FS equipment installation and associated pipe w	21-Apr-12	20-May-12	168	04-Aug-12 A	11-Mar-13	95%	-295	-135				-
A17186	AB-BS Cable Final Connection (Fire Services)			174	21-Sep-12 A	13-Mar-13	95%		-135				
A17800	AB-BS Fire Service Testing	05-Jul-12	02-Sep-12	117	22-Dec-12 A	17-Apr-13	50%	-227	-156				
AB-Plumbing		26-Feb-12			23-Jun-12 A	18-May-13	0000/	-243	-187				
A17110	AB-BS Piping works (Plumbing)	26-Feb-12	· ·	265	23-Jun-12 A	14-Mar-13	96%	-343	-187				
A17120	AB-BS Piping works (Drainage)	06-Apr-12	20-May-12	264	23-Jun-12 A	13-Mar-13	94%	-297	-186			=	<u> </u>
A17125	AB-BS Wiring and Control (P&D)	04.84 40	40.1.1.40	196	21-Sep-12 A	04-Apr-13	60%	070	-173				
A17155	AB-Installation of sanitary fittings	21-May-12	19-Jul-12	81	28-Jan-13 A	18-Apr-13	20%	-273	-187				-
A17700	AB-BS Plumbing and Drainage Testing	20-Jul-12	17-Sep-12	218	13-Oct-12 A	18-May-13	50%	-243	-187		-+		
AB-MVAC		05-Jul-12	02-Sep-12		10-Nov-12 A	31-Mar-13	0.50/	-210	-109				
A17220	AB-BS MVAC Testing	05-Jul-12	02-Sep-12	142	10-Nov-12 A	31-Mar-13	25%	-210	-109				
AB-Lift		26-Feb-12	18-Aug-12	215	14-Aug-12 A	16-Mar-13	0.001	-210	-94				
A17500	AB-Lift Installation Works	26-Feb-12	10-Apr-12	210	14-Aug-12 A	11-Mar-13	98%	-335	-157			<u> </u>	
A17600	AB-Lift Testing	05-Jul-12	18-Aug-12	146	22-Oct-12 A	16-Mar-13	90%	-210	-94		-+		
B - Process		03-Jan-12	30-Sep-12	244	13-Oct-12 A	13-Jun-13		-256	-74				
	illding Structural and Builder's Work	04-Jul-12	03-Aug-12	141	13-Oct-12 A	02-Mar-13	0.50/	-211	-166				
A18220	PB-Installation of windows, louvers and doors 2nd stage	04-Jul-12	03-Aug-12	141	13-Oct-12 A	02-Mar-13	95%	-211	-166				
PB-Plumbing		05-Mar-12	30-Sep-12	148	17-Dec-12 A	13-May-13	500 (-225	-182				
A18010	PB-BS Piping works (Plumbing)	05-Mar-12	· ·	78	05-Jan-13 A	23-Mar-13	50%	-339	-182		- + +		4
A18020	PB-BS Piping works (Drainage)	19-Apr-12	02-Jun-12	97	17-Dec-12 A	23-Mar-13	50%	-294	-182				
A18025	PB-Installation of sanitary fittings	03-Jun-12	01-Aug-12	21	23-Mar-13	13-Apr-13	0%	-255	-182				
A18300	PB-BS Plumbing and Drainage Testing	02-Aug-12	-	30	13-Apr-13	13-May-13	0%	-225	-182				
PB-Electrical		19-Apr-12	02-Sep-12		17-Dec-12 A	13-Jun-13	400/	-284	-183				
A18040	PB-BS Cable laying works(Electrical) 2nd stage	19-Apr-12	02-Jun-12	68	19-Jan-13 A	27-Mar-13	40%	-298	-183	·			.
A18050	PB-BS Lighting installation works	03-Jun-12	02-Jul-12	119	17-Dec-12 A	14-Apr-13	40%	-286	-183				=
A18055	PB-BS Electrical Testing	05-Jul-12	02-Sep-12	60	15-Apr-13	13-Jun-13	0%	-284	-183				
PB-MVAC	DD DC lastellation of nining and Dusting Wester (MVAC)	05-Mar-12	02-Sep-12	179	30-Nov-12 A	28-May-13	74.00/	-267	-57				
A18060	PB-BS Installation of piping and Ducting Works (MVAC)	05-Mar-12	02-Jun-12	110	06-Dec-12 A	26-Mar-13	71.8%	-296	-103				
A18061	PB-BS Wiring and control installation works (MVAC)	05 1.1 40	00.0 40	119	30-Nov-12 A	29-Mar-13	90%	007	-57				
A18065	PB BS MVAC Testing	05-Jul-12	02-Sep-12	60	29-Mar-13	28-May-13	0%	-267	-57				
PB-Fire Servic		05-Mar-12	02-Sep-12	178	17-Dec-12 A	13-Jun-13	4.00/	-283	-182				
A18070	PB-BS Piping installation works (Fire Services)	05-Mar-12	18-Apr-12	111	17-Dec-12 A	06-Apr-13	18%	-353	-182				•
A18080	PB-BS Sprinkler installation works (Fire Services)	19-Apr-12	02-Jun-12	111	17-Dec-12 A	06-Apr-13	18%	-308	-182				
A18081	PB-BS Cable laying works			101	22-Dec-12 A	02-Apr-13	28.5%		-182		- - -		
A18082	PB-BS Final connection works			45	09-Mar-13	23-Apr-13	0%		-182			<u> </u>	
BL	Milestone Proposed	Bio-Diesel P	lant at T.K.C	. Lot 39 M	lain Contract for	All Remaining	g Works		Date				Revision
Actual Wo									01-Mar-13	3 3 Mt	h Rolling	Program	nme
Remaining	g Work		3 Month	Rolling	Programme								
	maining Work			-									
		for	TATO A T)	01 March 201	2)							



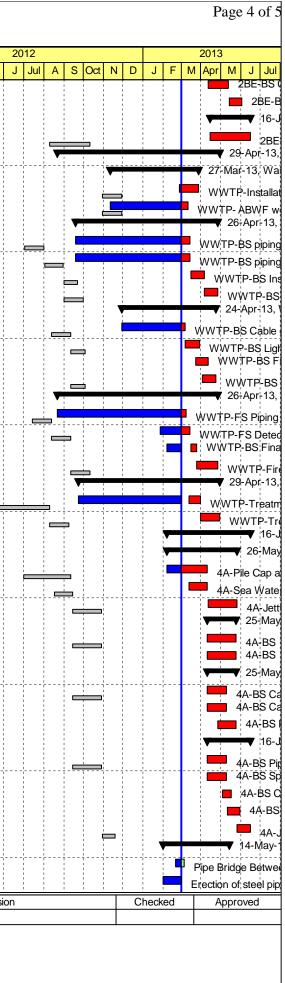
ity ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complete	Delay from Initial	Total Float					
		05 11 10	00.0 40		00 D 40 A					Oct N	I D	JF	м/	Apr N
A18400	PB-Fire Service Testing	05-Jul-12	02-Sep-12	173	22-Dec-12 A	13-Jun-13	15%	-283	-182					
PB-Processi		03-Jan-12	26-Jun-12		01-Mar-13	29-May-13	00/	-337	-180					
A17900	PB-BDI Pipe insulation, Process Electrical & Instrumentation Works	03-Jan-12		90	01-Mar-13	29-May-13	0%	-337	-180			÷	\pm	<u> </u>
	paration Building	13-Apr-12	02-Oct-12	264	24-Aug-12 A	15-May-13		-224	254					
	ion Structural and Builder's Work	02-Sep-12		145	10-Nov-12 A	03-Apr-13		-183	-112					
A19120	FP-Installation of windows, louvers and doors 2nd stage	02-Sep-12	02-Oct-12	145	10-Nov-12 A	03-Apr-13	90%	-183	-112					
A19135	FP-ABWF works excluding windows, louvers and doors 2nd Stage			74	29-Dec-12 A	12-Mar-13	95%		-149					
	g and Drainage	02-Aug-12		40	01-Mar-13	09-Apr-13		-211	-148					
A19055	FP-Installation of sanitary fittings	02-Aug-12	-	30	01-Mar-13	30-Mar-13	0%	-211	-148					
A19200	FP-BS Plumbing and Drainage Testing	02-Aug-12	· ·	30	11-Mar-13	09-Apr-13	0%	-211	-148					1
FP-Electrical		03-Jul-12	10-Sep-12		24-Aug-12 A	15-May-13		-246	-153					1
A19040	FP-BS Cable exposed conduit laying works(Electrical)	03-Jul-12	01-Aug-12	190	24-Aug-12 A	01-Mar-13	98%	-212	-149					
A19050	FP-Lighting installation works	02-Aug-12	31-Aug-12	87	24-Dec-12 A	21-Mar-13	33%	-201	-153					
A19061	FP-BS Final connection works			151	05-Nov-12 A	05-Apr-13	50%		-153			,		
A19090	FP-BS Electrical Testing	02-Aug-12	10-Sep-12	40	05-Apr-13	15-May-13	0%	-246	-153					
FP-Fire Servi	ices	02-Aug-12		40	18-Mar-13	27-Apr-13		-229	-136					
A19300	FP-Fire Service Testing	02-Aug-12	10-Sep-12	40	18-Mar-13	27-Apr-13	0%	-229	-136					
FP-Processir		13-Apr-12		56	07-Mar-13	01-May-13		-328	267					
A18900	FP-BDI Pipe insulation, Process Electrical & Instrumentation Works	13-Apr-12		56	07-Mar-13	01-May-13	0%	-328	267			,		- ====
1B - Boiler R		08-Apr-12	30-Sep-12	297	05-Sep-12 A	28-Jun-13		-271	345					
Boiler Room	Structural and Builder's Work	03-Jun-12	30-Sep-12	184	27-Oct-12 A	28-Apr-13		-210	-28					
A19900	BR-Chimney Works	03-Jun-12	04-Jul-12	49	27-Oct-12 A	28-Apr-13	20%	-299	-154					
A20120	BR-Installation of windows, louvers and doors 2nd stage	01-Sep-12	30-Sep-12	87	07-Jan-13 A	03-Apr-13	50%	-185	-3					
A20130	BR-ABWF works excluding windows, louvers and doors	02-Aug-12	30-Sep-12	81	22-Dec-12 A	12-Mar-13	80%	-163	-168					
BR-Plumbing	g and Drainage	03-Jun-12	31-Aug-12	234	05-Sep-12 A	26-Apr-13		-238	-165					
A20010	BR-BS piping works (Plumbing)	03-Jun-12	02-Jul-12	213	05-Sep-12 A	05-Apr-13	20%	-277	-165					
A20055	BR-Installation of sanitary fittings	02-Aug-12	31-Aug-12	30	07-Mar-13	05-Apr-13	0%	-217	-165					į
A20200	BR-BS Plumbing and Drainage Testing	02-Aug-12	22-Aug-12	21	06-Apr-13	26-Apr-13	0%	-247	-165					
BR-Electrica		03-Jun-12	31-Aug-12	90	01-Mar-13	29-May-13		-271	-168					
A20030	BR-BS Cable laying works(Electrical) 1st stage	03-Jun-12	02-Jul-12	30	01-Mar-13	30-Mar-13	0%	-271	-168					
A20040	BR-BS Cable laying works(Electrical) 2nd stage	03-Jul-12	01-Aug-12	30	31-Mar-13	29-Apr-13	0%	-271	-168					
A20050	BR-Lighting installation works	02-Aug-12	31-Aug-12	30	31-Mar-13	29-Apr-13	0%	-241	-168					
A20061	BR-BS Final connection works(Electrical)			28	11-Apr-13	08-May-13	0%		-168					į
A20090	BR-BS Electrical Testing	02-Aug-12	22-Aug-12	21	09-May-13	29-May-13	0%	-280	-168					
BR-Fire Serv	-	03-Jun-12		296	06-Sep-12 A	28-Jun-13		-271	-89			,		
 A20070	BR-BS Piping installation works(Fire Services)	03-Jun-12		203	06-Sep-12 A	27-Mar-13	10%	-268	-88					
A20080	BR-BS Sprinkler installation works(Fire Services)	03-Jul-12	01-Aug-12	30	01-Mar-13	30-Mar-13	0%	-241	-89					-
A20100	BR-BS Cable laying works (Fire Services)			30	31-Mar-13	29-Apr-13	0%		-89					
A20150	BR-BS Final connection works (Fire Services)			30	20-Apr-13	19-May-13	0%		-89					
A20300	BR-Fire Service Testing	02-Aug-12	30-Sep-12	40	20-May-13	28-Jun-13	0%	-271	-89					
BR-Processi		08-Apr-12		56	07-Mar-13	02-May-13	0,0	-333	403					
A19700	BR-BDI Pipe insulation, Process Electrical & Instrumentation Works	08-Apr-12	03-Jun-12	56	07-Mar-13	02-May-13	0%	-333	403					
2A - Tank Fai		26-Jun-12		247	13-Oct-12 A	16-Jun-13	0 /0	-229	-108					-
	A Structural and Builder's Work	01-Oct-12	30-Oct-12	30	01-Mar-13	30-Mar-13		-151	-186					
A21100	2A-ABWF works in Tank Farm 2A	01-Od-12 01-Oct-12	30-Oct-12 30-Oct-12	30	01-Mar-13	30-Mar-13 30-Mar-13	0%	-151	-186		/			
	and Drainage		27-Sep-12		31-Mar-13	15-May-13		-151	-186			,		
A20820	2A-BS Piping works(Plumbing) 2nd stage			32	31-Mar-13	01-May-13	0%	-230	-184					}
A20820	ZA-BS Piping works(Plumbing) 2nd stage	13-Aug-12	13-Sep-12	32	31-10181-13	01-May-13	0%	-230						
BL	♦ Milestone	Proposed Bio-Diesel P	lant at T.K.C). Lot 39 N	Iain Contract for	All Remaining	g Works		Date		2 M#b	Rolling	Drogr	Revi
Actual W	Vork VSummary				-				01-Mar-13			TOIIIN	rugra	BIIIIIE
Remaini	ing Work		3 Month	Rolling	Programme									
Critical R	Remaining Work	_		_	01 March 201									



y ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complete	Delay from Initial	Total Float	Oct N		JF	M	Apr
A20900	2A-BS Plumbing and Drainage Testing	14-Sep-12	27-Sep-12	14	02-May-13	15-May-13	0%	-230	-184			JF		Apr
2A-Electrica		12-Jul-12	27-Sep-12	88	08-Mar-13	03-Jun-13		-249	-173					
A20830	2A-BS Cable laying works stage 1 (Electrical)	12-Jul-12	12-Aug-12	32	08-Mar-13	08-Apr-13	0%	-239	-173		+		.++	
A20840	2A-BS Cable laying works stage 2 (Electrical)	13-Aug-12	13-Sep-12	32	09-Apr-13	10-May-13	0%	-239	-173					
A20870	2A-BS Electrical Testing	14-Sep-12	27-Sep-12	24	11-May-13	03-Jun-13	0%	-249	-173					
2A-Fire Serv		12-Jul-12	04-Oct-12	247	13-Oct-12 A	16-Jun-13		-255	-186					
A20850	2A-BS Piping installation works(Fire Services)	12-Jul-12	12-Aug-12	156	13-Oct-12 A	17-Mar-13	70%	-217	-156					
A20860	2A-BS Sprinkler installation works(Fire Services)	13-Aug-12		156	13-Oct-12 A	17-Mar-13	70%	-185	-156		+		.+	
A20880	2A-BS Cable laying works(Fire Services)			40	08-Mar-13	16-Apr-13	0%		-186					
A20890	2A-BS Final connection works(Fire Services)			21	17-Apr-13	07-May-13	0%		-186					
A21000	2A-Fire Service Testing (excluding FSD Inspection)	14-Sep-12	04-Oct-12	40	08-May-13	16-Jun-13	0%	-255	-186					
2A-Process		26-Jun-12		94	15-Mar-13	16-Jun-13		-261	-108					
A20700	2A-BDI Pipe insulation, Process Electrical & Instrumentation Works	26-Jun-12	·	94	15-Mar-13	16-Jun-13	0%	-261	-108	·	+		• +	
	eparation Room	05-May-12	27-Nov-12	167	19-Nov-12 A	04-May-13	0,0	-158	264					
	uctural and Builder's Work		27-Nov-12	110	19-Nov-12 A	09-Mar-13		-101	-188					
A22000	GTWSR-ABWF works including windows, louvers and door but excluding roller shut	31-Oct-12	27-Nov-12	110	19-Nov-12 A	09-Mar-13	70%	-101	-188					
	Imbing and Drainage	19-May-12		59	01-Mar-13	28-Apr-13		-284	-167					
A21910	GTWSR-BS Piping works(Plumbing)	19-May-12		45	01-Mar-13	14-Apr-13	0%	-308	-167	·			· +	
A22200	GTWSR-BS Plumbing and Drainage Testing	05-Jul-12	18-Jul-12	14	15-Apr-13	28-Apr-13	0%	-284	-167					
GTWSR-Ele		08-Jun-12		65	01-Mar-13	04-May-13	070	-265	-143					
A21940	GTWSR-BS Cable exposed conduits laying works(Electrical)	08-Jun-12	30-Jun-12	30	01-Mar-13	30-Mar-13	0%	-274	-188					
A21950	GTWSR-Lighting installation works	30-Jun-12	30-Jul-12	30	08-Mar-13	06-Apr-13	0%	-251	-188					
A21950	GTWSR-BS Final connection works	50-5011-12	30-30-12	14	07-Apr-13	20-Apr-13	0%	-201	-143				· + +	
A21931	GTWSR-BS Electrical Testing	30-Jul-12	13-Aug-12	14	21-Apr-13	04-May-13	0%	-265	-143					
GTWSR-Fire		16-May-12	18-Jul-12	125	10-Dec-12 A	13-Apr-13	070	-269	-122					
A21959	GTWSR-BS Cable exposed conduits laying works(Fire Services)			92	10-Dec-12 A	11-Mar-13	50%	200	-110					
A21960	GTWSR-BS Piping installation works(Fire Services)	16-May-12	08-Jun-12	23	01-Mar-13	23-Mar-13	0%	-289	-122					
A21970	GTWSR-BS Sprinkler installation works(Fire Services)	08-Jun-12	30-Jun-12	23	01-Mar-13	23-Mar-13	0%	-267	-122		+		· + +	
A22020	GTWSR-BS Final connection	00-0011-12		14	17-Mar-13	30-Mar-13	0%	-201	-122					
A22020	GTWSR-Fire Service Testing	05-Jul-12	18-Jul-12	14	31-Mar-13	13-Apr-13	0%	-269	-122					
	ocessing Works	05-May-12		60	01-Mar-13	29-Apr-13	070	-163	269					
A21600	GTWSR-Paques Piping, Electrical, Insulation & Instrumentation Works	05-May-12	03-Jul-12	60	01-Mar-13	29-Apr-13	0%	-300	-120					
A21800	GTWSR-BDI Piping, Electrical, Insulation & Instrumentation Works	03-May-12 04-Oct-12	18-Nov-12	45	01-Mar-13	14-Apr-13	0%	-148	284				· + +	
2B-E Tank F		04-00-12 01-Jul-12	29-Nov-12	+3 132	16-Feb-13 A	27-Jun-13	078	-140	-119					
	2B-2E Structural and Builder's Work	31-Oct-12	29-Nov-12 29-Nov-12	30	01-Mar-13	30-Mar-13		-121	-178					
A23100	2BE-ABWF works in Tank Farm 2B-2E	31-Oct-12		30	01-Mar-13	30-Mar-13	0%	-121	-178					
	2B-2E-Plumbing and Drainage	03-Jul-12	17-Oct-12	70	16-Feb-13 A	27-Apr-13	0 /8	-121	-178					
A22810	2BE-BS Piping works(Plumbing)	03-Jul-12	03-Aug-12	41	16-Feb-13 A	29-Mar-13	33.3%	-237	-165				· † †	
A22810	2BE-BS Piping works(Prainage)	03-Jul-12 04-Aug-12	03-Aug-12 04-Sep-12		16-Feb-13A	09-Mar-13	95%	-237						
A22820 A22900	2BE-BS Plumbing and Drainage Testing	-	· ·	22					-145				1	
	2BE-BS Plumbing and Drainage resung 2B-2E-Electrical	05-Sep-12		68	18-Feb-13 A	27-Apr-13 27-Jun-13	33.3%	-191	-165					
		02-Aug-12		77	12-Apr-13		00/	-267	-197					
A22840	2BE-BS Cable exposed conduits laying works(Electrical)	02-Aug-12	02-Sep-12	32	12-Apr-13	13-May-13	0%	-253	-197		+			
A22841	2BE-BS Final connection works(Electrical)	00.0+* 40	02 Oct 40	14	14-May-13	27-May-13	0%	007	-197					
A22870	2BE-BS Electrical Testing	03-Sep-12		31	28-May-13	27-Jun-13	0%	-267	-197					
A22850	2B-2E-Fire Services	01-Jul-12	· · · ·	108	16-Feb-13 A 16-Feb-13 A	03-Jun-13	20%	-274 -279	-213					
	2BE-BS Piping installation works(Fire Services)	01-Jul-12	01-Aug-12	81		07-May-13		-279 -247	-213					
A22860	2BE-BS Sprinkler installation works(Fire Services)	02-Aug-12	02-Sep-12	81	16-Feb-13 A	07-May-13	20%	-247	-213					
BL	♦ ♦ Milestone Proposed	Bio-Diesel Pl	ant at T.K.O	. Lot 39 M	lain Contract for	All Remaining	g Works		Date		0 144			Re
Actual	Work Summary				_				01-Mar-13		S IVITIN I	Rolling	riogr	amm
💻 Remair	ning Work		3 Month	Rolling	Programme									
Critical	Remaining Work													
	e Milestone	for	FM8-A D	Poport (01 March 201	3)			1					



y ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complete	Delay from Initial	Total Float					
4.00000	OPE DO Ochie in the second (Etic Oracitae)				10 10 10			ITOITI ITIIIIAI		Oct N	D	JF	MA	٩ <mark>٢</mark>
A22880	2BE-BS Cable laying works(Fire Services)			32	12-Apr-13	13-May-13	0%		-213			÷		
A22890	2BE-BS Final connection works(Fire Services)	40.4	44 0+ 40	21	14-May-13	03-Jun-13	0%	040	-213					
	2B-2E-Processing Works	10-Aug-12		63	15-Apr-13	16-Jun-13	00/	-248	-108					
A22700	2BE-BDI Pipe Insulation, Process Electrical & Instrumentation			63	15-Apr-13	16-Jun-13	0%	-248	-108					
	ater Treatment Plant	12-May-12	29-Nov-12	251	22-Aug-12 A	29-Apr-13		-151	-138		· ¦ ¦		÷	· -
	r Treatment Plant Structural and Builder's Work	31-Oct-12	29-Nov-12	136	12-Nov-12 A	27-Mar-13	100/	-118	-208					
A24020	WWTP-Installation of windows, louvers and doors	31-Oct-12	29-Nov-12	29	27-Feb-13 A	27-Mar-13	10%	-118	-208					
A24030	WWTP- ABWF works excluding windows, louvers and doors	31-Oct-12	29-Nov-12	121	12-Nov-12 A	12-Mar-13	60%	-103	-193					
	nbing and Drainage	03-Jul-12	30-Sep-12	219	20-Sep-12 A	26-Apr-13	700/	-208	-165					
A23610	WWTP-BS piping works(Plumbing)	03-Jul-12	01-Aug-12	177	20-Sep-12 A	15-Mar-13	70%	-226	-165		+		÷	
A23620	WWTP-BS piping works(Drainage)	02-Aug-12	31-Aug-12	177	20-Sep-12 A	15-Mar-13	50%	-196	-165					
A23655	WWTP-BS Installation of sanitary fittings	01-Sep-12	22-Sep-12	21	16-Mar-13	05-Apr-13	0%	-195	-165					
A23800	WWTP-BS Plumbing and Drainage Testing	01-Sep-12	· ·	21	06-Apr-13	26-Apr-13	0%	-208	-165					
WWTP-Elect		13-Aug-12		146	30-Nov-12 A	24-Apr-13		-203	-133					
A23640	WWTP-BS Cable exposed conduits laying works (Electrical)	13-Aug-12		98	30-Nov-12 A	07-Mar-13	90%	-177	-158	¦	+		 	-
A23650	WWTP-BS Lighting installation works	12-Sep-12	04-Oct-12	22	08-Mar-13	29-Mar-13	0%	-177	-143					
A23651	WWTP-BS Final connection works			21	23-Mar-13	12-Apr-13	0%		-133					
A23680	WWTP-BS Electrical Testing	12-Sep-12	04-Oct-12	22	03-Apr-13	24-Apr-13	0%	-203	-133					
WWTP-Fire	Services	14-Jul-12	12-Oct-12	248	22-Aug-12 A	26-Apr-13		-197	-165					
A23660	WWTP-FS Piping installation works	14-Jul-12	13-Aug-12	200	22-Aug-12 A	09-Mar-13	70%	-209	-161					_
A23670	WWTP-FS Detector installation work	13-Aug-12	12-Sep-12	47	28-Jan-13 A	15-Mar-13	30%	-185	-166					
A23730	WWTP-BS Final connection works(Final Services)			46	07-Feb-13 A	24-Mar-13	20%		-165					
A23900	WWTP-Fire Service Testing	12-Sep-12	12-Oct-12	33	25-Mar-13	26-Apr-13	0%	-197	-165					
WWTP-Proc	cessing Works	12-May-12	08-Sep-12	218	24-Sep-12 A	29-Apr-13		-233	-150					
A23500	WWTP-Treatment Equipment Installation Works	12-May-12	09-Aug-12	188	24-Sep-12 A	30-Mar-13	80%	-233	-163					
A23700	WWTP-Treatment Installation Testing	10-Aug-12	08-Sep-12	30	31-Mar-13	29-Apr-13	0%	-233	-150		·		÷	
4A - Jetty		01-Jul-12	19-Nov-12	130	07-Feb-13 A	16-Jun-13		-209	-186					
Jetty Struct	ural and Builder's Work	01-Jul-12	29-Oct-12	109	07-Feb-13 A	26-May-13		-209	-186					
A24310	4A-Pile Cap and Superstructure of Jetty Deck concreting wor	ks 01-Jul-12	12-Sep-12	58	07-Feb-13 A	10-Apr-13	36.92%	-210	-185					
A24320	4A-Sea Water Pumping House concreting works	17-Aug-12	14-Sep-12	29	13-Mar-13	10-Apr-13	0%	-208	-185					
A24500	4A-Jetty Furniture, Lighting Works	15-Sep-12	29-Oct-12	45	12-Apr-13	26-May-13	0%	-209	-186		+		++-	
Jetty-Plumb	ping and Drainage	15-Sep-12	29-Oct-12	45	11-Apr-13	25-May-13		-208	-185					
A24510	4A-BS Piping works(Plumbing)	15-Sep-12		45	11-Apr-13	25-May-13	0%	-208	-185					
A24540	4A-BS Piping works(Drainage)	· ·		45	11-Apr-13	25-May-13	0%		-185					
Jetty-Electri		15-Sep-12	29-Oct-12	45	11-Apr-13	25-May-13		-208	-185					
A24520	4A-BS Cable concealed conduits laying works(Electrical)	15-Sep-12		30	11-Apr-13	10-May-13	0%	-193	-185		+			
A24550	4A-BS Cable exposed conduits laying works(Electrical)			30	11-Apr-13	10-May-13	0%		-177					
A24560	4A-BS Final connection works(Electrical)			30	26-Apr-13	25-May-13	0%		-185					
Jetty-Fire S		15-Sep-12	19-Nov-12	67	11-Apr-13	16-Jun-13	070	-209	-186				i i	
A24530	4A-BS Piping installation works(Fire Services)	15-Sep-12		30	11-Apr-13	10-May-13	0%	-193	-177					
A24530	4A-BS Sprinkler installation works(Fire Services)	10-000-12	20 000-12	30	11-Apr-13	10-May-13	0%	100	-177		·			
A24570	4A-BS Cable laying works(Fire Services)			14	04-May-13	17-May-13	0%		-177					
A24580 A24590	4A-BS Cable laying works(Fire Services) 4A-BS Final connection works(Fire Services)			21	11-May-13	31-May-13	0%		-170					
	· · · · ·	20 Oct 12	10 Nov 12		-			-209						
A24600	4A-Jetty E&M and FS testing	30-Oct-12	19-Nov-12	21	27-May-13 02-Feb-13 A	16-Jun-13 14-May-13	0%	-209 -284	-186					
	& Pipe Trench Works	21-Jan-12	03-Aug-12	102			02.200/		-138					
A24900	Pipe Bridge Between FAT and WWTP (PB 5)	27-Jan-12		13	21-Feb-13 A	05-Mar-13	83.33%	-374	-68			Ļ		
A24910	Erection of steel pipe racks at Tank Farm 2A & GTWSR (Tow	rer 3 & PB type H) 27-Jan-12	25-Feb-12	27	02-Feb-13 A	01-Mar-13	50%	-369	-151	<u> </u>			<u> </u>	-
BL	♦ Milestone	Proposed Bio-Diesel P	lant at T.K.O	. Lot 39 N	Iain Contract for	All Remaining	g Works		Date					
Actual V	Work Vork								01-Mar-1	3 3	Mth	Rolling I	rogra	ł
	ning Work		3 Month	Rolling	Programme									
	Remaining Work			-										
	e Milestone	for	. FN/ 8- A T	Domant (01 March 201	2)			1					



ity ID	Activity Name	BL Start	BL Finish	Current Duration	Current Start	Current Finish	% Complete	Delay from Initial	Total Float					
4.05000	Dire Differ Detected DD and ED (DD2.4)	04 1 40	00 E.L. 40		01 Max 40		· ·			Oct N	I D	JF	M Ap	pr M
A25000	Pipe Bridge Between PB and FP (PB3,4)	21-Jan-12	23-Feb-12	30	01-Mar-13	30-Mar-13	0%	-401	-120			÷	3	
A25100	Pipe Trench from WWTP to Jetty	05-Jun-12	03-Aug-12	30	15-Apr-13 21-Jul-12 A	14-May-13 09-Jun-13	0%	-284 -179	-165 -101					
External Wo		05-Jun-12	12-Dec-12	324										
	linage Works er manhole and pipe works	05-Jun-12 05-Jun-12	03-Aug-12	155 155	11-Dec-12 A 11-Dec-12 A	14-May-13 14-May-13		-284 -284	-165 -165					į
A25250		05-Jun-12	03-Aug-12				1.00/							
A25250	Storm water manhole works 5th stage Storm water manhole works 6th stage	05-Jul-12	04-Jul-12 03-Aug-12	125 60	11-Dec-12 A 16-Mar-13	14-Apr-13 14-May-13	10% 0%	-284 -284	-165 -165					
	ç	03-Jul-12	03-Aug-12	60	01-Mar-13	29-Apr-13	0 /8	-204	-103					
A25320	Foul Water manhole and the pipe works between the manholes with the associated			60	01-Mar-13	29-Apr-13 29-Apr-13	0%		-150					
	mping Works			90	01-Mar-13	29-Apr-13 29-May-13	0 /8		-198					
_	main installation works			90	01-Mar-13	29-May-13 29-May-13			-198					
A25580	Installation of external salt watermain 5th stage			90 60	01-Mar-13	29-May-13 29-Apr-13	0%		-198					
A25580	Installation of external salt watermain 5th stage			60 60	31-Mar-13	29-Apr-13 29-May-13	0%		-198					
	r main installation works			60	01-Mar-13	29-May-13	0 /8		-198					
A25550	Installation of external fresh watermain 5th stage			30	01-Mar-13	30-Mar-13	0%		-168					
A25550	, in the second s				01-Mar-13	29-Apr-13	0%							
	Installation of external fresh watermain 6th stage			60		· ·	0%		-168 -186					
Fire Services				158	11-Dec-12 A	17-May-13	209/							
A25480	External - Fire Services pipe works 5th Stage			128	11-Dec-12 A	17-Apr-13	20%		-186		+			
A25490	External - Fire Services pipe works 6th Stage			60	19-Mar-13	17-May-13	0%		-186					
-	vice Cable Works			140	07-Jan-13 A	26-May-13	50/		-186					
A25720	External cable duct and draw pits installation works 5th stage			110	07-Jan-13 A	26-Apr-13	5%		-186					į
A25730	Exteranl cable duct and draw pits installation works 6th stage			60	28-Mar-13	26-May-13	0%		-186					
Road Works				101	01-Mar-13	09-Jun-13	001		-101	<u> </u>		;	- - -	
A25650	Road Works with associated surface channels and catch pits 5th stage			60	01-Mar-13	29-Apr-13	0%		-90					
A25660	Road Works with associated surface channels and catch pits 6th stage		40 Dec 40	60	11-Apr-13	09-Jun-13	0%	447	-101					
A25520	All Construction Works	05-Oct-12 05-Oct-12	12-Dec-12 03-Nov-12	262 237	21-Jul-12 A 21-Jul-12 A	08-Apr-13 14-Mar-13	97%	-117	-220					
	Boundary Wall-structural concreting works 2nd stage							-131	-226					
A25530	Boundary Wall-ABWF works	04-Nov-12	12-Dec-12	39	01-Mar-13	08-Apr-13	0%	-117	-220					
Water Suppl		01-Jul-12	16-Oct-12	108	13-Mar-13	28-Jun-13	00/	-255	-198					
A25700	WSD pipe laying Works	01-Jul-12	16-Sep-12	78	13-Mar-13	29-May-13	0%	-255	-198					
A25800	WSD inspection and installation of portable watermeter (WWO46)	17-Sep-12	16-Oct-12	30	30-May-13	28-Jun-13	0%	-255	-198					÷
A25810	WSD inspection and installation of FS watermeter (WWO46)	04 14 40	04 Aug 40	30	18-May-13	16-Jun-13	0%	044	-186					
	LP Energization	21-May-12		221	21-Sep-12 A	29-Apr-13	050/	-241	-168	<u> </u>	+	;	- 	
A17210	AB-Installation of Generators, Day Tanks and associated equipment & pipe works	21-May-12	04-Jul-12	179	21-Sep-12 A	18-Mar-13	85%	-257	-169					
A20060	BR-BS installation of switch board and cable termination works in Switch Rooms	02-Aug-12	31-Aug-12	30	31-Mar-13	29-Apr-13	0%	-241	-168					
	Other Contractors	03-Jul-12	17-Feb-13	300	30-Sep-12 A	26-Jul-13		-159	215					į
Works By B		03-Jul-12	17-Feb-13	300	30-Sep-12 A	26-Jul-13		-159	215					
	sing Pipe Installation Works	23-Jul-12	17-Feb-13	300	30-Sep-12 A	26-Jul-13		-159	181		- <u> </u>			
P3230	BDI - PB Pipe installation works	23-Jul-12	19-Nov-12	214	30-Sep-12 A	02-May-13	48%	-163	-213					1
P3240	BDI - FAT Pipe installation works	21-Sep-12	19-Dec-12	120	25-Dec-12 A	23-Apr-13	40%	-125	-213					
P3250	BDI - Boiler Room Building Pipe installation works	21-Sep-12	19-Dec-12	128	25-Dec-12 A	02-May-13	31%	-133	-168					
P3260	BDI - Tank Farm 2A Pipe installation works	21-Oct-12	17-Feb-13	147	21-Jan-13 A	16-Jun-13	10%	-119	-182					
P3270	BDI - Tank Farm 2B-E Pipe installation works	21-Oct-12	17-Feb-13	148	01-Mar-13	26-Jul-13	0%	-159	-213	l	ii		.i	
P3280	BDI - Pipe Bridges Pipe installation works	10-Dec-12	07-Feb-13	90	31-Mar-13	28-Jun-13	0%	-141	209					
BDI Testing	and Commissioning	03-Jul-12	01-Aug-12	30	05-May-13	03-Jun-13		-306	268					
A22100	GTWSR-Testing for Ventilation System (odour test)	03-Jul-12	01-Aug-12	30	05-May-13	03-Jun-13	0%	-306	268					-
	I								1					
BL	Milestone Proposed	Bio-Diesel Pl	ant at T.K.O	. Lot 39 N	Iain Contract for A	All Remaining	g Works		Date			D		Revis
	Vork VIII Summary								01-Mar-13	<u>, 1</u> 3	3 IVIth	Kolling	Program	mme
Actual V	· 1													
	ing Work		3 Month	Rolling	Programme									
Remain	ing Work Remaining Work	•		U	Programme 01 March 201									

