

# **EM&A Report**

# **EcoPark Operation**Quarterly EM&A Compliance Report

May to July 2011









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#### **EXECUTIVE SUMMARY**

#### General

EcoPark is a key element in the Government's waste management policy that aims to promote the local recycling industry and jump-start a circular economy to provide a sustainable solution to our waste problems.

EcoPark has been developed in two phases (Phase 1 and Phase 2) under construction contract EP/SP/52/06 Development of EcoPark in Tuen Mun Area 38, which was awarded to Kaden Construction by the Environmental Protection Department (EPD) in June 2006. Phase 1 construction was completed in July 2009 and Phase 2 construction was completed in November 2010. The seven-year contract for the operation of EcoPark EP/SP/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38 was awarded to Serco Guardian Joint Venture (SGJV) by EPD in November 2006.

Effective from August 2010 onwards, SGJV ("the Operator") has appointed SMEC Asia Ltd (SMEC) as the Environmental Team (ET) for the Environmental Monitoring and Audit (EM&A) works, replacing the previous ET who were engaged by SGJV from May 2007 to July 2010. Effective from January 2011 onwards, SGJV has appointed Atkins China Ltd (Atkins) as the Independent Environmental Checker (IEC) for the EM&A works, replacing the previous IEC who were engaged by EPD from May 2007 to December 2010. The ET and the IEC carry out the EM&A works for EcoPark as required by the EM&A Manual and in accordance with the conditions of the Environmental Permit.

This is the seventeenth quarterly EM&A report prepared for the operation phase of EcoPark and covers May to July 2011.

The tenants' recycling activities are audited on a monthly basis and the results are summarised in this report. At present, there are eight tenants in EcoPark:

#### 1. Phase 1

- Champway Technology Limited (Champway) waste cooking oil;
- Shiu Wing Steel Limited (Shiu Wing) waste metals;
- Hong Kong Hung Wai Wooden Board Company (Hung Wai) waste wood;
- Li Tong Group (Li Tong) Waste Electrical and Electronic Equipment (WEEE);
- Hong Kong Telford Envirotech Group Limited (Telford) waste plastics; and
- Cosmos Star Holdings Co., Limited (Cosmos) waste lead-acid batteries.

#### 2. Phase 2

- YOT EcoPark Plastic Resources Recycling Centre (Yan Oi Tong) waste plastics; and
- St. James' Settlement "WEEE GO GREEN" EcoPark (St James' Settlement) WEEE.

The ET has conducted monthly site inspections, the IEC has carried out quarterly inspections, and some general observations have been made. The approved checklist has been used in the monthly site inspections for various tenants since October 2009.



#### **Throughput of Materials / Waste Generated**

As of end-July 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have formally commenced recycling activities within their lots. Two tenants, Telford and Cosmos, have not formally commenced full recycling activities but were carrying out preparatory works within their lots, however Telford have commenced trial commissioning since 4 November 2010. The following throughputs occurred during the reporting quarter:

- 1. **Champway.** 357,962kg of cooking oil and 3,373,640kg of grease-trap waste were delivered and processed, producing 1,210,489kg of treated cooking oil, 727,560kg of biodiesel and 21,827kg of glycerine. A total of 2,335,476kg of waste was generated, including 28,000kg of inorganic waste, 580,571kg of organic waste and 1,726,905kg of water waste (semi-solid and slurry inclusive).
- 2. **Shiu Wing.** 6,154,190kg of waste metal was delivered and processed, producing the same amount of sheared heavy ferrous scrap on site. No waste was generated.
- 3. **Hung Wai.** 429,000kg of waste wood was delivered and processed, resulting in 1,434,500kg of wood chips as product output. No waste was generated.
- 4. **Li Tong.** 107,200kg of WEEE was delivered and processed, producing 13,103kg of metals and 66,017kg of non-metals. 2,016kg of general refuse was generated.
- 5. **Telford.** Although formal recycling activities are not currently being carried out, 249,000kg of waste plastics were delivered.
- Cosmos. No recycling activities are being carried out and no waste has been delivered.
- 7. **Yan Oi Tong.** 275,384kg of waste plastics were delivered and 255,678kg were processed. 35,712kg of general refuse was generated from mixed waste plastics.
- 8. **St James' Settlement.** 77,696kg of WEEE was delivered and processed, producing 1,151 pieces of repaired / refurbished Electrical and Electronic Equipment (EEE), 20,940kg of metals and 16,800kg of non-metals. A total of 3,857kg of waste was generated, including 3,257kg of general refuse and 600kg of chemical waste.

#### **Exceedances of any Measured Action / Limit Levels**

In terms of monitoring during operation phase EM&A, only quarterly monitoring of landfill gas (LFG) is required "following construction". Construction of Phase 1 was completed in July 2009, so LFG monitoring commenced in the next reporting quarter (August to October 2009). Construction of Phase 2 was completed in November 2010, so LFG monitoring commenced in the next reporting quarter (November 2010 to January 2011).

LFG monitoring during this quarter was undertaken on 19 July 2011 at five locations (three in Phase 1 and two in Phase 2). No exceedance of Action/Limit Level was recorded.

#### Summary of Complaints, Summons and Prosecutions

Numbers of complaints, summons and successful prosecutions are summarised below:

- Complaint: Two complaints (no. 002 and 003) about odour nuisance with "rotten, decayed smell from grease trap waste" from Champway's lot were received by the Operator on 9 and 15 June 2011, respectively. Details of the complaint are presented in Section 8, and the incident reports are attached in Appendix 8;
- Summons: zero; and



Successful Prosecutions: zero.

#### **Reporting Changes**

There is no change in reporting in this reporting quarter.

#### **Future Key Issues**

By end of this reporting quarter, two tenants of Phase 1, Telford and Cosmos, had not commenced full recycling activities but were carrying out preparatory works within their lots.

In the next reporting quarter, operation phase LFG monitoring for Phase 1 and Phase 2 will continue.



#### 1 PROJECT DESCRIPTION

#### 1.1 Overview

In the document "A Policy Framework For The Management Of Municipal Solid Waste (2005-2014)" the government set out a comprehensive policy to support the recycling industry. This included allocating suitable land, encouraging research and development, introducing environmental legislation and providing effective support measures. To this end, EcoPark is a key element that aims to promote the local recycling industry and jump-start a circular economy to provide a sustainable solution to our waste problems. By encouraging and promoting the reuse, recovery and recycling of our waste resources and returning them to the consumption loop, EcoPark will help to realise the full potential of the local recycling industry and alleviate the heavy reliance on the export of recyclable materials recovered from Hong Kong.

EcoPark has been developed in Tuen Mun Area 38 (see *Figure 1-1*) in two phases (Phase 1 and Phase 2) under construction contract *EP/SP/52/06 Development of EcoPark in Tuen Mun Area 38*, which was awarded to Kaden Construction by the Environmental Protection Department (EPD) in June 2006. Phase 1 construction was completed in July 2009 and Phase 2 construction was completed in November 2010. The seven-year contract for the operation of EcoPark *EP/SP/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38* was awarded to Serco Guardian Joint Venture (SGJV) by EPD in November 2006.

Effective from August 2010 onwards, SGJV ("the Operator") has appointed SMEC Asia Ltd (SMEC) as the Environmental Team (ET) for the Environmental Monitoring and Audit (EM&A) works, replacing the previous ET who were engaged by SGJV from May 2007 to July 2010. Effective from January 2011 onwards, SGJV has appointed Atkins China Ltd (Atkins) as the Independent Environmental Checker (IEC) for the EM&A works, replacing the previous IEC who were engaged by EPD from May 2007 to December 2010. The ET and the IEC carry out the EM&A works for EcoPark as required by the EM&A Manual and in accordance with the conditions of the Environmental Permit.

# 1.2 Operation Programme

By end of July 2011, two tenants, Telford and Cosmos, had commenced preparatory works within their lots. Telford have commenced trial commissioning since 4 November 2010. Six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have started recycling activities.

Environmental observations noted during this quarter's site inspections are detailed in **Section 7**. In brief, these are as follows:

1. Champway. Produced a significant amount of biodiesel from waste cooking oil. By the end of July 2011, no biodiesel was stored in the area reserved for the EcoPark wastewater treatment Plant (WWTP), next to Telford's lot. In this reporting quarter, the key environmental concerns rectified include providing certified Block Plan and Schematic Flow Diagram to EPD and oil/grease found inside the sewer of EcoPark, yet the observations of oil stains around the lot and inside the surface channels, storing activated carbon in an open area and odour nuisance remained outstanding. As a result, the tenant was reminded to remove the oil stains, store the activated carbon in a dry and weatherproof environment, and implement mitigation measures suggested in Incident/Complaint Report 003.



- 2. Shiu Wing. Sheared waste metal into heavy ferrous scrap, although the misting system and industrial dust collector are not yet in place. One environmental deficiency on stagnant water was recorded in this reporting quarter, and the tenant was reminded to remove the stagnant water and cover the open containers or place the containers upside-down.
- Hung Wai. Shredded large amount of waste wood into wooden chips. One
  environmental concern on fugitive dust emission was recorded in this reporting
  quarter, and the tenant was reminded to consider enclosing the outlet with a
  transparent rigid cone that enters the collection bag.
- 4. Li Tong. Checked and dismantled WEEE manually. One environmental issue on storing non-chemical waste inside the chemical waste storage room and opening the doors of the storage room was observed, and the tenant was reminded to remove such materials from the room and lock the doors when the room is not in use.
- 5. **Yan Oi Tong.** The key environmental concern was about littering and colour stains on ground of the temporary storage site (lot P6), and the tenant was reminded to improve housekeeping and remove the stains as soon as possible.
- 6. **St. James' Settlement.** Sorted and checked WEEE manually. Issues on storing non-chemical waste in the chemical waste store and stagnant water on WEEE were rectified in this reporting quarter. No new observations were recorded.

Remedial actions were recommended to tenants, and the remedial status shall be followed up in the next Monthly Site Audit.

## 1.3 EM&A Organisation

The EM&A works are carried out by the ET and the IEC on behalf of the Operator for the Project Proponent. The key personnel contact details are summarised in *Table 1-1*.

Table 1-1 EM&A Personnel Contact Details

Position	Name	Email Address	Telephone No.			
Project Proponent – EPD						
Principal EPO	Dr Lawrence WONG	lawrwong@epd.gov.hk	2872 1700			
Operator – SGJV						
Project Manager Noel AU		nkfau@ecopark-mgnt.com	2496 7633			
Park Manager Morgan CHIU		morganchiu@ecopark-mgnt.com	2212 5910			
IEC – Atkins						
IEC Sharifah OR		sharifah.or@atkinsglobal.com	2972 1802			
IEC Site Inspector Keith CHAU		keith.chau@atkinsglobal.com	2972 1721			
ET - SMEC	ET - SMEC					
ET Leader	Antony WONG	antony.wong@smec.com	3995 8120			
ET Site Inspector		carman.chung@smec.com	3995 8138			

The organisation of SGJV is shown in *Figure 1-2* and the current EM&A organisation is illustrated in *Figure 1-3*.



Figure 1-1 Location of EcoPark in Tuen Mun Area 38



Source: EPD Records (September 2011)



Figure 1-2 Organisation Chart of SGJV

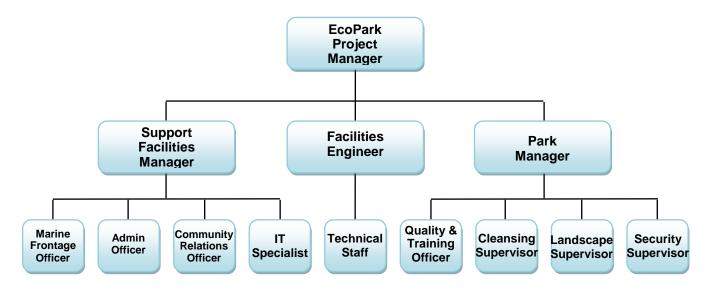
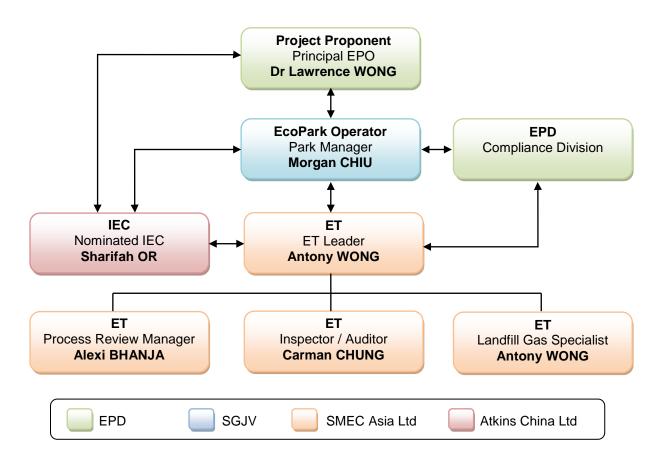


Figure 1-3 Organisation Chart of EM&A Works (Operation)





#### 2 SUMMARY OF EM&A REQUIREMENTS

### 2.1 Monitoring Parameters

In terms of monitoring during operation phase EM&A, only quarterly monitoring of landfill gas (LFG) is required at service voids and utility boxes "following construction". This is because part of EcoPark lies within the 250m "LFG consultation zone" for Siu Lang Shui Landfill, which is located to the north of EcoPark.

Construction of Phase 1 was completed in July 2009, so LFG monitoring commenced in the next reporting quarter (August to October 2009). Construction of Phase 2 was completed in November 2010, so LFG monitoring commenced in the next reporting quarter (November 2010 to January 2011).

The location for LFG monitoring was not specified in the EM&A Manual since the final design of EcoPark had not been completed when the EM&A Manual was approved. Therefore, during the joint site inspection on 27 July 2009, three monitoring locations in Phase 1 were identified and agreed as suitable monitoring locations by the ET, IEC and the Operator. Subsequently, two monitoring locations in Phase 2 were proposed by ET and agreed by IEC and the Operator *via* email in January 2011. These five monitoring locations are listed in *Table 2-1* and shown in *Figure 2-1*.

Table 2-1 Operation Phase LFG Monitoring Locations in EcoPark

Monitoring Station ID	Туре	Locations		
EP1-1	LFG vent pipe	Inside the landscaping area of Administration Building		
EP1-2	Service void	PCCW below-ground chamber outside Lot EP08-01		
EP1-3	Service void	ervice void HGC Broadband below-ground chamber outside Lot EP08-03		
EP2-1	Service void	HGC Broadband below-ground chamber outside Lot P1		
EP2-2	Service void	HGC Broadband below-ground chamber outside Lot P3		

Figure 2-2 is a replacement page for the EM&A Manual, in accordance with footnote to Figure 6.1 in the approved EM&A Manual, and shall be deemed to be included in the EM&A Manual.

Routine LFG monitoring shall be carried out on a quarterly basis. Should EPD alert the Operator that high LFG levels had been detected during monthly monitoring under the Siu Lang Shui Landfill restoration contract, then the Operator may be required to increase LFG monitoring to monthly until such time as EPD inform the Operator that quarterly monitoring can be resumed. To-date, EPD have not alerted the Operator.

# 2.2 Environmental Quality Performance Limits and EAP

The Action / Limit Levels and Event Action Plan (EAP) for LFG are shown in *Table 2-2*, below. These refer to LFG detected in excavations, utilities and any enclosed on-site areas. No other A/L Levels or EAPs are specified in the EM&A Manual for operation phase EM&A.



Table 2-2 Action Levels, Limit Levels and Event and Action Plan for LFG

Parameter	Level	Action		
	Action Level <19% O <sub>2</sub>	<ul> <li>Ventilate trench/void to restore O<sub>2</sub> to &gt; 19%</li> </ul>		
Oxygen (O <sub>2</sub> )	Limit Level <18% O <sub>2</sub>	<ul> <li>Stop works</li> <li>Evacuate personnel / prohibit entry</li> <li>Increase ventilation to restore O<sub>2</sub> to &gt; 19%</li> </ul>		
Methane	Action Level >10% LEL	<ul> <li>Post "No Smoking" signs</li> <li>Prohibit hot works</li> <li>Increase ventilation to restore CH<sub>4</sub> to &lt;10% LEL</li> </ul>		
(CH <sub>4</sub> )	Limit Level >20% LEL	<ul> <li>Stop works</li> <li>Evacuate personnel / prohibit entry</li> <li>Increase ventilation to restore CH<sub>4</sub> to &lt;10% LEL</li> </ul>		
	Action Level >0.5% CO <sub>2</sub>	<ul> <li>Ventilate to restore CO<sub>2</sub> to &lt; 0.5%</li> </ul>		
Carbon Dioxide (CO <sub>2</sub> )	Limit Level >1.5% CO <sub>2</sub>	<ul> <li>Stop works</li> <li>Evacuate personnel / prohibit entry</li> <li>Increase ventilation to restore CO<sub>2</sub> to &lt;0.5%</li> </ul>		

#### 2.3 Environmental Audit of Non-Monitored Parameters

Site inspections provide a direct means to trigger and enforce the environmental protection and pollution control measures specified in the Environmental Impact Assessment (EIA) Report. To examine operational practice, site inspections are to be undertaken regularly by the ET once per month, and joint site inspections are to be carried out by the ET and IEC once per quarter. Ad hoc site inspections are also carried out if significant environmental problems are identified. In addition, inspections may be required subsequent to receipt of an environmental complaint, or as part of the investigation work, as specified in the EAP.

The following parameters are required to be audited as part of the operation phase EM&A programme:

- 1. Air Quality;
- 2. Water Quality;
- 3. Waste Management; and
- 4. Land Contamination.

# 2.4 Environmental Mitigation Measures

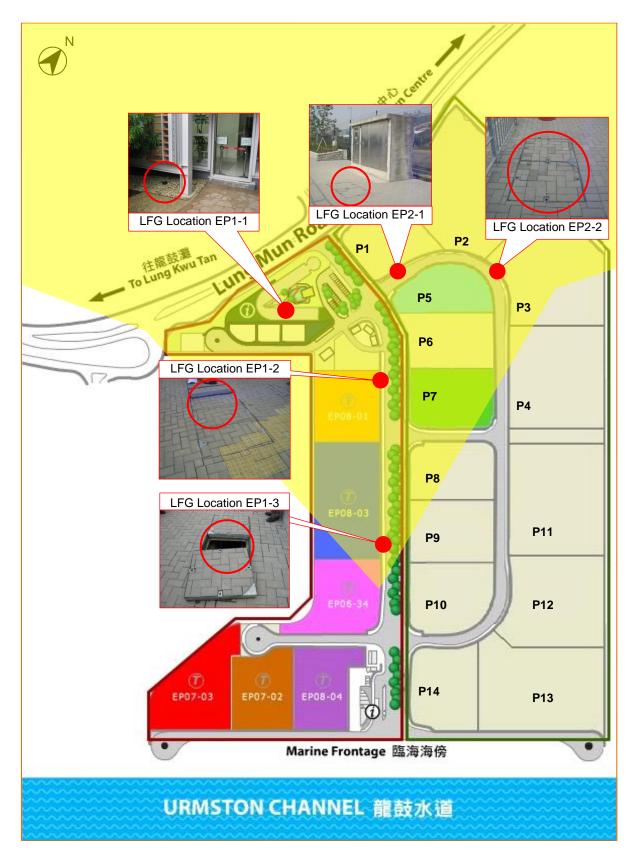
Environmental mitigation measures applicable to the operation phase EM&A as stated in the Implementation Schedule are summarised in *Appendix 1*.

# 2.5 Environmental Requirements in Tenancy Agreements

Environmental requirements specified in tenancy agreements are summarised in *Appendix 2*.



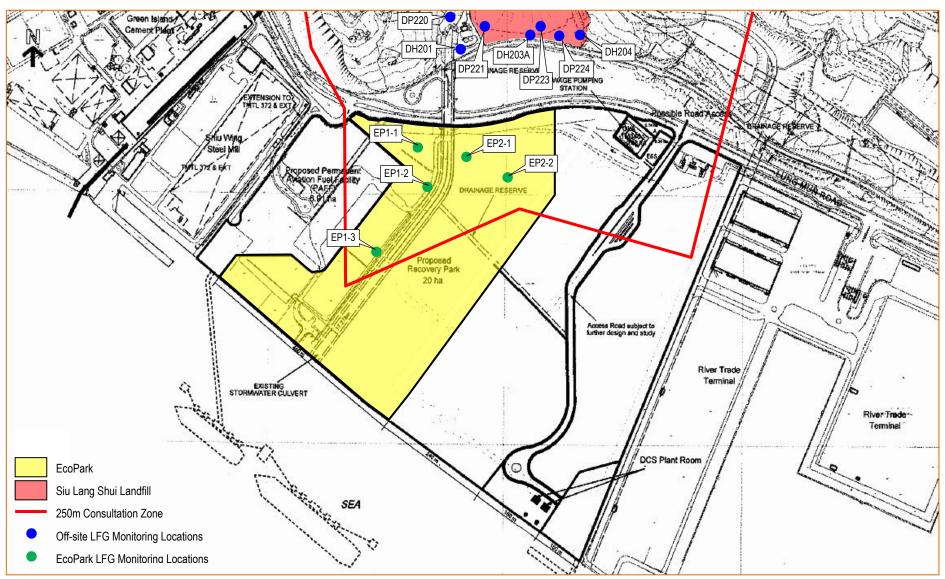
Figure 2-1 LFG Monitoring Locations within EcoPark



Area Within the Shiu Lang Shui Landfill Gas Consultation Zone



Figure 2-2 Replacement Figure for EM&A Manual Figure 6.1





### 3 OPERATION STATUS

#### 3.1 Tenants and Processes

*Figure 3-1* shows the location of lots within EcoPark, the tenancy reference numbers and tenant names.

#### 3.1.1 Tenancy EP07-03 (Phase 1)

• Lot Size: Approx. 6,000m<sup>2</sup>

• Activity: Recycling of Organic Waste (Waste Cooking Oil)

• Tenant: Champway Technology Limited

 Recycling Process: Turn waste cooking oil into biodiesel by extraction, neutralisation, separation and distillation

Following a trial run in May and June 2010, recycling activities commenced in July 2010. By end of this reporting quarter, no biodiesel was stored in the area reserved for the EcoPark wastewater treatment Plant (WWTP), next to Telford's lot. A summary of waste throughputs is provided in *Section 3.2*.

#### 3.1.2 Tenancy EP08-03 (Phase 1)

• Lot Size: Approx. 9,500m<sup>2</sup>

Activity: Recycling of Waste Metals

Tenant: Shiu Wing Steel Limited

 Recycling Process: Turn waste metals into light ferrous scrap and heavy ferrous scrap by sorting, baling and shearing

Following a trial run in May and June 2010, recycling activities commenced in July 2010. In this reporting quarter, large amounts of waste metal/steel scrap have been processed. A summary of waste throughputs is provided in **Section 3.2**.

#### 3.1.3 Tenancy EP06-034 (Phase 1)

• **Lot Size:** Approx. 5,000m<sup>2</sup>

• Activity: Recycling of Waste Wood

• Tenant: Hong Kong Hung Wai Wooden Board Company

 Recycling Process: Shred waste wood into wooden chips for further processing in Mainland China. Ferrous metals will be separated by magnets.

Following a trial run in May and June 2010, recycling activities commenced in July 2010. In this reporting quarter, large quantities of wood chips (product output) have been produced. A summary of waste throughputs is provided in **Section 3.2**.



#### 3.1.4 Tenancy EP07-02 (Phase 1)

• Lot Size: Approx. 6,500m<sup>2</sup>

Activity: Recycling of WEEE

• Tenant: Li Tong Group

 Recycling Process: Manually dismantling of WEEE, particularly CRT glass and LCD panels into metals (ferrous materials, aluminium, etc.) and non-metals (fibres, plastics, etc.).

Following a trial run in September 2010, recycling activities commenced in October 2010. A summary of waste throughputs is provided in **Section 3.2**.

#### 3.1.5 Tenancy EP08-01 (Phase 1)

• Lot Size: Approx. 5,000m<sup>2</sup>

· Activity: Recycling of Waste Plastics

• Tenant: Hong Kong Telford Envirotech Group Limited

Recycling Process: Sorting, shredding and extrusion of waste plastics

As of end-July 2011, the tenant has commenced preparatory works but has not yet commenced formal recycling activities. Telford have commenced trial commissioning since 4 November 2010. Plastic bags have been stockpiled in the lot since July 2009, and other plastic waste and some recycling equipments could also be found.

#### 3.1.6 Tenancy EP08-04 (Phase 1)

• Lot Size: Approx. 4,000 m<sup>2</sup>

Activity: Recycling of materials arising from industrial and commercial activities

Tenant: Cosmos Star Holdings Co., Limited

 Recycling Process: Separate waste lead-acid and lithium batteries by mechanical / physical means. The battery acid will be drained and treated by the on-site wastewater treatment system

A building contractor was engaged in October 2010 and construction works have commenced since December 2010. As of end-July 2011, works such as site formation and foundations, have been carried out.

#### **3.1.7** Tenancy P7 (Phase 2)

Lot Size: Approx. 5,000 m<sup>2</sup>

• Activity: Recycling of waste plastics

Tenant: YOT EcoPark Plastic Resources Recycling Centre

 Recycling Process: Convert mixed waste plastics into pellets / flakes / baled materials by pre-washing, sorting, flaking, secondary washing, drying, extrusion and chip-forming

Recycling activities commenced after trial operation in March 2010. In this reporting quarter, large amount of waste plastics have been sorted. A summary of waste throughputs is provided in **Section 3.2**.



#### **3.1.8** Tenancy P5 (Phase 2)

Lot Size: Approx. 5,000 m<sup>2</sup>
 Activity: Recycling of WEEE

• Tenant: St. James' Settlement "WEEE GO GREEN" EcoPark

Recycling Process: WEEE will be sorted on site first. The WEEEs suitable for reuse
will be repaired and refurbished, whilst those irreparable / not suitable for repair will
be manually dismantled to recover the reusable parts and recyclable materials

After completion of construction works in September 2010, recycling activities commenced in October 2010. A summary of waste throughputs is provided in *Section 3.2*.

#### 3.2 Throughput Statistics

As of end-July 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have formally commenced recycling activities within their lots. Two tenants, Telford and Cosmos, have not formally commenced full recycling activities as they are still carrying out preparatory works within their lots, however Telford have commenced trial commissioning since 4 November 2010. The following throughputs occurred during the reporting quarter:

- Champway. 357,962kg of cooking oil and 3,373,640kg of grease-trap waste were delivered and processed, producing 1,210,489kg of treated cooking oil, 727,560kg of biodiesel and 21,827kg of glycerine. A total of 2,335,476kg of waste was generated, including 28,000kg of inorganic waste, 580,571kg of organic waste and 1,726,905kg of water waste (semi-solid and slurry inclusive).
- 2. **Shiu Wing.** 6,154,190kg of waste metal was delivered to and processed, producing the same amount of sheared heavy ferrous scrap on site. No waste was generated.
- 3. **Hung Wai.** 429,000kg of waste wood was delivered to and processed, resulting in 1,434,500kg of wood chips as product output. No waste was generated.
- 4. **Li Tong.** 107,200kg of WEEE was delivered to and processed, producing 13,103kg of metals and 66,017kg of non-metals. 2,016kg of general refuse was generated.
- 5. **Telford.** Although formal recycling activities are not currently being carried out, 249,000kg of waste plastics were delivered.
- Cosmos. No recycling activities are being carried out and no waste has been delivered.
- 7. **Yan Oi Tong.** 275,384kg of waste plastics were delivered and 255,678kg were processed. 35,712kg of general refuse was generated from mixed waste plastics.
- 8. **St James' Settlement.** 77,696kg of WEEE was delivered and processed, producing 1,151 pieces of repaired / refurbished EEE, 20,940kg of metals and 16,800kg of non-metals. A total of 3,857kg of waste was generated, including 3,257kg of general refuse and 600kg of chemical waste.

Detailed throughput figures are provided in *Appendix 3*.



Figure 3-1 Current Lot Usage Within EcoPark





# 4 IMPLEMENTATION STATUS OF ENVIRONMENTAL PROTECTION MEASURES

Environmental mitigation measures applicable to the operation phase EM&A as stated in the implementation schedule are summarised in *Appendix 1*. Environmental requirements specified in tenancy agreements are summarised in *Appendix 2*.

As of end-July 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have formally commenced recycling activities within their lots. Appropriate environmental protection measures are in place.



#### 5 MONITORING RESULTS

# 5.1 Monitoring Date, Time, Frequency and Duration

LFG monitoring is conducted on a quarterly basis. In this reporting quarter, monitoring was undertaken on 19 July 2011. Monitoring details are shown in *Table 5-1*, below.

Table 5-1 Sampling Schedule of LFG Monitoring

Station ID	Date	Time	Duration	Air Temp.	Weather
EP1-1	19 July 2011	11:11-11:15	4 minutes	30°C	Fine
EP1-2		10:53-10:57	4 minutes	30°C	Fine
EP1-3		10:47-10:51	4 minutes	30°C	Fine
EP2-1		10:58-11:02	4 minutes	30°C	Fine
EP2-2		11:03-11:07	4 minutes	30°C	Fine

# 5.2 Monitoring Methodology, Parameters and Equipment

The LFG monitoring requirement and methodology are stipulated in Section 6 of the EM&A Manual. The LFG monitoring parameters and their measurement ranges are detailed in *Table 5-2*, below.

Table 5-2 Parameters and Measurement Ranges of LFG Monitoring

Parameters	Measurement Ranges		
Methane (CH <sub>4</sub> )	0-100% LEL & 0-100% v/v		
Oxygen (O <sub>2</sub> )	0-25% v/v		
Carbon Dioxide (CO <sub>2</sub> )	0-100% v/v		
Barometric Pressure	mBar (absolute)		

LFG monitoring shall be carried out using intrinsically-safe, portable multi-gas monitoring instruments. The gas monitoring equipment shall:

- 1. Where possible, comply with BS 6020 and be approved by BASEEFA as intrinsically safe, suitable for use in a Zone 2 are to BS 5345.
- 2. Be capable of continuous monitoring of methane, oxygen and carbon dioxide.
- 3. Be capable of continuous barometric pressure and gas pressure measurements.
- 4. Normally operate in diffusion mode unless required for spot sampling, when it should be capable of operating by means of an aspirator or pump.
- 5. Have low battery, fault and over range indication incorporated.
- 6. Store monitoring data, and shall be capable of being down-loaded directly to a PC.
- 7. Measure in the following ranges:

Methane
 0-100% LEL & 0-100% v/v

Oxygen 0-25% v/v
 Carbon dioxide 0-100% v/v
 Barometric pressure mBar (absolute)



The monitoring equipment shall alarm (both audibly and visually) in the event that the concentrations of the following are exceeded:

- 1. Methane rise to 10% LEL.
- 2. Oxygen fall to 18% by volume.
- 3. Carbon monoxide maximum short term (1-hour) exposure of 300ppm with long term average (8-hours) not to exceed 50ppm.

#### 5.3 Types of Equipment Used and Calibration Details

One Infra Red Gas Analyser Model GA94A (serial number GA3385) was used for LFG measurements. The gas analyser is calibrated every 18 months. *Appendix 4* presents the monitoring equipment calibration records.

# 5.4 Results and Graphical Plots of Monitoring Parameters

LFG monitoring results are summarised in *Table 5-3* and compared with the Action and Limit Levels tabulated in *Table 2-2*. Graphical plots of the monitoring results are also provided in *Appendix 5*.

**Table 5-3 LFG Monitoring Results** 

	Monitoring Results					
Station ID	CH₄ (% v/v)	CH₄ (% LEL)	O <sub>2</sub> (% v/v)	CO₂ (% v/v)	Barometric Pressure (mBar)	
EP1-1	0.0	0	21	0.0	1007	
EP1-2	0.0	0	20	0.0	1007	
EP1-3	0.0	0	19	0.0	1007	
EP2-1	0.0	0	21	0.0	1007	
EP2-2	0.0	0	20	0.0	1007	

As can be seen above, no Action or Limit Level exceedance was recorded.



#### **6 WASTE GENERATION STATISTICS**

As of end-July 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have formally commenced recycling activities within their lots. The details of waste generation are shown in *Appendix 3*.

- Champway. A total of 2,335,476kg of waste, including 28,000kg of inorganic waste, 580,571kg of organic waste and 1,726,905kg of water waste (semi-solid and slurry inclusive), was generated. These organic waste and water waste were collected by licence collectors, transported to and disposed of at WENT Landfill as general refuse.
- 2. **Shiu Wing.** Has not generated any non-ferrous scrap / general refuse from the waste metal / steel scrap in this reporting quarter.
- 3. **Hung Wai.** Has not produced any general refuse from the waste wood in this reporting quarter.
- 4. **Li Tong.** 2,016kg of general refuse was produced from the WEEE, and subsequently disposed of at WENT Landfill.
- 5. **Yan Oi Tong.** 35,712kg of general refuse was sorted from the mixed waste plastics, and subsequently disposed of at WENT Landfill.
- St. James' Settlement. A total of 3,857kg of waste, including 3,257kg of general refuse and 600kg of chemical waste, was generated. Whilst the general refuse was disposed of at WENT Landfill, the chemical waste was transported to EPD's Chemical Waste Treatment Centre for further treatment.



#### 7 SUMMARY OF ENVIRONMENTAL AUDIT

# 7.1 May 2011

Environmental audits of active tenants and the general EcoPark audit were carried out by the ET on 25 May 2011.

#### 7.1.1 Tenant Audits

Six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) had commenced recycling activities and a summary of their audits is provided below. Telford have commenced trial commissioning since 4 November 2010. The audits were conducted based on the approved site inspection checklist. The completed audit checklists for tenants are provided in *Appendix 6*.

- 1. Champway. Previous observations of providing certified revised Block Plan and Schematic Flow Diagram to EPD, uncovered and fully loaded oil buckets, as well as oil stains around the lot remained outstanding, whilst the issue of oil/grease inside the sewer would be checked in the next Quarterly Site Audit in July 2011. Consequently the Tenant was reminded to submit the certified drawings to EPD for record, cover and clear the fully loaded oil buckets, remove the oil stains, dispose of the waste materials properly, and maintain the oil and grease removal devices regularly. No new observations were recorded during the audit. The completed checklist for Champway is provided in Appendix 6.1.
- Shiu Wing. No follow-up action was required from the previous site audit, and no new observations were recorded during the audit. The completed checklist for Shiu Wing is provided in *Appendix 6.2*.
- Hung Wai. No follow-up action was required from the previous site audit, and no new observations were recorded during the audit. The completed checklist for Hung Wai is provided in *Appendix* 6.3.
- Li Tong. No follow-up action was required from the previous site audit, and no new observations were recorded during the audit. The completed checklist for Li Tong is provided in *Appendix 6.4*.
- 5. **Yan Oi Tong.** No follow-up action was required from the previous site audit, and no new observations were recorded during the audit. The completed checklist for Yan Oi Tong is provided in *Appendix 6.5*.
- 6. St. James' Settlement. Previous observation of storing non-chemical waste in the chemical waste store was rectified. Stagnant pool of water was found on WEEE at the storage area during the audit. The tenant was thus reminded to clear the stagnant water and cover the materials with canvas as soon as possible. The completed checklist for St. James' Settlement is provided in *Appendix 6.6*.

#### 7.1.2 General EcoPark Audit

Following the site audit in April 2011, the environmental deficiencies at Telford's lot remained outstanding. The tenant was again reminded to implement appropriate mitigation measures to address these issues. No new environmental observations were recorded during the audit. The completed general checklist for EcoPark (and non-active tenants) is provided in *Appendix 7*. The remedial status shall be followed up in the next audit.



#### 7.2 June 2011

Environmental audits of active tenants and the general EcoPark audit were carried out by the ET on 21 June 2011.

#### 7.2.1 Tenant Audits

Six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) had commenced recycling activities and a summary of their audits is provided below. Telford have commenced trial commissioning since 4 November 2010. The audits were conducted based on the approved site inspection checklist. The completed audit checklists for tenants are provided in *Appendix 6*.

- 1. Champway. Previous observation of oil leakage/stains around the lot remained outstanding, whereas the issues of providing the certified drawings to EPD and oil/grease inside the sewer would be checked in the next Quarterly Site Audit in July 2011. The tenant was thus reminded to remove the oil stains and dispose of the waste materials properly. Two new observations of oil stains at the corner of the lot and inside the surface channels, as well as storing activated carbon in an open environment were recorded; as a result, the tenant was reminded to clear the contaminated soil properly and store the activated carbon in a dry and weatherproof environment. The completed checklist for Champway is provided in Appendix 6.1.
- Shiu Wing. No follow-up action was required from the previous site audit, and no new observations were recorded during the audit. The completed checklist for Shiu Wing is provided in *Appendix 6.2*.
- 3. Hung Wai. No follow-up action was required from the previous site audit. One new observation of emitting fugitive dust from the metal separation outlet of the shredding machine was recorded during the audit, thus the Tenant was suggested to enclose the outlet with a transparent rigid cone that enters the collection bag. The completed checklist for Hung Wai is provided in *Appendix 6.3*.
- 4. **Li Tong.** No follow-up action was required from the previous site audit, and no new observations were recorded during the audit. The completed checklist for Li Tong is provided in *Appendix 6.4*.
- 5. Yan Oi Tong. No follow-up action was required from the previous site audit. One new observation of littering and colour stains on ground of the temporary storage site (lot P6) was recorded during the audit. The tenant was therefore reminded to improve housekeeping and remove the stains as soon as possible. The completed checklist for Yan Oi Tong is provided in *Appendix 6.5*.
- St. James' Settlement. Previous observation of stagnant pool of water at the WEEE storage area was rectified. No new observations were recorded during the audit. The completed checklist for St. James' Settlement is provided in *Appendix* 6.6.

#### 7.2.2 General EcoPark Audit

Following the site audit in May 2011, the environmental deficiencies at Telford's lot remained outstanding. The tenant was again reminded to implement appropriate mitigation measures to address these issues. One new observation of oil/water mixture flowing into the surface channels of Telford's lot was recorded during the audit, and the tenant was reminded to remove the mixture from surface channels as soon as possible and clear the drip tray provided to the machine regularly. The completed general



checklist for EcoPark (and non-active tenants) is provided in *Appendix 7*. The remedial status shall be followed up in the next audit.

### 7.3 July 2011

Environmental audits of active tenants and the general EcoPark audit were carried out by the ET and the IEC in a joint inspection on 19 July 2011.

#### 7.3.1 Tenant Audits

Six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) had commenced recycling activities and a summary of their audits is provided below. Telford have commenced trial commissioning since 4 November 2010. The audits were conducted based on the approved site inspection checklist. The completed audit checklists for tenants are provided in *Appendix 6*.

- 1. Champway. Previous observations of providing certified drawings to EPD and oil/grease inside the sewer of EcoPark were rectified, whereas the oil leakage/stains around the lot and inside surface channels, as well as the storage of activated carbon remained outstanding. Therefore the tenant was again reminded to remove the oil stains and dispose of the waste materials properly, put sandbags at the edge of the surface channels, and store the activated carbon in a dry and weatherproof environment. Two new observations on stagnant water and odour nuisance were recorded during the audit, and the tenant was reminded to cover the containers or place the containers upside-down, and implement mitigation measures suggested in Incident/Complaint Report 003. The completed checklist for Champway is provided in *Appendix 6.1*.
- Shiu Wing. No follow-up action was required from the previous site audit. One new
  observation of stagnant water was recorded during the audit, and the tenant was
  reminded to remove the stagnant water and cover the open containers or place the
  containers upside-down. The completed checklist for Shiu Wing is provided in
  Appendix 6.2.
- 3. Hung Wai. Previous observation of emitting fugitive dust from the metal separation outlet of the shredding machine remained outstanding, and the tenant was again reminded to consider enclosing the outlet with a transparent rigid cone that enters the collection bag. No new observations were recorded during the audit. The completed checklist for Hung Wai is provided in *Appendix 6.3*.
- 4. Li Tong. No follow-up action was required from the previous site audit. One new observation of storing non-chemical waste inside the chemical waste storage room and opening the doors of the storage room was recorded during the audit. The tenant was thus reminded to remove such materials from the room and lock the doors when the room is not in use. The completed checklist for Li Tong is provided in *Appendix 6.4*.
- 5. Yan Oi Tong. Due to the heavy rain during site audit, it was impossible to check the previous observation of littering and colour stains at Lot P6; as a result, the situation will be monitored in the next Monthly Site Audit in August 2011. No new observations were recorded during the audit. The completed checklist for Yan Oi Tong is provided in *Appendix 6.5*.
- St. James' Settlement. No follow-up action was required from the previous site
  audit, and no new observations were recorded during the audit. The completed
  checklist for St. James' Settlement is provided in *Appendix 6.6*.



#### 7.3.2 General EcoPark Audit

Following the site audit in June 2011, the environmental deficiencies at Telford's lot remained outstanding. Since no representative was present and the lot was inaccessible during the site audit, the deficiencies will be monitored in the next Monthly Site Audit in August 2011. No new observations were recorded during the audit. The completed general checklist for EcoPark (and non-active tenants) is provided in *Appendix 7*.

During the joint site audit, LFG monitoring was undertaken at the five monitoring locations (three in Phase 1 and two in Phase 2) agreed by the ET, IEC and the Operator. These five monitoring locations are listed in *Table 2-1* and shown in *Figure 2-1*. The monitoring results are presented in *Section 5.4*. No Action/Limit Level exceedance was recorded.



#### 8 COMPLAINTS

As of end-July 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have formally commenced recycling activities within their lots. Telford have commenced trial commissioning since 4 November 2010.

Two complaints (no. 002 and 003) about odour nuisance with "rotten, decayed smell from grease trap waste" from Champway's lot were received by the Operator on 9 and 15 June 2011, respectively. The ET Leader was informed by the Operator on 10 and 16 June 2011 and the IEC was then notified by the ET Leader on 13 and 17 June 2011. Site investigations were therefore carried out by the ET and the Operator on 14 and 21 June 2011, respectively, so as to identify the cause of odour.

According to the first site investigation on 14 June 2011, the key sources of odour were found to be the steam emitted from gaps of the cover of the Surplus Water with Dregs Storage Tank, as well as the Oil/Water Mixture Storage Tanks because one of its covers was open for cleaning or transfer of oil. During the site investigation, Champway also advised that only one of the five activated carbon filters was in use.

In order to abate odour, Champway was suggested to instruct workers with proper operational procedures, seal the covers of the Oil/Water Mixture Storage Tanks and the Surplus Water with Dregs Storage Tank, switch on the air pollution control system for any activities that can emit odour, store the activated carbon in a dry and weatherproof environment, and not to open the cover of the Oil/Water Mixture Storage Tanks as far as practicable.

Referring to the second site investigation on 21 June 2011, odour was noted at the extraction system/activated carbon storage container, which may be caused by leakage of the extraction system. In addition, the key sources of odour identified in the first site investigation, i.e. steam emission from tanks, cleaning of tanks and transfer of oil, were not observed or carried out.

The implementation of mitigation measures suggested in the first site investigation was checked during the second site investigation. As advised by Champway, it may not be possible to seal the covers of tanks due to the high temperature of oil/water, and use transparent cover or not to open the cover of the Oil/Water Mixture Storage Tanks when cleaning or transfer of oil takes place. As observed on-site, the workers seemed to follow the operational procedures; however only one of the five activated carbon filters was in use, and the activated carbon was still not stored in a fully enclosed container.

Although the situation was improved, Champway was reminded to store the activated carbon in a dry and weatherproof environment. With Champway's initial programme of using 2 more activated carbon filters and 1 more extraction fan on 5 July 2011, the ET was supposed to monitor their efficiencies during the Quarterly Site Audit on 19 July 2011; nevertheless, the works were not yet completed when the Quarterly Site Audit took place. The situation will thus be examined in the next Monthly Site Audit in August 2011.

The Incident/Complaint Reports of these complaints with details are enclosed in *Appendix 8*, whilst the Complaint Log of Complaints 001 to 003 is provided in *Appendix 9*.



#### 9 CONCLUSIONS

This is the seventeenth quarterly EM&A report prepared for the operation phase of EcoPark and covers May to July 2011.

At present, there are eight tenants in EcoPark. As of end-July 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have formally commenced recycling activities within their lots. Two tenants, Telford and Cosmos, have not formally commenced recycling activities as they are still carrying out preparatory works within their lots. The following throughputs occurred during the reporting quarter:

- Champway. 357,962kg of cooking oil and 3,373,640kg of grease-trap waste were delivered and processed, producing 1,210,489kg of treated cooking oil, 727,560kg of biodiesel and 21,827kg of glycerine. A total of 2,335,476kg of waste was generated, including 28,000kg of inorganic waste, 580,571kg of organic waste and 1,726,905kg of water waste (semi-solid and slurry inclusive).
- 2. **Shiu Wing.** 6,154,190kg of waste metal was delivered and processed, producing the same amount of sheared heavy ferrous scrap on site. No waste was generated.
- 3. **Hung Wai.** 429,000kg of waste wood was delivered and processed, resulting in 1,434,500kg of wood chips as product output. No waste was generated.
- 4. **Li Tong.** 107,200kg of WEEE was delivered and processed, producing 13,103kg of metals and 66,017kg of non-metals. 2,016kg of general refuse was generated.
- 5. **Telford.** Although formal recycling activities are not currently being carried out, 249,000kg of waste plastics were delivered.
- 6. **Cosmos.** No recycling activities are being carried out and no waste has been delivered.
- 7. **Yan Oi Tong.** 275,384kg of waste plastics were delivered and 255,678kg were processed. 35,712kg of general refuse was generated from mixed waste plastics.
- 8. **St James' Settlement.** 77,696kg of WEEE was delivered and processed, producing 1,151 pieces of repaired / refurbished EEE, 20,940kg of metals and 16,800kg of non-metals. A total of 3,857kg of waste was generated, including 3,257kg of general refuse and 600kg of chemical waste.

In terms of monitoring during operation phase EM&A, only quarterly monitoring of landfill gas (LFG) is required at service voids and utility boxes "following construction". This is because part of EcoPark lies within the 250m "LFG consultation zone" for Siu Lang Shui Landfill, located to the north of EcoPark. Construction of Phase 1 was completed in July 2009, so LFG monitoring commenced in the next reporting quarter (August to October 2009). Construction of Phase 2 was completed in November 2010, so LFG monitoring commenced in the next reporting quarter (November 2010 to January 2011). LFG monitoring was undertaken on 19 July 2011 in this reporting quarter, and no Action/ Limit Level exceedance was recorded.

The ET has conducted monthly site inspections based on the approved checklist. Since October 2009, the checklist has been used in the monthly site inspections for various tenants. Environmental deficiencies and general observations noted during the monthly site inspections were detailed in **Section 7**. Remedial actions were recommended to tenants, and the remedial status shall be followed up in the next monthly site inspection.



Two complaints about odour nuisance with "rotten, decayed smell from grease trap waste" from Champway's lot were received by the Operator on 9 and 15 June 2011, respectively; consequently two site investigations were carried out by the ET and the Operator on 14 and 21 June 2011 morning to reveal the cause of odour. Details of the complaints are presented in **Section 8**, and the Incident/Complaint Reports are attached in **Appendix 8**.

In the coming quarter, operation phase LFG monitoring for Phase 1 and Phase 2 shall continue.



# **APPENDIX 1**

Environmental Mitigation Measures (from the Implementation Schedule)



EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
General			1	<u>'</u>	•
5.5.23 to 5.5.25, 10.2.24 & 10.2.37	4.2.5 to 4.2.8	The Operator shall develop and implement an Emergency Response Plan (ERP) that lists the procedures to be followed in case of fire, fuel or chemical spillage or other emergency within the EcoPark.	Throughout the duration of the operation.	Operator	
12.2	7.2	No process shall be allowed to operate within EcoPark without approval from WFBU. Approval will be based on the ten-step Process Review, which may include a Design Audit if deemed to be necessary.	Throughout the duration of the operation.	ET IEC Project Proponent	
	8.1.2	All reports (including Process Review Checklists and any Design Audits) shall be prepared and certified by the ET, verified by the IEC and approved by the Project Proponent.	Throughout the duration of construction works until construction is substantially completed. Throughout the duration of the operation.	ET IEC Project Proponent	
12.3	7.3	The Operator shall prepare and implement an Environmental Management Plan (EMP) to define mechanisms for achieving the environmental requirements specified in the EIA, EP and in statutory regulations.	Throughout the duration of the operation.	Operator	
Air Quality	у				•
13.2		The Operator shall ensure that the EcoPark "base case" assumptions for air quality shown in Table 13.1 of the Final EIA Report are met by tenants, as a whole.	Throughout the duration of the operation.	Operator	Table 13.1 of the Final EIA Report
Water Qua	ality				1
5.4.11 & 5.6.7		To minimise the chance of accidental spillage during loading and unloading, and thereby reduce marine water quality impacts, well established cargo handling guidelines should be followed.	Adjacent to EcoPark marine frontage when loading or unloading goods.	Operator Operators of bulk carriers	Sections 5 & 6 of IMO Code of Practice for the Safe Loading/Unloading of Bulk Carriers
5.5.19		Contaminated water collected in the surface drainage systems shall be treated at the WTF or other appropriate treatment facility.	Within EcoPark throughout the life of the facility.	Operator	
5.5.23 to 5.5.25	4.2.5 to 4.2.7	An Emergency Response Plan (ERP) will be formulated to address various accident scenarios. The ERP will be certified by the Environmental Team (ET) and verified by the Independent Environmental Checker (IEC) under the operation EM&A programme.	Within EcoPark throughout the life of the facility.	Operator	
5.6.4		For uncovered areas where recovery process identified as causing potentially high level of contamination are located, stop-logs will be installed in the perimeter drainage system to isolate contamination.	Within EcoPark throughout the life of the facility.	Operator	



EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
	4.2.2	The ET should develop an audit checklist, with the agreement of the IEC, to ensure that each mitigation measure is implemented when appropriate and operated correctly when implemented.	Within EcoPark throughout the life of the facility.	ET with IEC	
Waste Ma	nagemer	nt en			
6.8.7	5.2.4	The Operator should register with EPD as a chemical waste producer.	Within EcoPark throughout the life of the facility.	Operator	Waste Disposal (Chemical Waste) (General) Regulation
6.8.16		The dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.	Within EcoPark throughout the life of the facility.	Operator	Practice Note for disposal of dusty waste at landfills & Admission Ticket System
6.8.18 & 6.8.22	5.2.4	Sludge will be disposed of at WENT landfill, or at any future dedicated sludge treatment facility. Sludge will be collected by a Licensed collector at regular intervals, as determined by the operation of the WTF	Within EcoPark throughout the life of the facility.	Operator	
6.8.21	5.2.4	Chemical wastes shall be stored in appropriate containers in a covered area. "No Smoking" signs will be clearly displayed to prevent accidental ignition of flammable materials. Drip trays capable of storing 110% of the volume of the largest container will be used to mitigate possible leakage.	Within EcoPark throughout the life of the facility.	Operator	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
	5.2.3 & 5.2.5	The ET should develop an audit checklist, with the agreement of the IEC, to ensure that each mitigation measure is implemented when appropriate and operated correctly when implemented.	Within EcoPark throughout the life of the facility.	ET with IEC	
Preventio	n of Con	taminated Land			
7.3.1	5.3.2	Any spillages of contaminating material shall be cleaned up immediately through the use of an absorbent. Any such used material should then be considered chemical waste and disposed of appropriately.	Within EcoPark throughout the life of the facility.	Operator	
7.3.3		Any areas within the lot to be used for recycling processes shall be concrete paved before recycling activities commence.	Within EcoPark throughout the life of the facility.	Operator	
7.3.5	5.3.2	During operation, the greatest risk of land contamination will come from storage of chemical wastes, therefore the measures should be followed:	Within EcoPark throughout the life of the facility.	Operator	
		<ul> <li>All chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil and chemicals from contaminating the ground.</li> </ul>			
		<ul> <li>Management of chemical waste is implemented through the control of waste storage, labelling of waste, transportation and treatment of chemical waste at an appropriate facility.</li> </ul>			



EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
		<ul> <li>Chemical wastes will be collected, stored and disposed of in accordance with the Regulation. Disposal of other construction waste will be undertaken by Licensed contractors in accordance with applicable statutory requirements in the WDO.</li> </ul>			Waste Disposal (Chemical Waste) (General) Regulation
		Chemical wastes shall be handled according to the relevant code of practice. Spent chemicals shall be stored and collected by an approved operator for disposal at a licensed facility in accordance with the relevant regulation.			Code of Practice on the Packaging, Labelling and Storage of Chem Wastes & Chemical Waste (General) Regulation
	5.3.3	The ET should develop an audit checklist, with the agreement of the IEC, to ensure that each mitigation measure is implemented when appropriate and operated correctly when implemented.	Within EcoPark throughout the life of the facility.	ET with IEC	
Landfill G	as				
8.7.10 & 8.7.11	6.1.2	<ul> <li>Alert workers and visitors of possible LFG hazards</li> <li>Prohibit smoking and open fires on site</li> <li>Conduct regular (quarterly) LFG monitoring at mobile offices, equipment stores, etc.</li> </ul>	Within EcoPark throughout the life of the facility.	Operator	
	6.4.3	Following construction, routine monthly monitoring may be required at service voids and utility boxes. The monitoring requirement and specific locations of monitoring points shall be established based on the findings of the monitoring carried out during construction (i.e. if no LFG is detected during construction then no routine monitoring is required). The need for continued monitoring shall, however, be reviewed through discussion with EPD.	Within EcoPark throughout the life of the facility.	Operator	
Hazard to	Life				
10.4.3		Building height limit within EcoPark shall be applied to structures within which people may work at elevated levels.	Within EcoPark throughout the life of the facility.	Operator	EIA Report Table 10.2
Landscap	e and Vis	sual			
9.4.4		It recommended that this commonality be promoted throughout EcoPark by the Operator and adopted by tenants, if practicable.	Within EcoPark throughout the life of the facility.	Operator	



**Environmental Requirements in Tenancy Agreement** 



#### **GENERAL ENVIRONMENTAL RESPONSIBILITIES**

- 9.1 The Tenant shall at its own cost(s) comply with and shall ensure that the Premises is used, designed, constructed, operated and maintained in accordance with:-
  - (a) All relevant Ordinances, by-laws, regulations, statutory technical memorandums, codes of practice, rules, non-statutory guidance notes, schemes and abatement notices for the time being in force in Hong Kong including those relating to the environment and governing the control of any form of pollution (see specific Ordinances mentioned hereinbelow) and licensing requirements under relevant Ordinances and regulations.
  - (b) All information, mitigation measures, prohibitions, restrictions, recommendations and requirements under the Environmental Impact Assessment Report for Development of an EcoPark in Tuen Mun Area 38 with Appendices, i.e. the EIA Report (Register No.: AEIAR-086/2005) dated April 2005, the Final EM&A Manual dated April 2005, the application documents including all attachments (Application No. AEP-226/2005) and other relevant documents in the Register (or in any other places, any internet websites or by any other means as specified by the Director), including the prohibitions and mitigation measures for processes in Table 14.1 and the material throughputs, processes and remarks in Table B.1 of the EIA Report (in so far as applicable).
  - All information, conditions, submissions, mitigation measures, orders, notices, (c) requirements, prohibitions, restrictions and time limits under the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including updated information about the Permit, any amended permit and any further permit) and all mitigation measures recommended and to be recommended in submissions that shall be deposited with or approved by the Director as a result of permit conditions contained in the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit - Application No.VEP-221/2006 (including updated information about the Permit, any amended permit and any further permit). The Tenant shall refer to, inter alia, Conditions 4.1 to 4.14 (and Annexes A and B) and Conditions 3.7 and 3.8 (and Figures 2 and 3) of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit - Application No.VEP-221/2006 regarding measures to mitigate air quality impact, measures to mitigate hazard to life impact, measures to prevent land contamination, measures to mitigate landfill gas hazard, maintenance of landscape and visual measures (see also hereinbelow regarding Condition 5 of the Environmental Permit and specified Ordinances).
  - (d) All information, conditions, submissions, mitigation measures, orders, notices and requirements under ongoing surveillance and monitoring activities during all stages of the Project and during the tenancy under the Tenancy Agreement (e.g. any additional mitigation measures recommended and to be recommended under the Process Review and Design Audit (carried out and to be carried out in accordance with the EM&A Manual) for various environmental impacts including, but not limited to, noise pollution, air quality, hazard to life, landfill gas hazard, landscape and visual measures, waste management and land contamination).
  - (e) All recommendations referred to in the documents of the EIAO Register which are not expressly referred to in Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit Application No.VEP-221/2006 and any amended Environmental Permit (unless expressly excluded or impliedly amended in the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit Application No.VEP-221/2006 and any amended Environmental Permit).
- 9.2 Further to Condition Nos. 6 and 8 hereinabove, the Tenant shall at its own cost provide relevant environmental monitoring data, information, documents and assistance to the Director and/or the Environmental Protection Department and shall permit authorised representatives of the Environmental Protection Department to access, inspect, take samples and monitor the Premises and operations for the Process Review and the Design Audit carried out and/or to be carried out pursuant to Conditions 4.1 and 5 of the Environmental



Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (and any updated Permit, amended permit and further permit).

- 9.3 If the Tenant's operations (i.e. activities and facilities for recovery and/or recycling and/or reprocessing) are not covered by the EIA Report and/or deviate from the development parameters mentioned in inter alia the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit - Application No.VEP-221/2006 (including the parameters at Annex A) and/or any environmental licence (e.g. the Water Treatment Facility ("WTF") Discharge Licence), and if additional mitigation measures are not available or are not effective in the opinion of the Director, to ensure compliance with the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit - Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit) and the relevant environmental licence(s), the Tenant shall comply with any modified parameters and/or the Tenant shall immediately modify its operations in such a way that the findings and requirements of the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit - Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit) and the environmental licence(s) are complied with and shall immediately cease to continue the offending part of the operations or activity in question.
- 9.4 The Tenant shall at its own cost(s) apply for, obtain, renew, maintain and comply with all the relevant licences related to compliance with all relevant Ordinances, by-laws, regulations, statutory technical memorandums, codes of practice, rules, non-statutory guidance notes, schemes, abatement notices and the environmental permits for the time being in force in Hong Kong (including those relating to the environment and governing the control of any form of pollution). The Tenant shall obtain, renew and comply with all the said licences within the relevant time limits (in any event, within one (1) calendar month of the date of signing and/or execution of the Tenancy Agreement), shall comply with all abatement notices, orders, directions and requests of the relevant authorities and public officers and shall be responsible for paying all relevant fees, costs, fines and penalties.
- 9.5 The Tenant shall not do anything or omit to do anything which would cause, contribute to or involve a breach or potential breach by the Director relating to any of the matters mentioned in Conditions 9.1 to 9.4 hereinabove (and other Conditions hereinbelow).
- 9.6 The Tenant shall fully indemnify the Government and/or the Director for any fees, costs, damages, expenses, fines, penalties, losses and claims arising (a) out of any breach of any of the matters mentioned in inter alia Conditions 9.1 to 9.4 hereinabove (and other Conditions hereinbelow) or (b) from the use of the Premises or (c) out of any works carried out at any time during the term to or at the Premises or (d) out of anything now or during the term attached to or projecting from the Premises or (e) from any neglect or default by the Tenant or by its respective servants or agents or by any express licensee of the Tenant.

#### SPECIFIC ENVIRONMENTAL RESPONSIBILITIES

#### Air Pollution

- 10. Save with an appropriate exemption under the Air Pollution Control Ordinance (Cap. 311 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation, the Tenant shall not install or permit or suffer to be installed upon the Premises or any part thereof or any building(s) or structure(s) or part of any building(s) or structure(s) erected or to be erected thereon any furnace, oven, chimney or flue or any other combustion equipment or use or permit or suffer to be used any fuel or any method or process of manufacture or treatment that might in any circumstance result in, cause or contribute to the discharge or emission of any pollutant or any noxious, harmful or corrosive matter, whether it be in the form of gas, smoke, liquid, solid or otherwise (including but not limited to air pollutant as defined in Section 2 of the Air Pollution Control Ordinance (Cap. 311 of the Laws of Hong Kong)), which exists or which is imminent, without the prior written approval of the Director.
- 11. No alteration to the installation and method of manufacture shall be made without the prior written consent of the Director. In any event, the Tenant shall at its own cost(s) comply with, inter alia, Conditions 4.2 to 4.7 and Annex A of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit Application No.VEP-221/2006 regarding



design, installation and operation of chimney, location of fresh air intakes and use of ultra-low sulphur or other cleaner fuel(s) as agreed by the Director (and the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate air quality impact), good practices and relevant provisions of the EIA Report and Final EM&A Manual.

#### Noise Pollution

- 12. The Tenant shall take all necessary measures as may be required by and to the satisfaction of the Director to ensure that the operation of all plant and equipment, installed or used on the Premises or in any building(s) or structure(s) or any part of any building(s) or structure(s) erected or to be erected thereon, will not result, not cause and/or will not contribute any noise (which exists or which is imminent) which disturbs or annoys the residents or occupiers of any adjoining or neighbouring lot or lots or premises, or causes and/or contributes to disturbance to the general public under the Noise Control Ordinance (Cap. 400 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation.
- 13. The decision of the Director as to whether any such plant and equipment are causing disturbance or annoyance as aforesaid shall be final and binding on the Tenant.

#### Waste Management

- 14. The Tenant shall not permit, allow or suffer any fuel or chemical and any sewage, waste water or effluent containing sand, cement, silt or any suspended or dissolved material to flow, escape or run from the Premises onto any adjoining land or allow any waste matter which does not form part of the recovery and/or recycling and/or reprocessing operation or is not part of the final product of such operation to be deposited, kept, held or stored anywhere within the Premises and other areas of EcoPark. The Tenant shall at its own cost(s) have all such matters and all waste arising from recycling activities, chemical waste arising from maintenance of plant and equipment, sewage sludge (from WTF) and general daily waste from the operation removed from the Premises or any building(s) or structure(s) or any part of any building(s) or structure(s) erected or to be erected thereon in a proper manner to the satisfaction of the Director.
- 15. In any event, the Tenant shall at its own cost(s) comply with, inter alia, Conditions 4.11 and 4.12 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit Application No.VEP-221/2006 regarding paving all areas of the Premises with concrete/using concrete hardstanding and siting all fuel tanks and chemical storage areas on the specified sealed areas, respectively (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to prevent land contamination). The Tenant shall at its own cost(s) comply with relevant provisions of the Waste Disposal Ordinance (Cap.354 of the Laws of Hong Kong) good practices and relevant provisions of the EIA Report and Final EM&A Manual.

#### Water Pollution

- 16. In the event that the Tenant produces, generates, permits, causes, allows or suffers any discharge which is subject to control under the Water Pollution Control Ordinance (Cap. 358 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation, and is not covered by a WTF Discharge Licence issued under the Water Pollution Control Ordinance (Cap. 358 of the Laws of Hong Kong) the Tenant shall apply to the Director for a licence and comply with the terms and conditions stipulated in the licence and the WTF Discharge Licence at the Tenant's own cost(s). Otherwise, the Tenant is not allowed to discharge directly or indirectly or to produce, generate, permit, cause, allow or suffer any discharge into any public sewer, storm-water drain, channel, stream-course, sea or any area inside or outside the Premises any trade effluent or foul or contaminated water or cooling or hot water. Subject to the said licence from the Director and WTF Discharge Licence, the Tenant shall at its own cost(s) separate, collect, discharge and send all process or industrial wastewater to the WTF for treatment to the standard required for discharge into a sewer leading to the sewage treatment works at Pillar Point or other treatment works specified in the licence.
- 17. Subject to obtaining advance written approval of the Director, the Tenant shall at its own cost(s) provide, install, operate and maintain its own waste water pre-treatment plants within the Premises if such process or industrial wastewater could not meet the influent limits / exceeds the maximum influent criteria of the WTF (in accordance with paragraph 7.2.9 of the



Final E&MA Manual). The Tenant shall at its own cost(s) separate, collect, discharge and send all domestic wastewater (i.e. other than process or industrial wastewater) to the Pillar Point Sewage Treatment Works directly for treatment or other treatment works specified in the licence.

18. In any event, the Tenant shall prevent any spilled materials from entering the surface water drainage system and prevent contamination of the sea at its own cost(s) by, inter alia, providing, installing, operating and maintaining stop-logs or interceptors in the surface water drainage system and at the marine frontage area, respectively, or as required by the licence. The Tenant shall at its own cost comply with relevant provisions of the Dumping at Sea Ordinance (Cap 466 of the Laws of Hong Kong) good practices and relevant provisions of the EIA Report and Final EM&A Manual.

#### Hazard to Life Impact

- 19. To mitigate hazard to life impact, the Tenant shall comply with, inter alia, Conditions 4.8 to 4.10 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit Application No.VEP-221/2006 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate hazard to life impact) and shall not:-
  - (a) Bring, keep, store or transport chlorine within the Premises and other areas of EcoPark;
  - (b) Bring, keep, store, locate or transport dangerous goods, substances and fuels supporting combustion including oxygen, acetylene, hydrogen peroxide, rubber tyres and diesel within 10 metres from the boundary of the site of EcoPark; and
  - (c) Exceed the building height restrictions for buildings on the Premises which are on/near the western boundary of the site of EcoPark as mentioned in Annex B to the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit).

#### Landfill Gas Hazard

20. To mitigate landfill gas hazard, the Tenant shall at its own cost(s) comply with, inter alia, Condition 4.13 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding raising clear of the ground all buildings and enclosed structures as specified in inter alia Condition 3.7 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate hazard to life impact).

#### Landscape and Visual Impacts

21. To mitigate landscape and visual impacts, the Tenant shall at its own cost(s) comply with, inter alia, Condition 4.14 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding maintaining landscape, planting, treatment and mitigation measures as specified in inter alia Condition 3.8 and Figure 3 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate landscape and visual impacts).



Material and Waste Throughputs



### A3.1 CHAMPWAY TECHNOLOGY LIMITED (EP07-03)

	Waste Input (kg)				Product O	utput (kg)		Waste Disposal (kg)				
Date	Cooking Oil	Grease Trap Waste	Total	Treated Cooking Oil	Biodiesel	Glycerine	Total	Inorganic Waste	Organic Waste	Water Waste [Note 1]	Total	
Oct-Dec 08	130,000	-	130,000	-	-	-	-	-	-	-	-	
Jan-Dec 09 [Note 2]	1,277,241	726,140	2,003,381	1,863,143	-	-	1,863,143	-	100,169	40,068	140,237	
Jan-Dec 10 [Note 2]	1,347,001	1,146,700	2,493,701	2,248,350	1,922,170	83,563	4,254,083	95,976	143,449	98,034	337,459	
Jan-11	106,213	116,560	222,773	191,113	156,870	4,706	352,689	4,000	16,321	15,340	35,661	
Feb-11	105,163	145,250	250,413	161,587	110,090	3,303	274,980	8,000	46,590	96,826	151,416	
Mar-11	107,114	504,110	611,224	290,367	211,390	6,342	508,099	8,000	110,234	210,624	328,858	
Apr-11	96,824	725,130	821,954	249,575	184,550	5,537	439,662	12,000	258,637	313,742	584,379	
May-11	101,461	1,180,581	1,282,042	389,163	260,590	7,818	657,571	8,000	205,141	587,350	800,491	
Jun-11	113,249	1,188,969	1,302,218	367,797	175,890	5,277	548,964	12,000	188,535	632,637	833,172	
Jul-11	143,252	1,004,090	1,147,342	453,529	291,080	8,732	753,341	8,000	186,895	506,918	701,813	

- 1. Water waste includes slurry and semi-solid waste and is disposed of at landfill
- 2. Updated throughout data as advised by Tenant after the corresponding Quarterly EM&A Reports were submitted



### A3.2 SHIU WING STEEL LIMITED (EP08-03)

	Waste Input (kg)		Product Output (kg)		Waste Disposal (kg)	
Date	Waste Metal/Steel Scrap/ Construction Waste	Light Ferrous Scrap (Baled)	Heavy Ferrous Scrap (Sheared)	Total	Non-ferrous Scrap / General Refuse	
Apr-Dec 10 [Note 1]	4,561,540	-	4,561,540	4,561,540	-	
Jan-11	1,403,120	-	1,403,120	1,403,120	-	
Feb-11	649,410	-	649,410	649,410	-	
Mar-11	935,130	-	935,130	935,130	-	
Apr-11	720,710	-	720,710	720,710	-	
May-11	1,641,410	-	1,641,410	1,641,410	-	
Jun-11	2,564,250	-	2,564,250	2,564,250	-	
Jul-11	1,948,530	-	1,948,530	1,948,530	-	

<sup>1.</sup> Updated throughout data as advised by Tenant after the corresponding Quarterly EM&A Report was submitted



## A3.3 HONG KONG HUNG WAI WOODEN BOARD COMPANY (EP06-034)

Date	Waste Input (kg)	Product Output (kg)	Waste Disposal (kg)
Date	Waste Wood	Wooden Board	General Refuse
Jun-Dec 08	38,000	-	-
Jan-Dec 09	120	-	-
Jan-Dec 10 [Note 1]	4,492,330	1,072,000	-
Jan-11	220,000	849,000	-
Feb-11	106,000	450,000	-
Mar-11	182,000	1,398,000	-
Apr-11	196,000	396,000	-
May-11	176,000	699,000	-
Jun-11	151,000	735,500	-
Jul-11	102,000	-	-

#### Note:

1. Updated throughout data as advised by Tenant after the corresponding Quarterly EM&A Reports were submitted



### A3.4 LI TONG GROUP (EP07-02)

	Waste Input (kg)		Product Output (kg)		Waste Disposal (kg)	
Date	WEEE	Metals (e.g. ferrous metals, aluminium)	Non-metals (e.g. fibres, plastics)	Total	General Refuse	
Sep-Dec 10	85,175	9,172	33,607	42,778	657	
Jan-11	35,938	974	5,690	6,664	1,095	
Feb-11	21,062	-	5,766	5,766	1,545	
Mar-11	33,266	8,861	1,811	10,672	-	
Apr-11	38,036	10,599	5,756	16,355	-	
May-11	39,145	-	18,302	18,302	-	
Jun-11	36,864	5,311	18,045	23,356	693	
Jul-11	31,191	7,793	29,669	37,462	1,323	

<sup>1.</sup> All figures are rounded and presented in integer form



## A3.5 HONG KONG TELFORD ENVIROTECH GROUP LIMITED (EP08-01)

Date	Waste Input (kg)	Product Output (kg) [Note 1]	Waste Disposal (kg) [Note 1]				
Date	Waste Plastic	PO, PE, PET, PWC	General Refuse				
Jul-Dec 09	20,000	-	-				
Jan-Dec 10	123,600	-	-				
Jan-11	30,000	-	-				
Feb-11	8,000	-	-				
Mar-11	24,000	-	-				
Apr-11	34,000	-	-				
May-11	93,000	-	-				
Jun-11	99,000	-	-				
Jul-11	57,000	-	-				

<sup>1.</sup> Tenant has not yet commenced formal recycling process within the lot



### A3.6 YOT EcoPark Plastic Resources Recycling Centre (P7)

Date	Waste Input (kg)	Product Output (kg)	Waste Disposal (kg)
Date	Waste Plastic	Processed Plastic	General Refuse
Apr-Dec 10 [Note 1]	615,178	405,834	110,994
Jan-11 [Note 1]	94,205	66,702	10,301
Feb-11	58,847	53,387	9,979
Mar-11	59,631	78,122	9,097
Apr-11	92,293	69,066	19,258
May-11	86,483	87,035	13,547
Jun-11	90,281	93,622	10,209
Jul-11	98,620	75,021	11,956

<sup>1.</sup> Updated throughout data as advised by Tenant after the corresponding Quarterly EM&A Report was submitted



### A3.7 St. James' Settlement "WEEE GO GREEN" EcoPark (P5)

	Waste Input (kg)			Waste Disposal (kg)					
Date	WEEE	Repaired / Refurbished EEE (pieces) [Note 2]	Reusable Parts	Metals (e.g. ferrous metals, aluminium)	Non-metals (e.g. fibres, plastics)	Total	General Refuse	Chemical Waste	Total
Oct-Dec 10 [Note 3]	52,374	1,023	-	-	540	1,023 pieces + 540kg	1,925	240	2,165
Jan-11 <sup>[Note 3]</sup>	27,155	344	-	16,065	7,202	344 pieces + 23,267kg	1,000	600	1,600
Feb-11 [Note 3]	19,150	323	-	-	60	323 pieces + 60kg	467	-	467
Mar-11 [Note 3]	35,913	420	-	-	847	420 pieces + 847kg	1,348	78	1,426
Apr-11 [Note 3]	16,490	311	-	8,860	59	311 pieces + 8,919kg	730	600	1,330
May-11	14,488	330	-	-	12,243	330 pieces + 12,243kg	979	-	979
Jun-11	37,371	547	-	20,940	69	547 pieces + 21,009kg	1,589	-	1,589
Jul-11	25,837	274	-	-	4,488	274 pieces + 4,488kg	689	600	1,289

- 1. All figures are rounded and presented in integer form
- 2. Updated unit as advised by Tenant after the corresponding Quarterly EM&A Report was submitted
- 3. Updated throughout data as advised by Tenant after the corresponding Quarterly EM&A Report was submitted



Calibration Certificate of Infrared Gas Analyser

#### **FUGRO TECHNICAL SERVICES LIMITED**

MateriaLab Division, Fugro Development Centre, 5 Lok Yi Street, 17 M.S. Castle Peak Road, Tai Lam, Tuen Mun, N.T., Hong Kong.

: +852-2450 8233 Fax : +852-2450 6138 E-mail: matlab@fugro.com.hk Website: www.materialab.com.hk



### REPORT ON CALIBRATION OF INFRA RED GAS ANALYSER

Client

Fugro Technical Services Limited - MateriaLab Division

Sample description

One sample of Infra Red Gas Analyser (GA94A)

Sample identification

E / 084 / 1

Serial number

GA3385

Test required

Calibration

Date of calibration

23/06/2011

Next calibration date

23/12/2011

Method used

In-house method (Comparison with Standard Gas)

#### Results:

Parameters	Standard Gas Concentration,	Infra Red Gas Analyser Reading,	Deviation,		
	% volume	% volume	% volume		
Methane (CH <sub>4</sub> )	1.02	0.9	-0.12		
Carbon dioxide (CO <sub>2</sub> )	15.1	15.1	0.0		
Oxygen (O <sub>2</sub> )	1.03	0.9	-0.13		

Calibrated by : \_\_\_\_\_ C. F. Leung

Certified by

Approved Signatory : Raymond K. F. Wong Assistant Manager Chemical & Environmental

Date

\*\* End of Report \*\*

Note: This report refers only to the sample(s) tested.



**Graphical Plots of LFG Monitoring** 

# Contract No. EP/SP/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38 EM&A Services

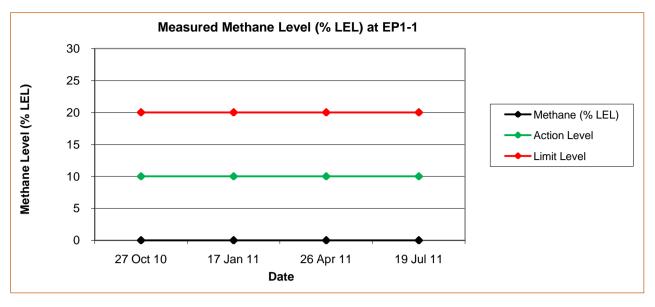
#### Landfill Gas Monitoring Results - July 2011

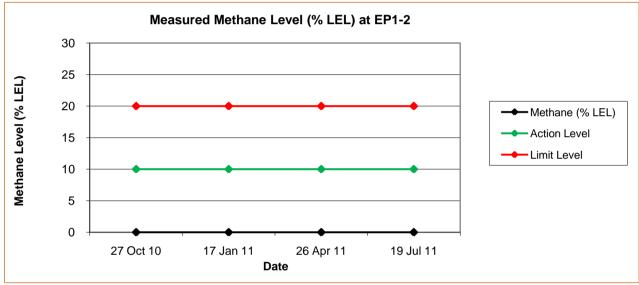
								M	easuremei	nt Results		Δ	ction Leve	el	l	Limit Leve	l	
Monitoring Station ID	Monitoring Locations	Date	Weather Conditions	Temperature (degree)	Start Time	End Time	Metl	hane	Oxygen	Carbon Dioxide	Barometric Pressure	Methane	Oxygen	Carbon Dioxide	Methane	Oxygen	Carbon Dioxide	Remarks
							% v/v	% LEL	% v/v	% v/v	mBar (absolute)	% LEL	% v/v	% v/v	% LEL	% v/v	% v/v	
EP1-1	Inside the landscaping area of Administration Building			30	11:11	11:15	0.0	0	21	0.0	1007							Nil
EP1-2	PCCW below- ground chamber outside Lot EP08-01			30	10:53	10:57	0.0	0	20	0.0	1007							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03	19 Jul 11	Fine	30	10:47	10:51	0.0	0	19	0.0	1007	> 10	< 19	> 0.5	> 20	< 18	> 1.5	Nil
EF2-1	HGC Broadband below-ground chamber outside Lot P1			30	10:58	11:02	0.0	0	21	0.0	1007							Nil
	HGC Broadband below-ground chamber outside Lot P3			30	11:03	11:07	0.0	0	20	0.0	1007							Nil

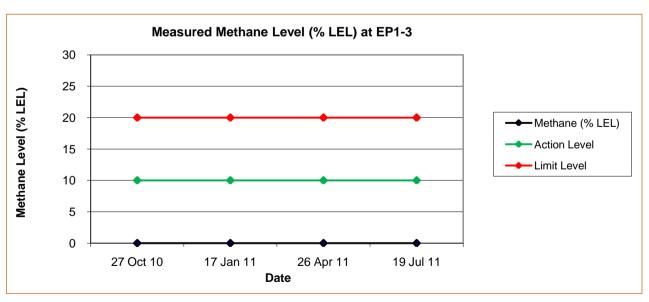
#### Note

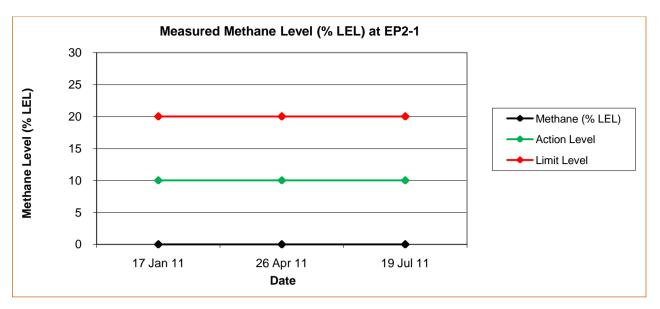
<sup>(1)</sup> Underlined figure indicates an exceedance of Action Level

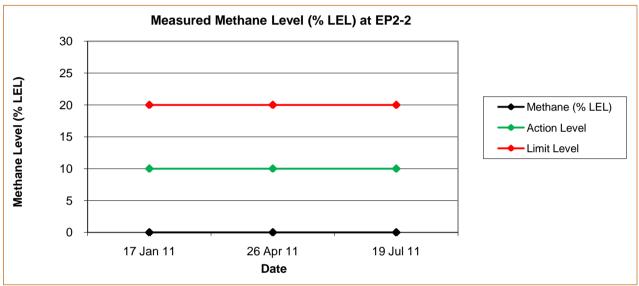
<sup>(2)</sup> Shaded area indicates an exceedance of Limit Level

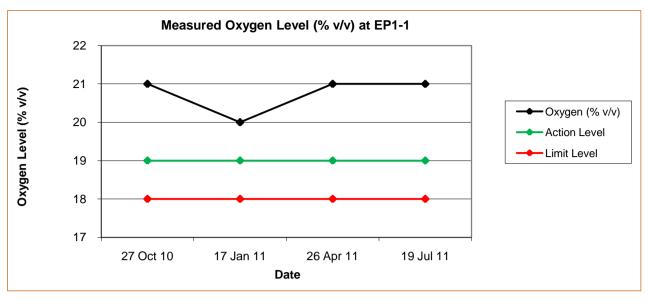


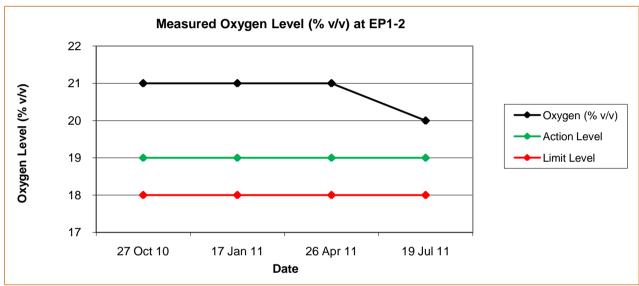


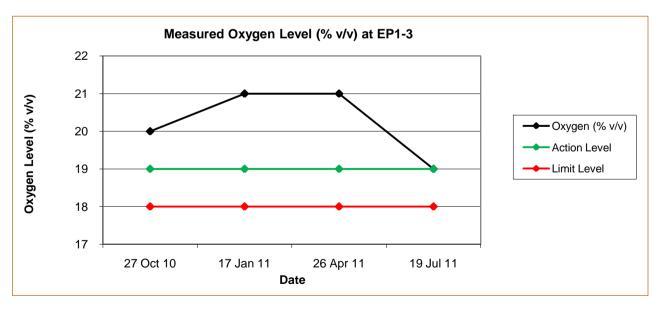


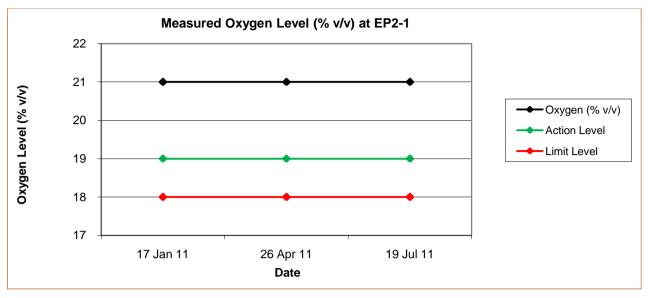


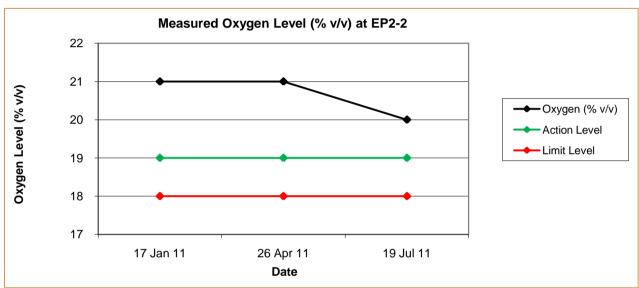


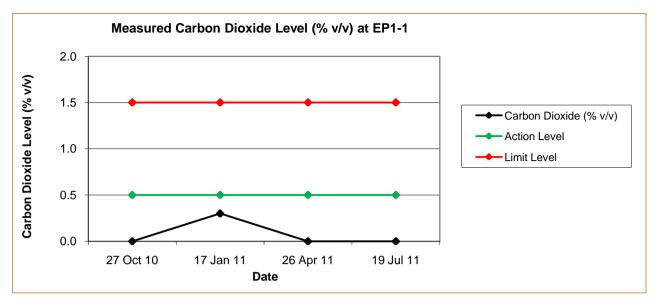


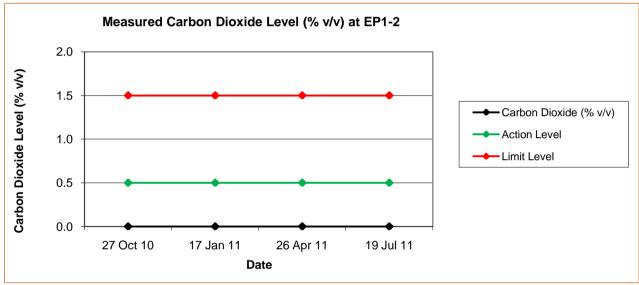


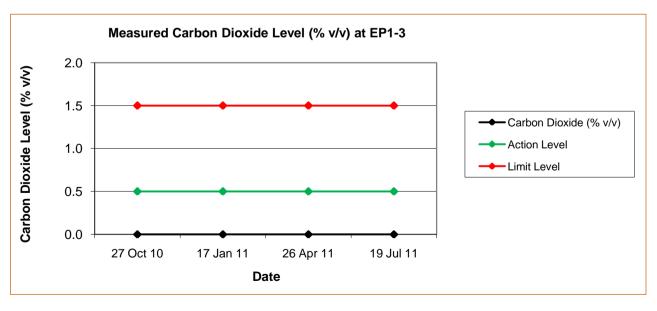


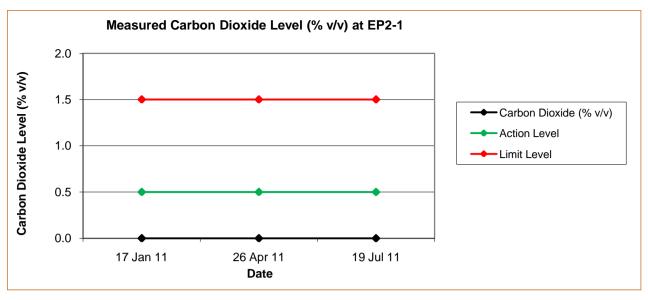


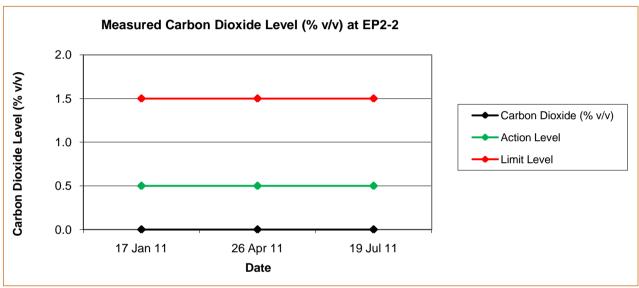


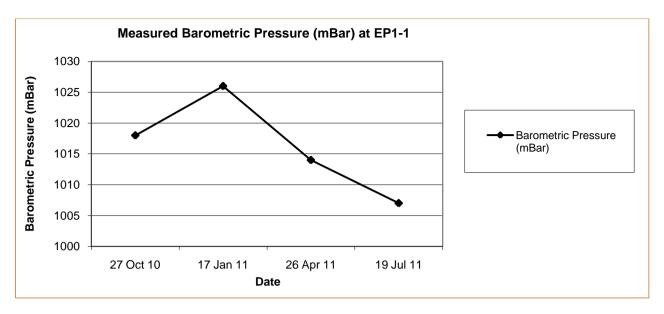


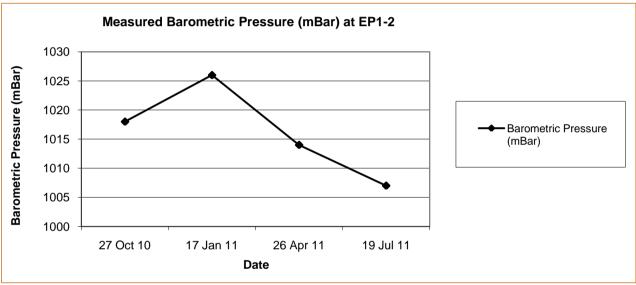


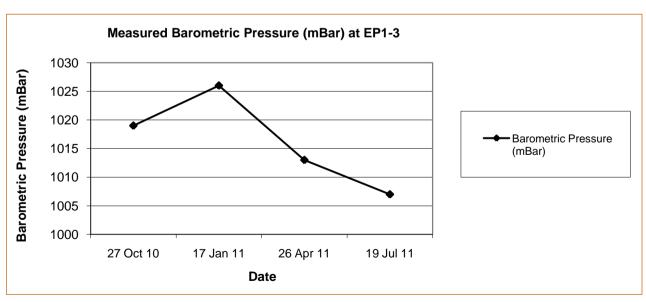


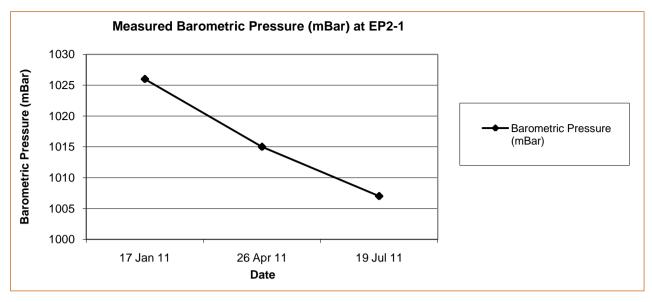


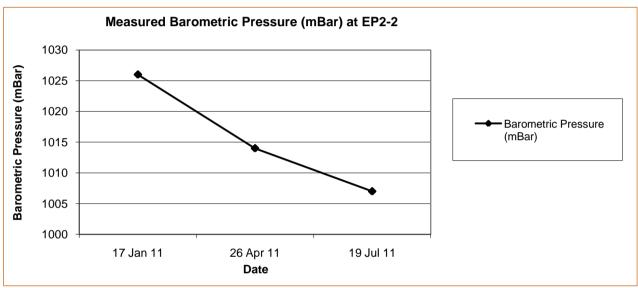














Tenant-specific Audit Checklists for the Reporting Quarter



### **APPENDIX 6.1**

Tenant-specific Audit Checklists for the Reporting Quarter

Champway (EP07-03)



	Audit Details						
Tena	ant	Champway Tech	nolo	gy Ltd			
Date	e & Time	Date 25 May 20	011			Tin	ne 10:25am
Lot	No.	EP07-03		_			
Aud	it Ref.	10		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
Wea	ther Conditions	Fine		Hazy		$\boxtimes$	Overcast Rain
Win	d	Calm	$\boxtimes$	Light Br	eeze		Strong Wind
Tem	perature	<u>23</u> °C					
Hun	nidity	Low	$\boxtimes$	Medium			High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant displ at entrance?	ayed on notice boa	ards	/			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for tenant is not required.
1.2	Environmental Police	cy documented?					Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Man	agement Plan upo	lated	d? [		$\boxtimes$	
1.4	a. Emergency Resp documented?	oonse Plan (ERP)				$\boxtimes$	Operator's ERP is documented. Tenant follows this.
	b. Drill / training rec	ords available?					Tenant does not keep records for ERP training.
1.5	Employee's training	record available?	1	$\boxtimes$			Tenant keeps a training record for BPI.
1.6	Any record of prose	ecution / complaint	?				EPD received a complaint on 29 April 2011 regarding odour with "rotten, decayed and/or sour smell" from the Tenant. The incident, investigation findings and proposed mitigation measures are detailed in Incident/Complaint Report 001.
1.7	Waste Managemen	t Plan?					Operator's WMP is documented. Tenant follows this.



### 2. Water Quality **Description** Yes No N/A Remarks Valid Effluent Discharge License available? Licence No.: WT00004430-2009 valid 2.1 until 31 July 2014. 2.2 Any wastewater treatment facility prior to Oil interceptor & grease trap. effluent discharge? If yes, facility is properly maintained and function normally? **Effluent Monitoring** As per the discharge licence, selfmonitoring shall be performed when 2.3 a. Sampling / Monitoring Record available? required. b. Monitoring frequency met the license requirement? c. Any exceedance? d. If yes, follow-up action taken? Surface run-off control measures in place 2.4 and adequately maintained? 2.5 Surface run-off discharging into drainage system? All manholes are covered? Foam, oil, grease, litter or other See Follow-up Action #3. 2.7 objectionable matters in water of nearby drain / sewer are avoided? 2.8 Drainage system is well maintained to prevent flooding and overflow?



	Description	Yes	INO	IN/A	Remarks
	Processes with high Risk of Contamination	$\boxtimes$			
9	a. Processes / activities are located under a covered area?				
_	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				The stop-logs have been passed to Tenant, who shall install in the perimeter drainage channel as and when necessary.
-	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				No contaminated water.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Oil replacement (of the heat (oil) transmission system) is carried out offsite when needed. This may be needed once every ten years or so.
11	a. Oil interceptor provided for drainage discharging from maintenance area?	$\boxtimes$			
-	b. If yes, oil and grease removed regularly?	$\boxtimes$			
_	c. Collected by licenced collector?	$\boxtimes$			
- 12	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	
_	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



#### 3. Air Quality **Description** Yes No N/A Remarks a. Valid Specified Process License for all SP No. L-25-017 (1). 3.1 $\square$ specified process available? b. SP License conditions / monitoring See Follow-up Action #1. requirements met? **Odour** Yes - see Item 1.6 3.2 a. Any odour detected? $\square$ b. If yes, can the source be identified? From the lipofit/water mixture storage tanks, unwanted water with dregs storage tank, grease trap waste storage tank, uncovered oil buckets and oil stains on ground. c. Odorous materials are covered? $\boxtimes$ See Follow-up Action #2. d. If odour control system is installed, is it Odour is treated by activated carbon. $\square$ Activated carbon will be replaced every operating normally? 3 to 6 months or when necessary. $\boxtimes$ No dusty materials were found to be 3.3 All dusty materials are sprayed with water П or covered by impervious sheeting prior to used on-site. any loading, unloading or transfer operation? $\boxtimes$ Not required according to the PRC. **Dust Monitoring** 3.4 a. Monitoring Record available? $\boxtimes$ b. Monitoring frequency met the requirement? c. Any exceedance? $\boxtimes$ $\boxtimes$ d. If yes, follow-up action taken? Enclosures are provided around the main 3.5 dust-generating activities? Open burning is avoided? $\square$ $\square$



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed on-site.
3.8	Vehicles and equipment are switched off while not in use?				
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:  a. >25L of conventional liquid fuel per hour			$\boxtimes$	
	b. >35kg of conventional solid fuel per hour			$\boxtimes$	
	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?			$\boxtimes$	
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				
3.12	Approval from Authority for the use of controlled refrigerant?			$\boxtimes$	
	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
3.13	All air pollution control systems are properly maintained and function normally?	$\boxtimes$			
3.14	Only Ultra-Low Sulphur Diesel is used?				Used by all diesel vehicles, fork-lift truck and emergency generator.



### 4. Waste / Chemical Management **Description** Yes No N/A Remarks **Chemical Waste Producer Registration** Registration No. 6311-421-C3617-01 4.1 completed? for spent lubricating oil and spent mineral oil. 4.2 Provision of sufficient waste disposal points/ $\square$ $\square$ receptacles? Waste disposed of regularly and properly? 2-3 times a week. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at 4.6 regular intervals? Packaging of Chemical Waste a. Stored in suitable container? 4.7 b. Container properly closed or sealed? c. Spillage cleaned up immediately through $\boxtimes$ No spillage. the use of an absorbent? $\square$ $\square$ $\square$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\square$ $\square$ $\square$ bilingual? c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste Not observed. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a ☐ No collection. licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No bulk storage. 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\sqcap$ $\sqcap$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container storage area constructed of impermeable material?



### 5. Other Issues **Description** Yes No N/A Remarks Outside the LFG Consultation Zone. Landfill Gas Hazard (within LFG Consultation Zone) 5.1 a. Workers and visitors alerted to possible LGF hazards? b. Smoking and open fires prohibited? $\square$ $\square$ $\boxtimes$ 5.2 Security lighting directed downward into the $\boxtimes$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? There are a number of outstanding issues relating to oil stains and odour that need to be resolved. 5.4 Any areas within the lot to be used for recycling processes are concrete paved? 5.5 Valid calibration certificate for any $\boxtimes$ No monitoring equipment. monitoring equipment? $\square$ DG licences for storing methanol, **Dangerous Goods** sulphuric acid and fatty acid methyl 5.6 a. Valid license for manufacturing / storing esters (FAME) obtained (Nos. 021229, dangerous goods? 021228 & 021227, and 021225 & 021226). DG licence for manufacturing FAME obtained (No. 001456). b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely locked? d. Total storage capacity in compliance with $\square$ $\square$ the relevant statutory requirement? e. Proper Labelling? $\square$ $\square$ f. Dangerous goods properly packaged? $\square$ $\square$ 5.7 Potential stagnant pools cleared and mosquito breeding prevented?



#### **Action Items from This Audit**

#### No. Action Expected By

1. No critical issues were identified. NIL

#### **Follow-up from Previous Audits**

#### No. Follow-up from Previous Audit Dated 20 April 2011

Status

- 1. As advised by the Regional Office (West) of EPD after auditing the Tenant's recycling process, a variation to the current Specified Process (SP) Licence is not required. However, the Tenant should provide a revised Block Plan and Schematic Flow Diagram, which are to be certified by an Authorized Person and a Qualified Engineer respectively, to EPD for record. The progress of such issue will be checked in the next monthly site audit in June 2011.
- Outstanding
- 2. The situation was improved, although uncovered and fully loaded oil buckets and oil stains were still found around the lot. Since these items are potential sources of odour, the Tenant was again reminded to cover all oil buckets, clear the fully loaded buckets, remove the oil stains and dispose of waste materials properly. (Repeated observation since 22 February 2011)

Outstanding





 The issue of oil/grease inside the sewer shall be checked by the IEC and ET in the next quarterly site audit in July 2011. The Tenant was reminded to regularly maintain the oil and grease removal devices to avoid non-compliance with the Discharge Licence. Outstanding



## **Audit Summary and Sign-off**

The Tenant should clear the fully loaded oil buckets and the oil stain on ground as soon as possible.

,	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Champway	Serco Guardian JV
Signed By	Carman CHUNG	-	Teddy CHOI	Morgan CHIU
Role	ET Site Auditor	-	Executive Director	Park Manager
Signature	Zonon		(ady)	3



	Audit Details						
Te	enant	Champway Tech	nolo	gy Ltd			
Da	ate & Time	Date 21 June 2	011			Tin	ne <u>10:40am</u>
Lo	ot No.	EP07-03		_			
Αι	udit Ref.	11		_			
IE	C Joint Inspection	Yes	$\boxtimes$	No			
W	eather Conditions			Hazy			Overcast Rain
W	ind	Calm	$\boxtimes$	Light Br	eeze		Strong Wind
Te	emperature	32 °C					
Hu	umidity	Low	$\boxtimes$	Medium			High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant displ at entrance?	ayed on notice boa	ards	/			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Police	cy documented?					Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Man	agement Plan upd	atec	d?		$\boxtimes$	
1.4	a. Emergency Resp documented?	oonse Plan (ERP)				$\boxtimes$	Operator's ERP is documented. Tenant follows this.
	b. Drill / training rec	cords available?					Tenant does not keep records for ERP training.
1.5	Employee's training	g record available?					Tenant keeps a training record for BPI.
1.6	Any record of prose	ecution / complaint	?				SGJV received a complaint from ECO Aviation Fuel Services Ltd. on 9 June 2011 and Shiu Wing Steel Ltd. on 15 June 2011 regarding odour nuisance similar to the rotten, decayed smell from grease trap waste from the Tenant's lot. The incident, investigation findings and proposed mitigation measures are detailed in Incident/ Complaint Reports 002 and 003.
1.7	Waste Managemen	ıt Plan?				$\boxtimes$	Operator's WMP is documented. Tenant follows this.



	2. Water Quality				
	Description	Yes	No	N/A	Remarks
2.1	Valid Effluent Discharge License available?				Licence No.: WT00004430-2009 valid until 31 July 2014.
2.2	Any wastewater treatment facility prior to effluent discharge?				Oil interceptor & grease trap.
	If yes, facility is properly maintained and function normally?	$\boxtimes$			
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?				As per the discharge licence, self- monitoring shall be performed when required.
	b. Monitoring frequency met the license requirement?				
	c. Any exceedance?				
	d. If yes, follow-up action taken?				
2.4	Surface run-off control measures in place and adequately maintained?	$\boxtimes$			
2.5	Surface run-off discharging into drainage system?				
2.6	All manholes are covered?				
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?				See Action #1 and Follow-up Action #3.
2.8	Drainage system is well maintained to prevent flooding and overflow?				,



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination	$\boxtimes$			
.9	a. Processes / activities are located under a covered area?				
•	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				The stop-logs have been passed to Tenant, who shall install in the perimeter drainage channel as and when necessary.
•	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				No contaminated water.
.10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Oil replacement (of the heat (oil) transmission system) is carried out offsite when needed. This may be needed once every ten years or so.
11	a. Oil interceptor provided for drainage discharging from maintenance area?	$\boxtimes$			
•	b. If yes, oil and grease removed regularly?	$\boxtimes$			
	c. Collected by licenced collector?	$\boxtimes$			
.12	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	
•	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				SP No. L-25-017 (1).
	b. SP License conditions / monitoring requirements met?	$\boxtimes$			See Follow-up Action #1.
2.2	Odour	$\boxtimes$			Yes – see Item 1.6
3.2	a. Any odour detected?				
	b. If yes, can the source be identified?				From the steam emitted from gaps of the cover of the Surplus Water with Dregs Storage Tank, the Oil/Water Mixture Storage Tanks during cleaning or transfer of oil to the oil separators, grease trap waste storage tank, uncovered oil buckets and oil stains on ground.
	c. Odorous materials are covered?				See Follow-up Action #2.
	d. If odour control system is installed, is it operating normally?	$\boxtimes$			Odour is treated by activated carbon. Activated carbon will be replaced every week or when necessary.
					See Action #2 for the storage of activated carbon.
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?				No dusty materials were found to be used on-site.
	Dust Monitoring			$\boxtimes$	Not required according to the PRC.
3.4	a. Monitoring Record available?				
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?				
3.5	Enclosures are provided around the main dust-generating activities?			$\boxtimes$	
3.6	Open burning is avoided?				



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed on-site.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:  a. >25L of conventional liquid fuel per hour			$\boxtimes$	
-	b. >35kg of conventional solid fuel per hour			$\boxtimes$	
-	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?				
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				
3.12	Approval from Authority for the use of controlled refrigerant?				
-	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
3.13	All air pollution control systems are properly maintained and function normally?	$\boxtimes$			
3.14	Only Ultra-Low Sulphur Diesel is used?				Used by all diesel vehicles, fork-lift truck and emergency generator.



# 4. Waste / Chemical Management **Description** Yes No N/A Remarks **Chemical Waste Producer Registration** Registration No. 6311-421-C3617-01 4.1 completed? for spent lubricating oil and spent mineral oil. 4.2 Provision of sufficient waste disposal points/ $\square$ $\square$ receptacles? 4.3 Waste disposed of regularly and properly? 2-3 times a week. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at 4.6 regular intervals? Packaging of Chemical Waste a. Stored in suitable container? 4.7 b. Container properly closed or sealed? c. Spillage cleaned up immediately through $\boxtimes$ No spillage. the use of an absorbent? $\square$ $\square$ $\square$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\square$ $\square$ $\square$ bilingual? c. Information is accurate and sufficient?



### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste Not observed. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a ☐ No collection. licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No bulk storage. 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\sqcap$ $\sqcap$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container storage area constructed of impermeable material?



# 5. Other Issues **Description** Yes No N/A Remarks Outside the LFG Consultation Zone. Landfill Gas Hazard $\boxtimes$ (within LFG Consultation Zone) 5.1 a. Workers and visitors alerted to possible LGF hazards? b. Smoking and open fires prohibited? $\square$ $\square$ $\boxtimes$ 5.2 Security lighting directed downward into the $\boxtimes$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? There are a number of outstanding issues relating to oil stains and odour that need to be resolved. Any areas within the lot to be used for recycling processes are concrete paved? 5.5 Valid calibration certificate for any $\boxtimes$ No monitoring equipment. monitoring equipment? $\square$ DG licences for storing methanol, **Dangerous Goods** sulphuric acid and fatty acid methyl 5.6 a. Valid license for manufacturing / storing esters (FAME) obtained (Nos. 021229, dangerous goods? 021228 & 021227, and 021225 & 021226). DG licence for manufacturing FAME obtained (No. 001456). b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely locked? d. Total storage capacity in compliance with $\square$ $\square$ the relevant statutory requirement? e. Proper Labelling? $\square$ $\square$ f. Dangerous goods properly packaged? $\square$ $\square$ 5.7 Potential stagnant pools cleared and mosquito breeding prevented?



#### **Action Items from This Audit**

#### No. Action Expected By

1. Oil stains were found at the corner of the lot and inside the surface channels. The tenant was reminded to clear the contaminated soil properly and put sandbags at the edge so as to prevent the leaked oil from entering the surface channels.

30 Jun 2011



2. The activated carbon was stored in an open environment. The tenant was reminded to store such material in a dry and weatherproof environment so that its removal efficiency would not be adversely affected by moisture.

30 Jun 2011



## **Follow-up from Previous Audits**

#### No. Follow-up from Previous Audit Dated 25 May 2011

**Status** 

- As advised by the Tenant, the revised Block Plan and Schematic Flow Diagram have been certified by Authorized Person and Qualified Engineer, respectively. These documents were sent to EPD on 21 June 2011 for record. The progress of such issue will be checked in the next Quarterly Site Audit in July 2011 (repeated action since 20 April 2011).
- Outstanding
- Although full oil containers were not observed, oil leakage/stains were still found around the lot. Since these items are potential sources of odour, the Tenant was again reminded to remove the oil stains and dispose of waste materials properly (repeated observation since 22 February 2011)

Outstanding







#### Follow-up from Previous Audits

#### No. Follow-up from Previous Audit Dated 25 May 2011

**Status** 

 This issue of oil/grease inside the sewer shall be checked by the IEC and ET in the next quarterly site audit in July 2011. The Tenant was reminded to regularly maintain the oil and grease removal devices to avoid non-compliance with the Discharge Licence (repeated action since 20 April 2011) Outstanding

#### **Audit Summary and Sign-off**

The Tenant should store the activated carbon in a dry and weatherproof environment, as well as clear the oil stains near the U-channel and on ground as soon as possible. A number of observations remain outstanding from previous months – the Tenant is urged to address these issues without further delay.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Champway	Serco Guardian JV
Signed By	Carman CHUNG	-	Teddy CHOI	Morgan CHIU
Role	ET Site Auditor	-	Executive Director	Park Manager
Signature	Zonan		Derf PIP	1



Audit Detail	s
Tenant	Champway Technology Ltd
Date & Time	Date         19 July 2011         Time         10:35am
Lot No.	EP07-03
Audit Ref.	12
IEC Joint Inspectio	n 🛛 Yes 🔲 No
Weather Condition	s
Wind	☐ Calm ☐ Light Breeze ☐ Strong Wind
Temperature	30_°C
Humidity	☐ Low ☐ Medium ☐ High
	_
1. General	
Description	Yes No N/A Remarks
1.1 EP for Tenant at entrance?	displayed on notice boards /   EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2 Environmental	Policy documented?  Operator's Environmental Policy is documented. Tenant follows this.
1.3 Environmental	Management Plan updated?
a. Emergency documented	Response Plan (ERP)   Operator's ERP is documented. Tenant follows this.
b. Drill / training	g records available?  Tenant does not keep records for ERP training.
1.5 Employee's tra	ining record available?     Tenant keeps a training record for BPI.
1.6 Any record of p	Prosecution / complaint?  No complaint on odour nuisance was received this month. Follow-up works for previous complaints 002 and 003 were still in progress.
1.7 Waste Manage	ement Plan?



# 2. Water Quality **Description** Yes No N/A Remarks Valid Effluent Discharge License available? Licence No.: WT00004430-2009 valid 2.1 until 31 July 2014. 2.2 Any wastewater treatment facility prior to Oil interceptor & grease trap. effluent discharge? If yes, facility is properly maintained and function normally? **Effluent Monitoring** As per the discharge licence, selfmonitoring shall be performed when 2.3 a. Sampling / Monitoring Record available? required. b. Monitoring frequency met the license requirement? c. Any exceedance? d. If yes, follow-up action taken? Surface run-off control measures in place 2.4 and adequately maintained? 2.5 Surface run-off discharging into drainage system? All manholes are covered? Foam, oil, grease, litter or other See Follow-up Actions #3 and #4. 2.7 $\square$ objectionable matters in water of nearby drain / sewer are avoided? 2.8 Drainage system is well maintained to prevent flooding and overflow?



	Description	Yes	NO	N/A	Remarks
	Processes with high Risk of Contamination	$\boxtimes$			
9	a. Processes / activities are located under a covered area?				
-	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				The stop-logs have been passed to Tenant, who shall install in the perimeter drainage channel as and when necessary.
-	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				No contaminated water.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Oil replacement (of the heat (oil) transmission system) is carried out offsite when needed. This may be needed once every ten years or so.
11	a. Oil interceptor provided for drainage discharging from maintenance area?	$\boxtimes$			
-	b. If yes, oil and grease removed regularly?	$\boxtimes$			
-	c. Collected by licenced collector?	$\boxtimes$			
12	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	
-	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				SP No. L-25-017 (1).
	b. SP License conditions / monitoring requirements met?	$\boxtimes$			See Follow-up Action #1.
	Odour	$\boxtimes$			Yes – see Item 1.6 and Action #2.
3.2	a. Any odour detected?				
	b. If yes, can the source be identified?				From the gaps of the cover of the Surplus Water with Dregs Storage Tank, the Oil/Water Mixture Storage Tanks during cleaning or transfer of oil to the oil separators, grease trap waste storage tank, uncovered oil buckets and oil stains on ground.
	c. Odorous materials are covered?				See Follow-up Action #2.
	d. If odour control system is installed, is it operating normally?				Odour is treated by activated carbon. Activated carbon will be replaced every week or when necessary. See Follow-up Action #5 for the storage of activated carbon.
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?			$\boxtimes$	No dusty materials were found to be used on-site.
	Dust Monitoring			$\boxtimes$	Not required according to the PRC.
3.4	a. Monitoring Record available?				
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?				
3.5	Enclosures are provided around the main dust-generating activities?			$\boxtimes$	
3.6	Open burning is avoided?	$\boxtimes$			,



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed on-site.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:			$\boxtimes$	
	<ul><li>a. &gt;25L of conventional liquid fuel per hour</li><li>b. &gt;35kg of conventional solid fuel per hour</li></ul>			$\boxtimes$	
	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?			$\boxtimes$	
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				
3.12	Approval from Authority for the use of controlled refrigerant?			$\boxtimes$	
	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
3.13	All air pollution control systems are properly maintained and function normally?	$\boxtimes$			
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			Used by all diesel vehicles, fork-lift truck and emergency generator.



# 4. Waste / Chemical Management **Description** Yes No N/A Remarks **Chemical Waste Producer Registration** Registration No. 6311-421-C3617-01 4.1 completed? for spent lubricating oil and spent mineral oil. 4.2 Provision of sufficient waste disposal points/ $\square$ $\square$ receptacles? 4.3 Waste disposed of regularly and properly? 2-3 times a week. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at 4.6 regular intervals? Packaging of Chemical Waste a. Stored in suitable container? 4.7 b. Container properly closed or sealed? c. Spillage cleaned up immediately through $\boxtimes$ No spillage. the use of an absorbent? $\square$ $\square$ $\square$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\square$ $\square$ $\square$ bilingual? c. Information is accurate and sufficient?



### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste Not observed. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a ☐ No collection. licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No bulk storage. 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\sqcap$ $\sqcap$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container storage area constructed of impermeable material?



## 5. Other Issues **Description** Yes No N/A Remarks Outside the LFG Consultation Zone. Landfill Gas Hazard $\boxtimes$ (within LFG Consultation Zone) 5.1 a. Workers and visitors alerted to possible LGF hazards? b. Smoking and open fires prohibited? $\square$ $\square$ $\boxtimes$ 5.2 Security lighting directed downward into the $\boxtimes$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? There are a number of outstanding issues relating to oil stains and odour that need to be resolved. Any areas within the lot to be used for recycling processes are concrete paved? 5.5 Valid calibration certificate for any $\boxtimes$ No monitoring equipment. monitoring equipment? $\square$ DG licences for storing methanol, **Dangerous Goods** sulphuric acid and fatty acid methyl 5.6 a. Valid license for manufacturing / storing esters (FAME) obtained (Nos. 021229, dangerous goods? 021228 & 021227, and 021225 & 021226). DG licence for manufacturing FAME obtained (No. 001456). b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely locked? d. Total storage capacity in compliance with $\square$ $\square$ the relevant statutory requirement? e. Proper Labelling? $\square$ $\square$ f. Dangerous goods properly packaged? $\square$ $\square$ 5.7 Potential stagnant pools cleared and See Action #1. $\boxtimes$ mosquito breeding prevented?



#### **Action Items from This Audit**

## No. Action

 Some of the containers were found to be open which might cause water to collect and become stagnant. The Tenant was reminded to cover the containers or to place the containers upside-down to avoid collecting water. 5 August 2011

**Expected By** 





2. Odour nuisance with rotten, decayed and/or sour smell (酸餿氣味) was still noted around the lot. The Tenant was again reminded to implement mitigation measures suggested in Incident/Complaint Report 003. After the additional extraction fan and activated carbon filter are in use, the situation will be monitored in the next Monthly Site Audit in August 2011.

5 August 2011

#### **Follow-up from Previous Audits**

#### No. Follow-up from Previous Audit Dated 21 June 2011

**Status** 

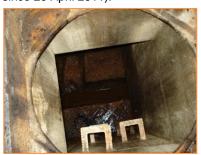
- As advised by the Tenant, the revised Block Plan and Schematic Flow Diagram have been certified by Authorized Person and Qualified Engineer, respectively. The signed documents were sent to EPD in July 2011 for record (repeated action since 20 April 2011).
- Closed
- Oil leakage/stains were still found around the lot. Since these items are potential sources of odour, the Tenant was again reminded to remove the oil stains and dispose of waste materials properly (repeated observation since 22 February 2011).

Outstanding





 No oil/grease was found inside the sewer. The IEC and ET shall monitor the situation again in the next Quarterly Site Audit in October 2011 (repeated action since 20 April 2011). Closed





#### **Follow-up from Previous Audits**

#### No. Follow-up from Previous Audit Dated 21 June 2011

**Status** 

4. Oil stains were still found at the corner of the lot and inside the surface channels. The Tenant was again reminded to clear the contaminated soil properly and put sandbags at the edge so as to prevent the leaked oil from entering the surface channels. Outstanding



 Most of the activated carbon has been stored indoor, yet some of them were still stored in an open environment. The Tenant was again reminded to store such material in a dry and weatherproof environment so as to optimise its removal efficiency. Outstanding



## **Audit Summary and Sign-off**

The Tenant should settle the odour nuisance as soon as possible. A number of observations remain outstanding from previous months – the Tenant is urged to address these issues without further delay.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Champway	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	Kenji WONG	Morgan CHIU
Role	ET Leader	IEC	Technical Manager	Park Manager
Signature	That my	Grafal	(). pe.	1



# **APPENDIX 6.2**

Tenant-specific Audit Checklists for the Reporting Quarter

Shiu Wing (EP08-03)



	Audit Details						
Ten	ant	Shiu Wing Steel	Limi	ted			
Dat	e & Time	Date 25 May 20	011			Tin	ne 9:40am
Lot	No.	EP08-03		_			
Aud	dit Ref.	10		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
We	ather Conditions	Fine		Hazy		$\boxtimes$	Overcast Rain
Wir	nd	Calm	$\boxtimes$	Light Br	eeze		Strong Wind
Ten	nperature	23_°C					
Hur	midity	Low	$\boxtimes$	Medium			High
	1. General						
	Description			Yes	No	N/A	
1.1	EP for Tenant disp at entrance?	layed on notice boa	ards	/			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for tenant is not required.
1.2	Environmental Poli	cy documented?					The Tenant is going to integrate the Environmental Policy into their Safety Operations Manual soon.
1.3	Environmental Mar	nagement Plan upo	lated	d?	$\boxtimes$		The Tenant is going to integrate the EMP into their Safety Operations Manual soon.
1.4	a. Emergency Res documented?	ponse Plan (ERP)					The ERP has been included in the Tenant's Safety Operations Manual.
	b. Drill / training red	cords available?		$\boxtimes$			The Tenant advised the training records were kept at their HR department.
1.5	Employee's training	g record available?		$\boxtimes$			The Tenant keeps a training record for BPI.
1.6	Any record of prose	ecution / complaint	?		$\boxtimes$		
1.7	Waste Managemen	nt Plan?				$\boxtimes$	Operator's WMP is documented.
<b>\</b>							



# 2. Water Quality **Description** Yes No N/A Remarks No wastewater is generated from the 2.1 Valid Effluent Discharge License available? recycling process. $\boxtimes$ 2.2 Any wastewater treatment facility prior to effluent discharge? If yes, facility is properly maintained and function normally? **Effluent Monitoring** $\boxtimes$ a. Sampling / Monitoring Record available? b. Monitoring frequency met the license requirement? $\boxtimes$ c. Any exceedance? d. If yes, follow-up action taken? Surface run-off control measures in place 2.4 and adequately maintained? $\square$ $\square$ $\square$ 2.5 Surface run-off discharging into drainage system? 2.6 All manholes are covered? 2.7 Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided? Drainage system is well maintained to prevent flooding and overflow?



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination				The risk of contamination for the recycling process is low.
9	a. Processes / activities are located under a covered area?				
•	b. Stop-logs installed in the perimeter drainage system for uncovered areas?		$\boxtimes$		The stop-logs have been passed to Tenant, who shall install in the perimeter drainage channel as and when necessary.
•	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				No contaminated water was found.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				No equipment oil and lubrication replacement were performed inside the tenant lot.
11	a. Oil interceptor provided for drainage discharging from maintenance area?				Not required.
•	b. If yes, oil and grease removed regularly?				
•	c. Collected by licenced collector?				
	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?				Not required.
•	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



# 3. Air Quality **Description** Yes No N/A Remarks a. Valid Specified Process License for all 3.1 $\bowtie$ Not required. specified process available? b. SP License conditions / monitoring requirements met? Odour 3.2 a. Any odour detected? b. If yes, can the source be identified? $\boxtimes$ c. Odorous materials are covered? d. If odour control system is installed, is it operating normally? All dusty materials are sprayed with water Water is sprayed on materials when or covered by impervious sheeting prior to necessary, although this was not any loading, unloading or transfer observed during the site audit. operation? **Dust Monitoring** a. Monitoring Record available? b. Monitoring frequency met the $\boxtimes$ requirement? $\square$ $\square$ $\square$ c. Any exceedance? d. If yes, follow-up action taken? $\sqcap$ $\sqcap$ $\boxtimes$ 3.5 Enclosures are provided around the main dust-generating activities? Open burning is avoided?



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed on-site.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:			$\boxtimes$	
	a. >25L of conventional liquid fuel per hour				
	b. >35kg of conventional solid fuel per hour		Ш		
	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?				
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				Misting system and industrial dust collector are not yet installed.
3.12	Approval from Authority for the use of controlled refrigerant?				
	b. If yes, record of refrigeration equipment service available?				
3.13	All air pollution control systems are properly maintained and function normally?			$\boxtimes$	Not yet installed.
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			
<b>\</b>					



# 4. Waste / Chemical Management **Description** Yes No N/A Remarks Registration No. 3839-421-S3054-02 **Chemical Waste Producer Registration** 4.1 $\square$ completed? for spent lubricating oil. 4.2 Provision of sufficient waste disposal points/ $\square$ $\square$ receptacles? Waste disposed of regularly and properly? The municipal waste is disposed of daily via the Operator. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at regular intervals? Packaging of Chemical Waste $\boxtimes$ No on-site storage. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? c. Spillage cleaned up immediately through $\boxtimes$ the use of an absorbent? d. Approval obtained for capacity of $\sqcap$ $\sqcap$ $\boxtimes$ containers > 450L? Labelling of Chemical Waste $\boxtimes$ No on-site storage. a. Label is securely attached, clean and 4.8 visible? $\sqcap$ $\sqcap$ $\boxtimes$ b. Label is in proper dimension and bilingual? c. Information is accurate and sufficient? $\boxtimes$



### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste No on-site storage. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No on-site storage. 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\sqcap$ $\sqcap$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container storage area constructed of impermeable material?



## 5. Other Issues **Description** Yes No N/A Remarks The lot is within the LFG Consultation Landfill Gas Hazard $\square$ $\square$ $\square$ Zone and the Tenant has alerted (within LFG Consultation Zone) workers/visitors about possible LFG 5.1 a. Workers and visitors alerted to possible hazards. A notice is also posted at the LGF hazards? entrance. b. Smoking and open fires prohibited? $\square$ $\square$ 5.2 Security lighting directed downward into the $\bowtie$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? Any areas within the lot to be used for $\boxtimes$ Most of the areas are covered by metal recycling processes are concrete paved? plates. $\boxtimes$ 5.5 Valid calibration certificate for any No monitoring equipment. monitoring equipment? $\boxtimes$ Diesel storage was 400L which is **Dangerous Goods** within the exempted quantity of 5.6 a. Valid license for manufacturing / storing 2,500L. dangerous goods? b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely $\boxtimes$ locked? d. Total storage capacity in compliance with $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? f. Dangerous goods properly packaged? $\sqcap$ $\sqcap$ $\boxtimes$ Potential stagnant pools cleared and $\square$ $\square$ $\square$ mosquito breeding prevented?



#### **Action Items from This Audit**

No. Action Expected by

1. No critical issues were identified. NIL

#### **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 20 April 2011

**Status** 

1. NIL N/A

### **Audit Summary and Sign-off**

The site was generally tidy.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Shiu Wing	Serco Guardian JV
Signed By	Carman CHUNG	-	Alex WAI	Morgan CHIU
Role	ET Site Auditor	-	Manager	Park Manager
Signature	Zonon		No	3



	Audit Details						
Ten	ant	Shiu Wing Steel Limit	ted				
Date	e & Time	Date 21 June 2011				Tin	ne 9:45am
Lot	No.	EP08-03	_				
Aud	lit Ref.	11	_				
IEC	Joint Inspection	☐ Yes 🖂	No				
Wea	ather Conditions		Haz	zy			Overcast Rain
Win	d	☐ Calm	Lig	ht Bre	eze		Strong Wind
Ten	perature	32 °C					
Hun	nidity	☐ Low 🖂	Me	dium			High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant displ at entrance?	ayed on notice boards	/				EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Police	cy documented?			$\boxtimes$		The Tenant is going to integrate the Environmental Policy into their Safety Operations Manual soon.
1.3	Environmental Man	agement Plan updated	d?		$\boxtimes$		The Tenant is going to integrate the EMP into their Safety Operations Manual soon.
1.4	a. Emergency Resp documented?	oonse Plan (ERP)					The ERP has been included in the Tenant's Safety Operations Manual.
	b. Drill / training rec	ords available?					The Tenant advised the training records were kept at their HR department.
1.5	Employee's training	record available?		$\boxtimes$			The Tenant keeps a training record for BPI.
1.6	Any record of prose	ecution / complaint?			$\boxtimes$		
1.7	Waste Managemen	t Plan?					Operator's WMP is documented.



	2. Water Quality				
	Description	Yes	No	N/A	Remarks
2.1	Valid Effluent Discharge License available?				No wastewater is generated from the recycling process.
2.2	Any wastewater treatment facility prior to effluent discharge?				
	If yes, facility is properly maintained and function normally?				
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?				
	b. Monitoring frequency met the license requirement?				
	c. Any exceedance?				
	d. If yes, follow-up action taken?				
2.4	Surface run-off control measures in place and adequately maintained?				
2.5	Surface run-off discharging into drainage system?				
2.6	All manholes are covered?	$\boxtimes$			
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?				
2.8	Drainage system is well maintained to prevent flooding and overflow?	$\boxtimes$			



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination				The risk of contamination for the recycling process is low.
9	Processes / activities are located under a covered area?				
	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				The stop-logs have been passed to Tenant, who shall install in the perimeter drainage channel as and when necessary.
	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				No contaminated water was found.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				No equipment oil and lubrication replacement were performed inside the tenant lot.
.11	a. Oil interceptor provided for drainage discharging from maintenance area?				Not required.
	b. If yes, oil and grease removed regularly?				
	c. Collected by licenced collector?				
.12	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?				Not required.
	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?			$\boxtimes$	
3.2	Odour  a. Any odour detected?				
	b. If yes, can the source be identified?				
	c. Odorous materials are covered?				
	d. If odour control system is installed, is it operating normally?				
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?				Water was observed to spray on ground during the site audit.
3.4	Dust Monitoring  a. Monitoring Record available?				
	b. Monitoring frequency met the requirement?				
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?				
3.6	Open burning is avoided?	$\boxtimes$			



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed on-site.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:  a. >25L of conventional liquid fuel per hour			$\boxtimes$	
	b. >35kg of conventional solid fuel per hour			$\boxtimes$	
•	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?				
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				Misting system and industrial dust collector are not yet installed.
3.12	Approval from Authority for the use of controlled refrigerant?				
-	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
3.13	All air pollution control systems are properly maintained and function normally?			$\boxtimes$	Not yet installed.
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



# 4. Waste / Chemical Management **Description** Yes No N/A Remarks **Chemical Waste Producer Registration** Registration No. 3839-421-S3054-02 4.1 $\square$ completed? for spent lubricating oil. 4.2 Provision of sufficient waste disposal points/ $\square$ $\square$ receptacles? Waste disposed of regularly and properly? The municipal waste is disposed of daily via the Operator. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at regular intervals? Packaging of Chemical Waste $\boxtimes$ No on-site storage. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? c. Spillage cleaned up immediately through $\boxtimes$ the use of an absorbent? d. Approval obtained for capacity of $\sqcap$ $\sqcap$ $\boxtimes$ containers > 450L? Labelling of Chemical Waste $\boxtimes$ No on-site storage. a. Label is securely attached, clean and 4.8 visible? $\sqcap$ $\sqcap$ $\boxtimes$ b. Label is in proper dimension and bilingual? c. Information is accurate and sufficient? $\boxtimes$



## 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste No on-site storage. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No on-site storage. 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\sqcap$ $\sqcap$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container storage area constructed of impermeable material?



# 5. Other Issues **Description** Yes No N/A Remarks The lot is within the LFG Consultation Landfill Gas Hazard $\square$ $\square$ $\square$ Zone and the Tenant has alerted (within LFG Consultation Zone) workers/visitors about possible LFG 5.1 a. Workers and visitors alerted to possible hazards. A notice is also posted at the LGF hazards? entrance. b. Smoking and open fires prohibited? $\square$ $\square$ 5.2 Security lighting directed downward into the $\boxtimes$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? Any areas within the lot to be used for $\boxtimes$ Most of the areas are covered by metal recycling processes are concrete paved? plates. 5.5 Valid calibration certificate for any $\Box$ $\boxtimes$ No monitoring equipment. monitoring equipment? Diesel storage was 400L which is **Dangerous Goods** $\boxtimes$ within the exempted quantity of 5.6 a. Valid license for manufacturing / storing 2,500L. dangerous goods? b. Storage area in compliance with the approved plan? $\boxtimes$ c. Storage area(s) has been securely locked? d. Total storage capacity in compliance with $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? $\sqcap$ $\sqcap$ $\boxtimes$ f. Dangerous goods properly packaged? Potential stagnant pools cleared and mosquito breeding prevented?



No. Action Expected by

1. No critical issues were identified.

### **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 25 May 2011

**Status** 

1. NIL N/A

# **Audit Summary and Sign-off**

The site was generally tidy.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Shiu Wing	Serco Guardian JV
Signed By	Carman CHUNG	-	Alex WAI	Morgan CHIU
Role	ET Site Auditor	-	Manager	Park Manager
Signature	Zonan		cy	3



	Audit Details						
Ter	nant	Shiu Wing Steel	Limi	ted			
Dat	e & Time	Date 19 July 20	11			Tir	me 9:40am
Lot	No.	EP08-03		_			
Aud	dit Ref.	12		_			
IEC	Joint Inspection			No			
We	ather Conditions			Hazy			Overcast Rain
Wir	nd	Calm	$\boxtimes$	Light B	reeze		Strong Wind
Ter	nperature	30 °C					
Hui	midity	Low	$\boxtimes$	Medium	n		High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant displ at entrance?	ayed on notice boa	ards	/			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Police	cy documented?			$\boxtimes$		The Tenant is going to integrate the Environmental Policy into their Safety Operations Manual soon.
1.3	Environmental Man	agement Plan upd	atec	l?	$\boxtimes$		The Tenant is going to integrate the EMP into their Safety Operations Manual soon.
1.4	a. Emergency Resp documented?	oonse Plan (ERP)					The ERP has been included in the Tenant's Safety Operations Manual.
	b. Drill / training rec	ords available?		$\boxtimes$			The Tenant advised the training records were kept at their HR department.
1.5	Employee's training	record available?		$\boxtimes$			The Tenant keeps a training record for BPI.
1.6	Any record of prose	ecution / complaint	?		$\boxtimes$		
1.7	Waste Managemen	it Plan?				$\boxtimes$	Operator's WMP is documented.
\							



	2. Water Quality				
	Description	Yes	No	N/A	Remarks
2.1	Valid Effluent Discharge License available?				No wastewater is generated from the recycling process.
2.2	Any wastewater treatment facility prior to effluent discharge?				
	If yes, facility is properly maintained and function normally?				
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?				
	b. Monitoring frequency met the license requirement?				
	c. Any exceedance?				
	d. If yes, follow-up action taken?				
2.4	Surface run-off control measures in place and adequately maintained?				
2.5	Surface run-off discharging into drainage system?				
2.6	All manholes are covered?	$\boxtimes$			
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?				
2.8	Drainage system is well maintained to prevent flooding and overflow?	$\boxtimes$			



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination			$\boxtimes$	The risk of contamination for the recycling process is low.
	a. Processes / activities are located under a covered area?				
	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				The stop-logs have been passed to Tenant, who shall install in the perimeter drainage channel as and when necessary.
•	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				No contaminated water was found.
0	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				No equipment oil and lubrication replacement were performed inside the tenant lot.
1	a. Oil interceptor provided for drainage discharging from maintenance area?				Not required.
•	b. If yes, oil and grease removed regularly?				
	c. Collected by licenced collector?				
	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	Not required.
	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?			$\boxtimes$	
	Odour		$\boxtimes$		
3.2	a. Any odour detected?				
	b. If yes, can the source be identified?			$\boxtimes$	
	c. Odorous materials are covered?				
	d. If odour control system is installed, is it operating normally?				
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?				Water is sprayed on materials when necessary, although this was not observed during the site audit.
	Dust Monitoring			$\boxtimes$	
3.4	a. Monitoring Record available?				
	b. Monitoring frequency met the requirement?				
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?				
3.6	Open burning is avoided?	$\boxtimes$			



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed on-site.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:			$\boxtimes$	
-	a. >25L of conventional liquid fuel per hour b. >35kg of conventional solid fuel per hour			$\boxtimes$	
-	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?			$\boxtimes$	
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				Misting system and industrial dust collector are not yet installed.
3.12	a. Approval from Authority for the use of controlled refrigerant?				
-	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
3.13	All air pollution control systems are properly maintained and function normally?			$\boxtimes$	Not yet installed.
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



# 4. Waste / Chemical Management **Description** Yes No N/A Remarks Registration No. 3839-421-S3054-02 **Chemical Waste Producer Registration** 4.1 $\square$ completed? for spent lubricating oil. 4.2 Provision of sufficient waste disposal points/ $\square$ $\square$ receptacles? Waste disposed of regularly and properly? The municipal waste is disposed of daily via the Operator. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at regular intervals? Packaging of Chemical Waste $\boxtimes$ No on-site storage. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? c. Spillage cleaned up immediately through $\boxtimes$ the use of an absorbent? d. Approval obtained for capacity of $\sqcap$ $\sqcap$ $\boxtimes$ containers > 450L? Labelling of Chemical Waste $\boxtimes$ No on-site storage. a. Label is securely attached, clean and 4.8 visible? $\sqcap$ $\sqcap$ $\boxtimes$ b. Label is in proper dimension and bilingual? c. Information is accurate and sufficient? $\boxtimes$



## 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste No on-site storage. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No on-site storage. 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\sqcap$ $\sqcap$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container storage area constructed of impermeable material?



### 5. Other Issues **Description** Yes No N/A Remarks The lot is within the LFG Consultation Landfill Gas Hazard $\square$ $\square$ $\square$ Zone and the Tenant has alerted (within LFG Consultation Zone) workers/visitors about possible LFG 5.1 a. Workers and visitors alerted to possible hazards. A notice is also posted at the LGF hazards? entrance. b. Smoking and open fires prohibited? $\square$ $\square$ 5.2 Security lighting directed downward into the $\boxtimes$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? Any areas within the lot to be used for $\boxtimes$ Most of the areas are covered by metal recycling processes are concrete paved? plates. 5.5 Valid calibration certificate for any $\Box$ $\boxtimes$ No monitoring equipment. monitoring equipment? Diesel storage was 400L which is **Dangerous Goods** $\boxtimes$ within the exempted quantity of 5.6 a. Valid license for manufacturing / storing 2,500L. dangerous goods? b. Storage area in compliance with the approved plan? $\boxtimes$ c. Storage area(s) has been securely locked? d. Total storage capacity in compliance with $\times$ the relevant statutory requirement? e. Proper Labelling? $\sqcap$ $\sqcap$ $\boxtimes$ f. Dangerous goods properly packaged? Potential stagnant pools cleared and See Action #1. mosquito breeding prevented?



No. Action Expected by

 Stagnant water was found on the metal cover over the gully. In addition, some of the containers were found to be open, which might cause stagnant water to collect. The Tenant should remove the stagnant water and cover the open containers, or place the containers upside-down to avoid collecting water. 5 August 2011





### **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 21 June 2011

**Status** 

1. NIL N/A

# **Audit Summary and Sign-off**

The Tenant should clear the stagnant water on the metal gulley cover and properly store the containers to avoid water collecting.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Shiu Wing	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	Alex WAI	Morgan CHIU
Role	ET Leader	IEC	Manager	Park Manager
Signature	That my	Gnorfal	H	1



# **APPENDIX 6.3**

Tenant-specific Audit Checklists for the Reporting Quarter

Hung Wai (EP06-034)



# Audit Details

Ten	ant	Hong Kong Hung	g Wa	ai Wooden B	oard	Compan	ny
Dat	e & Time	Date 25 May 2	011			Time	9:55am
Lot	No.	EP06-034		_			
Auc	lit Ref.	9		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
Wea	ather Conditions	Fine		Hazy		⊠ Ove	ercast Rain
Win	d	Calm	$\boxtimes$	Light Breez	e	Stro	ong Wind
Ten	nperature	23_°C					
Hur	nidity	Low	$\boxtimes$	Medium		Hig	h
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant disp at entrance?	layed on notice bo	ards	/			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for tenant is not required.
1.2	Environmental Poli	cy documented?					Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Mar	nagement Plan upo	dated	l? 🗌			
1.4	a. Emergency Res documented?	ponse Plan (ERP)				$\boxtimes$	Operator's ERP is documented. Tenant follows this.
	b. Drill / training red	cords available?					Training has been provided but the records are not available.
1.5	Employee's training	g record available?	)				Training has been provided but the records are not available.
1.6	Any record of prose	ecution / complaint	?		$\boxtimes$		
1.7	Waste Managemen	nt Plan?					Operator's WMP is documented. Tenant follows this.



	Description	Yes	No	N/A	Remarks
	Valid Effluent Discharge License available?				No wastewater is generated from the recycling process.
2	Any wastewater treatment facility prior to effluent discharge?			$\boxtimes$	
	If yes, facility is properly maintained and function normally?			$\boxtimes$	
3	Effluent Monitoring a. Sampling / Monitoring Record available?			$\boxtimes$	
	b. Monitoring frequency met the license requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
ļ	Surface run-off control measures in place and adequately maintained?			$\boxtimes$	
;	Surface run-off discharging into drainage system?	$\boxtimes$			
6	All manholes are covered?	$\boxtimes$			
7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?	$\boxtimes$			The Tenant has provided wooden plates covering the Uchannel to prevent debris from entering the channel.
3	Drainage system is well maintained to prevent flooding and overflow?	$\boxtimes$			The Tenant advised the U- Channel was regularly cleared.



Contamination   a. Processes / activities are located under a covered area?   The stop-logs have been partor to Tenant, who shall install in perimeter drainage system for uncovered areas?   The stop-logs have been partor to Tenant, who shall install in perimeter drainage systems is treated at water treatment facility / other appropriate treatment facility?   No contaminated water was found.   Not observed.   Not observed.   Not observed.   Not observed.   Not observed.   Not observed.   Not required.     Not required.   Not required.     Cargo Handling   Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?   Not Materials and bulk cargo are properly   Not Materials and bulk cargo are properly   Not materials are performed.   Not required.   Not required.		Description	Yes	No	N/A	Remarks
b. Stop-logs installed in the perimeter drainage system for uncovered areas?  c. Contaminated water collected in the surface drainage systems is treated at water treatment facility?  c. Contaminated water collected in the surface drainage systems is treated at water treatment facility?  10 Equipment oil and lubrication replacements are performed only in bunded maintenance area?  11 a. Oil interceptor provided for drainage discharging from maintenance area?  Not required.  b. If yes, oil and grease removed regularly?  c. Collected by licenced collector?  Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?  b. Materials and bulk cargo are properly		Contamination				The risk of contamination for the recycling process is low.
drainage system for uncovered areas?  to Tenant, who shall install in perimeter drainage channel and when necessary.  c. Contaminated water collected in the surface drainage systems is treated at water treatment facility?  No contaminated water was found.  Not observed.  Equipment oil and lubrication replacements are performed only in bunded maintenance area?  Not required.  a. Oil interceptor provided for drainage discharging from maintenance area?  b. If yes, oil and grease removed regularly?  c. Collected by licenced collector?  Cargo Handling  a. Cargo Handling  Guideline available and followed to minimise chance of accidental spillage when loading or unloading?  b. Materials and bulk cargo are properly	9					
surface drainage systems is treated at water treatment facility / other appropriate treatment facility?  Equipment oil and lubrication replacements are performed only in bunded maintenance area?  In a. Oil interceptor provided for drainage discharging from maintenance area?  In b. If yes, oil and grease removed regularly?  Cargo Handling  a. Cargo Handling  a. Cargo Handling Suideline available and followed to minimise chance of accidental spillage when loading or unloading?  b. Materials and bulk cargo are properly	•					The stop-logs have been passer to Tenant, who shall install in the perimeter drainage channel as and when necessary.
are performed only in bunded maintenance area?    1 a. Oil interceptor provided for drainage discharging from maintenance area?   Not required.	•	surface drainage systems is treated at water treatment facility / other			$\boxtimes$	No contaminated water was found.
b. If yes, oil and grease removed regularly?   c. Collected by licenced collector?   Cargo Handling   a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?  b. Materials and bulk cargo are properly	0	are performed only in bunded maintenance				Not observed.
c. Collected by licenced collector?	1				$\boxtimes$	Not required.
Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?  b. Materials and bulk cargo are properly	•	b. If yes, oil and grease removed regularly?				
<ul> <li>a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?</li> <li>b. Materials and bulk cargo are properly</li> </ul>	•	c. Collected by licenced collector?			$\boxtimes$	
	2	a. Cargo Handling Guideline available and followed to minimise chance of accidental			$\boxtimes$	Not required.
packeu:		b. Materials and bulk cargo are properly packed?				



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?				
	Odour		$\boxtimes$		
3.2	a. Any odour detected?				
	b. If yes, can the source be identified?			$\boxtimes$	
	c. Odorous materials are covered?			$\boxtimes$	
	d. If odour control system is installed, is it operating normally?			$\boxtimes$	
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?		$\boxtimes$		Not observed during the site audit.
3.4	Dust Monitoring  a. Monitoring Record available?			$\boxtimes$	Not required.
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?				
	d. If yes, follow-up action taken?				
3.5	Enclosures are provided around the main dust-generating activities?				
3.6	Open burning is avoided?	$\boxtimes$			



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed onsite.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:			$\boxtimes$	
-	<ul><li>a. &gt;25L of conventional liquid fuel per hour</li><li>b. &gt;35kg of conventional solid fuel per hour</li></ul>			$\boxtimes$	
-	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?				
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.			$\boxtimes$	The collected dust was the input material of the recycling process.
3.12	a. Approval from Authority for the use of controlled refrigerant?			$\boxtimes$	
-	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
3.13	All air pollution control systems are properly maintained and function normally?	$\boxtimes$			The fabric filter is cleared every 3 days.
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** $\boxtimes$ 4.1 Not required. completed? $\boxtimes$ 4.2 Provision of sufficient waste disposal points/ receptacles? $\boxtimes$ 4.3 Waste disposed of regularly and properly? $\boxtimes$ П 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? Record of quantities of waste generated, $\boxtimes$ 4.5 recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at $\boxtimes$ 4.6 regular intervals? Packaging of Chemical Waste $\boxtimes$ No chemical wastes were observed. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\Box$ $\boxtimes$ the use of an absorbent? d. Approval obtained for capacity of $\boxtimes$ containers > 450L? Labelling of Chemical Waste No chemical wastes were observed. a. Label is securely attached, clean and 4.8 visible? $\boxtimes$ b. Label is in proper dimension and bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A **Remarks** Storage of Chemical Waste $\boxtimes$ No chemical wastes were observed. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable П $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? g. Outdoors storage area should be $\boxtimes$ covered? 4.10 Chemical wastes are collected by a $\Box$ $\boxtimes$ No chemical wastes were licensed chemical waste collector? observed. (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was observed. 4.11 a. Storage area floor/surface permeationproof? $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? $\boxtimes$ c. Walls or partitions of stacked container storage area constructed of impermeable material?



	5. Other Issues				
	Description	Yes	No	N/A	Remarks
	Landfill Gas Hazard (within LFG Consultation Zone)			$\boxtimes$	Outside the LFG Consultation Zone.
5.1	a. Workers and visitors alerted to possible LGF hazards?				
	b. Smoking and open fires prohibited?				
5.2	Security lighting directed downward into the work areas to prevent glare to the surrounding receivers?				
5.3	Good housekeeping?	$\boxtimes$			
5.4	Any areas within the lot to be used for recycling processes are concrete paved?	$\boxtimes$			
5.5	Valid calibration certificate for any monitoring equipment?			$\boxtimes$	No monitoring equipment.
5.6	Dangerous Goods  a. Valid license for manufacturing / storing dangerous goods?			$\boxtimes$	There were no DGs stored on site.
	b. Storage area in compliance with the approved plan?			$\boxtimes$	
	c. Storage area(s) has been securely locked?				
	d. Total storage capacity in compliance with the relevant statutory requirement?				
	e. Proper Labelling?			$\boxtimes$	
	f. Dangerous goods properly packaged?			$\boxtimes$	
5.7	Potential stagnant pools cleared and mosquito breeding prevented?	$\boxtimes$			



No. Action Expected By

1. No critical issues were identified. NIL

### **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 20 April 2011

**S**tatus

1. NIL N/A

# **Audit Summary and Sign-off**

The site was generally tidy.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Hung Wai	Serco Guardian JV
Signed By	Carman CHUNG	-	Chun Nam CHAN	Morgan CHIU
Role	ET Site Auditor	-	Representative	Park Manager
Signature	Zonon		I.nom_	1



# Audit Details

Ten	ant	Hong Kong Hung	g Wa	i Wooden Bo	ard	Compan	у
Dat	e & Time	Date 21 June 2	2011			Time	10:00am
Lot	No.	EP06-034		_			
Auc	dit Ref.	10		_			
IEC	Joint Inspection	Yes		No			
Wea	ather Conditions			Hazy		Ove	ercast Rain
Win	nd	Calm	$\boxtimes$	Light Breez	е	Stro	ong Wind
Ten	nperature	32 °C					
Hur	midity	Low	$\boxtimes$	Medium		☐ Higl	h
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant disp at entrance?	layed on notice bo	ards	/			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Poli	cy documented?					Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Mar	nagement Plan upo	dated	l?		$\boxtimes$	
1.4	a. Emergency Res documented?	ponse Plan (ERP)				$\boxtimes$	Operator's ERP is documented. Tenant follows this.
	b. Drill / training red	cords available?				$\boxtimes$	Training has been provided but the records are not available.
1.5	Employee's training	g record available?	)			$\boxtimes$	Training has been provided but the records are not available.
1.6	Any record of prose	ecution / complaint	:?		$\boxtimes$		
1.7	Waste Managemen	nt Plan?				$\boxtimes$	Operator's WMP is documented. Tenant follows this.



	2. Water Quality				
	Description	Yes	No	N/A	Remarks
2.1	Valid Effluent Discharge License available?				No wastewater is generated from the recycling process.
2.2	Any wastewater treatment facility prior to effluent discharge?				
	If yes, facility is properly maintained and function normally?				
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?			$\boxtimes$	
	b. Monitoring frequency met the license requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?				
2.4	Surface run-off control measures in place and adequately maintained?				
2.5	Surface run-off discharging into drainage system?	$\boxtimes$			
2.6	All manholes are covered?	$\boxtimes$			
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?	$\boxtimes$			The Tenant has provided wooden plates covering the Uchannel to prevent debris from entering the channel.
2.8	Drainage system is well maintained to prevent flooding and overflow?	$\boxtimes$			The Tenant advised the U- Channel was regularly cleared.



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination				The risk of contamination for the recycling process is low.
9 _	Processes / activities are located under a covered area?				
	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				The stop-logs have been passed to Tenant, who shall install in the perimeter drainage channel as and when necessary.
_	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?			$\boxtimes$	No contaminated water was found.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Not observed.
11	a. Oil interceptor provided for drainage discharging from maintenance area?				Not required.
-	b. If yes, oil and grease removed regularly?			$\boxtimes$	
-	c. Collected by licenced collector?			$\boxtimes$	
-	Cargo Handling			$\boxtimes$	Not required.
12	a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?				
-	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?			$\boxtimes$	
3.2	Odour a. Any odour detected?		$\boxtimes$		
	b. If yes, can the source be identified?			$\boxtimes$	
	c. Odorous materials are covered?			$\boxtimes$	
	d. If odour control system is installed, is it operating normally?			$\boxtimes$	
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?		$\boxtimes$		Not observed during the site audit.
3.4	Dust Monitoring a. Monitoring Record available?			$\boxtimes$	Not required.
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?		$\boxtimes$		See Action #1.
3.6	Open burning is avoided?				



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed onsite.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:  a. >25L of conventional liquid fuel per hour			$\boxtimes$	
	b. >35kg of conventional solid fuel per hour				
	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?			$\boxtimes$	
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.			$\boxtimes$	The collected dust was the input material of the recycling process.
3.12	Approval from Authority for the use of controlled refrigerant?				
	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
3.13	All air pollution control systems are properly maintained and function normally?				The fabric filter is cleared every 3 days.
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** $\boxtimes$ 4.1 Not required. completed? $\boxtimes$ 4.2 Provision of sufficient waste disposal points/ receptacles? $\boxtimes$ 4.3 Waste disposed of regularly and properly? $\boxtimes$ 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? Record of quantities of waste generated, $\boxtimes$ 4.5 recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at $\boxtimes$ 4.6 regular intervals? Packaging of Chemical Waste $\boxtimes$ No chemical wastes were observed. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through П $\boxtimes$ the use of an absorbent? d. Approval obtained for capacity of $\boxtimes$ containers > 450L? Labelling of Chemical Waste No chemical wastes were observed. 4.8 a. Label is securely attached, clean and visible? $\boxtimes$ b. Label is in proper dimension and bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A **Remarks** Storage of Chemical Waste $\boxtimes$ No chemical wastes were observed. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable П $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? g. Outdoors storage area should be $\boxtimes$ covered? 4.10 Chemical wastes are collected by a $\Box$ $\boxtimes$ No chemical wastes were licensed chemical waste collector? observed. (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was observed. 4.11 a. Storage area floor/surface permeationproof? $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? $\boxtimes$ c. Walls or partitions of stacked container storage area constructed of impermeable material?



	5. Other Issues				
	Description	Yes	No	N/A	Remarks
	Landfill Gas Hazard (within LFG Consultation Zone)			$\boxtimes$	Outside the LFG Consultation Zone.
5.1	<ul><li>a. Workers and visitors alerted to possible LGF hazards?</li></ul>				
	b. Smoking and open fires prohibited?				
5.2	Security lighting directed downward into the work areas to prevent glare to the surrounding receivers?			$\boxtimes$	
5.3	Good housekeeping?	$\boxtimes$			
5.4	Any areas within the lot to be used for recycling processes are concrete paved?				
5.5	Valid calibration certificate for any monitoring equipment?			$\boxtimes$	No monitoring equipment.
5.6	Dangerous Goods  a. Valid license for manufacturing / storing dangerous goods?			$\boxtimes$	There were no DGs stored on site.
	b. Storage area in compliance with the approved plan?			$\boxtimes$	
	c. Storage area(s) has been securely locked?			$\boxtimes$	
	d. Total storage capacity in compliance with the relevant statutory requirement?			$\boxtimes$	
	e. Proper Labelling?			$\boxtimes$	
	f. Dangerous goods properly packaged?			$\boxtimes$	
5.7	Potential stagnant pools cleared and mosquito breeding prevented?				



No. Action Expected By

1. Fugitive dust was emitted from the metal separation outlet of the shredding machine. The Tenant was suggested to enclose the outlet with a transparent rigid cone that enters the collection bag, to reduce fugitive dust emissions.

30 Jun 2011



### **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 25 May 2011

**Status** 

1. NIL N/A

### **Audit Summary and Sign-off**

The Tenant should enclose the metal separation outlet of the shredding machine with a transparent rigid cone that enters the collection bag so as to reduce fugitive dust emissions.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Hung Wai	Serco Guardian JV
Signed By	Carman CHUNG	-	Chun Nam CHAN	Morgan CHIU
Role	ET Site Auditor	*	Representative	Park Manager
Signature	Zoman	(	/nan-	1



# **Audit Details**

Ter	nant	Hong Kong Hung	g Wa	ai Wooden Boar	d Compa	iny
Dat	e & Time	Date 19 July 20	011		Time	9:55am
Lot	No.	EP06-034		_		
Aud	dit Ref.	11		_		
IEC	Joint Inspection			No		
We	ather Conditions			Hazy	Ov	vercast Rain
Wir	nd	Calm	$\boxtimes$	Light Breeze	Sti	rong Wind
Ter	nperature	30 °C				
Hui	midity	Low	$\boxtimes$	Medium	☐ Hig	gh
	1. General					
	Description			Yes No	o N/A	Remarks
1.1	EP for Tenant disp at entrance?	layed on notice bo	ards	/		EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Poli	cy documented?			] 🛛	Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Mar	nagement Plan upo	dated	<del>1</del> ?		
1.4	a. Emergency Residocumented?	ponse Plan (ERP)				Operator's ERP is documented. Tenant follows this.
	b. Drill / training red	cords available?				Training has been provided but the records are not available.
1.5	Employee's training	g record available?	)			Training has been provided but the records are not available.
1.6	Any record of prose	ecution / complaint	:?			
1.7	Waste Managemen	nt Plan?			] 🛛	Operator's WMP is documented. Tenant follows this.



	Description	Yes	No	N/A	Remarks
1	Valid Effluent Discharge License available?				No wastewater is generated from the recycling process.
2	Any wastewater treatment facility prior to effluent discharge?			$\boxtimes$	
	If yes, facility is properly maintained and function normally?			$\boxtimes$	
3	Effluent Monitoring a. Sampling / Monitoring Record available?			$\boxtimes$	
	b. Monitoring frequency met the license requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
	Surface run-off control measures in place and adequately maintained?			$\boxtimes$	
;	Surface run-off discharging into drainage system?	$\boxtimes$			
6	All manholes are covered?	$\boxtimes$			
•	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?	$\boxtimes$			The Tenant has provided wooden plates covering the Uchannel to prevent debris from entering the channel.
3	Drainage system is well maintained to	$\boxtimes$	П		The Tenant advised the U-



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination				The risk of contamination for the recycling process is low.
9 _	Processes / activities are located under a covered area?				
	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				The stop-logs have been passed to Tenant, who shall install in the perimeter drainage channel as and when necessary.
_	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?			$\boxtimes$	No contaminated water was found.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Not observed.
11	a. Oil interceptor provided for drainage discharging from maintenance area?				Not required.
-	b. If yes, oil and grease removed regularly?			$\boxtimes$	
-	c. Collected by licenced collector?			$\boxtimes$	
-	Cargo Handling			$\boxtimes$	Not required.
12	a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?				
-	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?			$\boxtimes$	
3.2	Odour a. Any odour detected?		$\boxtimes$		
	b. If yes, can the source be identified?			$\boxtimes$	
	c. Odorous materials are covered?			$\boxtimes$	
	d. If odour control system is installed, is it operating normally?				
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?		$\boxtimes$		Not observed during the site audit.
3.4	Dust Monitoring a. Monitoring Record available?				Not required.
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?		$\boxtimes$		See Follow-up Action #1.
3.6	Open burning is avoided?	$\boxtimes$			



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed onsite.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:  a. >25L of conventional liquid fuel per hour			$\boxtimes$	
	b. >35kg of conventional solid fuel per hour				
	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?			$\boxtimes$	
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.			$\boxtimes$	The collected dust was the input material of the recycling process.
3.12	Approval from Authority for the use of controlled refrigerant?				
	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
3.13	All air pollution control systems are properly maintained and function normally?				The fabric filter is cleared every 3 days.
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** $\boxtimes$ 4.1 Not required. completed? $\boxtimes$ 4.2 Provision of sufficient waste disposal points/ receptacles? $\boxtimes$ 4.3 Waste disposed of regularly and properly? $\boxtimes$ 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? Record of quantities of waste generated, $\boxtimes$ 4.5 recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at $\boxtimes$ 4.6 regular intervals? Packaging of Chemical Waste $\boxtimes$ No chemical wastes were observed. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through П $\boxtimes$ the use of an absorbent? d. Approval obtained for capacity of $\boxtimes$ containers > 450L? Labelling of Chemical Waste No chemical wastes were observed. 4.8 a. Label is securely attached, clean and visible? $\boxtimes$ b. Label is in proper dimension and bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A **Remarks** Storage of Chemical Waste $\boxtimes$ No chemical wastes were observed. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable П $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ properly stored and locked at designated area which is clean and dry? $\boxtimes$ f. Adequacy of area ventilation? g. Outdoors storage area should be $\boxtimes$ covered? 4.10 Chemical wastes are collected by a $\Box$ $\boxtimes$ No chemical wastes were licensed chemical waste collector? observed. (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was observed. 4.11 a. Storage area floor/surface permeationproof? $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? $\boxtimes$ c. Walls or partitions of stacked container storage area constructed of impermeable material?



	5. Other Issues				
	Description	Yes	No	N/A	Remarks
	Landfill Gas Hazard (within LFG Consultation Zone)			$\boxtimes$	Outside the LFG Consultation Zone.
5.1	<ul><li>a. Workers and visitors alerted to possible LGF hazards?</li></ul>				
	b. Smoking and open fires prohibited?				
5.2	Security lighting directed downward into the work areas to prevent glare to the surrounding receivers?				
5.3	Good housekeeping?	$\boxtimes$			
5.4	Any areas within the lot to be used for recycling processes are concrete paved?				
5.5	Valid calibration certificate for any monitoring equipment?			$\boxtimes$	No monitoring equipment.
5.6	Dangerous Goods  a. Valid license for manufacturing / storing dangerous goods?			$\boxtimes$	There were no DGs stored on site.
	b. Storage area in compliance with the approved plan?			$\boxtimes$	
	c. Storage area(s) has been securely locked?			$\boxtimes$	
	d. Total storage capacity in compliance with the relevant statutory requirement?			$\boxtimes$	
	e. Proper Labelling?			$\boxtimes$	
	f. Dangerous goods properly packaged?			$\boxtimes$	
5.7	Potential stagnant pools cleared and mosquito breeding prevented?				



## **Action Items from This Audit**

No. Action Expected By

1. No critical issues were identified. NIL

### **Follow-up from Previous Audits**

### No. Follow-up from Previous Audit Dated 21 June 2011

**Status** 

 Fugitive dust was still emitted from the uncovered metal separation outlet of the shredding machine. The Tenant was again reminded to consider enclosing the outlet with a transparent rigid cone that enters the collection bag, so as to reduce fugitive dust emissions. Outstanding



## **Audit Summary and Sign-off**

The Tenant could consider to enclose the metal separation outlet of the shredding machine with a transparent rigid cone that enters the collection bag so as to reduce fugitive dust emissions.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Hung Wai	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	Chun Nam CHAN	Morgan CHIU
Role	ET Leader	IEC	Representative	Park Manager
Signature	Dutay.	Grafal	wash	1/2

**Note:** \* IEC to sign-off only for a joint ET+IEC Inspection



# **APPENDIX 6.4**

Tenant-specific Audit Checklists for the Reporting Quarter

Li Tong (EP07-02)



## **Audit Details**

Ten	nant	Li Tong Group					
Dat	e & Time	Date 25 May 2	011			Time	10:10am
Lot	No.	EP07-02		_			
Aud	dit Ref.	8		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
We	ather Conditions	Fine		Hazy		⊠ Ove	ercast Rain
Wir	nd	Calm	$\boxtimes$	Light Breez	ze	Stro	ong Wind
Ten	nperature	<u>23</u> °C					
Hur	midity	Low	$\boxtimes$	Medium		Hig	h
1.1	1. General  Description  EP for Tenant dispat entrance?	olayed on notice bo	ards	Yes	No	N/A	Remarks  EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for tenant is not required.
1.2	Environmental Pol	icy documented?		$\boxtimes$			The Tenant's Environmental Policy is documented.
1.3	Environmental Man	nagement Plan up	dated	? 🔀			The Tenant's EMP is documented.
1.4	a. Emergency Res documented?	ponse Plan (ERP)					The Tenant's ERP is documented.
	b. Drill / training re	cords available?					
1.5	Employee's trainin	g record available	?				
1.6	Any record of pros	ecution / complain	t?		$\boxtimes$		
1.7	Waste Manageme	nt Plan?		$\boxtimes$			The Tenant's WMP is documented.
							,



### 2. Water Quality **Description** Yes No N/A **Remarks** 2.1 Valid Effluent Discharge License available? $\boxtimes$ Licence No. WT00007957-2010 valid until 31 Dec 2015. 2.2 Any wastewater treatment facility prior to $\boxtimes$ Not required for domestic effluent discharge? wastewater. If yes, facility is properly maintained and $\boxtimes$ A chemical/container toilet is function normally? maintained on a monthly basis. $\boxtimes$ **Effluent Monitoring** As per the discharge licence, self-monitoring shall be 2.3 a. Sampling / Monitoring Record available? performed when required. b. Monitoring frequency met the license П $\boxtimes$ requirement? c. Any exceedance? $\boxtimes$ $\boxtimes$ d. If yes, follow-up action taken? Surface run-off control measures in place $\boxtimes$ 2.4 and adequately maintained? 2.5 Surface run-off discharging into drainage $\boxtimes$ system? $\boxtimes$ $\Box$ 2.6 All manholes are covered? $\boxtimes$ 2.7 Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided? Drainage system is well maintained to $\boxtimes$ 2.8 prevent flooding and overflow?



#### 2. Water Quality (continued) **Description** Yes No N/A **Remarks** The risk of contamination for the Processes with high Risk of $\boxtimes$ **Contamination** recycling process is low. 2.9 a. Processes / activities are located under a covered area? b. Stop-logs installed in the perimeter $\boxtimes$ The stop-logs have been passed to Tenant, who shall install in the drainage system for uncovered areas? perimeter drainage channel as and when necessary. $\boxtimes$ c. Contaminated water collected in the No contaminated water was surface drainage systems is treated at found. water treatment facility / other appropriate treatment facility? 2.10 Equipment oil and lubrication replacements $\boxtimes$ Not required. are performed only in bunded maintenance area? $\boxtimes$ 2.11 a. Oil interceptor provided for drainage Not required. discharging from maintenance area? b. If yes, oil and grease removed regularly? $\boxtimes$ c. Collected by licenced collector? $\boxtimes$ $\boxtimes$ **Cargo Handling** Not required. 2.12 a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading? b. Materials and bulk cargo are properly $\boxtimes$ packed?



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?			$\boxtimes$	
	Odour		$\boxtimes$	П	
3.2	a. Any odour detected?			_	
	b. If yes, can the source be identified?			$\boxtimes$	
	c. Odorous materials are covered?			$\boxtimes$	
	d. If odour control system is installed, is it operating normally?			$\boxtimes$	
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?			$\boxtimes$	
3.4	Dust Monitoring a. Monitoring Record available?			$\boxtimes$	Not required.
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?				
3.6	Open burning is avoided?				



### 3. Air Quality (continued) **Description** Yes No N/A **Remarks** 3.7 Dark smoke emitted from chimney or $\boxtimes$ There is no chimney installed onpowered plant is avoided? site. Vehicles and equipment are switched off $\boxtimes$ 3.8 while not in use? 3.9 Approval certificate issued by the Authority $\Box$ $\boxtimes$ is available for furnace, oven or chimney consuming: a. >25L of conventional liquid fuel per hour b. >35kg of conventional solid fuel per hour $\boxtimes$ c. >1,150 MJ of any gaseous fuel per hour $\boxtimes$ $\boxtimes$ 3.10 Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity? 3.11 Dust collected by any air pollution control $\boxtimes$ equipment installed by tenants must be tested to ensure compliance for landfill disposal. $\Box$ 3.12 a. Approval from Authority for the use of $\boxtimes$ Not required. controlled refrigerant? $\boxtimes$ b. If yes, record of refrigeration equipment service available? 3.13 All air pollution control systems are properly $\boxtimes$ maintained and function normally? 3.14 Only Ultra-Low Sulphur Diesel is used? $\boxtimes$



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** 4.1 $\boxtimes$ Registration No. 3840-421completed? L2676-01 for various types of chemical waste. $\boxtimes$ 4.2 Provision of sufficient waste disposal points/ $\Box$ receptacles? Waste disposed of regularly and properly? $\boxtimes$ The municipal waste is disposed of daily via the Operator, whereas the chemical waste is disposed of once or twice per month depending on the quantity generated. Recyclable materials were Sorting of materials on-site for reuse or $\boxtimes$ $\Box$ 4.4 disposal to designated outlet? passed to other recyclers. Record of quantities of waste generated, $\boxtimes$ 4.5 recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at $\boxtimes$ 4.6 regular intervals? Packaging of Chemical Waste $\boxtimes$ $\Box$ 4.7 a. Stored in suitable container? b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\Box$ $\boxtimes$ No spillage. the use of an absorbent? $\boxtimes$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste $\boxtimes$ a. Label is securely attached, clean and 4.8 visible? $\boxtimes$ b. Label is in proper dimension and bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste $\boxtimes$ 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ properly stored and locked at designated area which is clean and dry? f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be $\boxtimes$ Chemical waste was stored covered? indoor. 4.10 Chemical wastes are collected by a $\bowtie$ $\Box$ The Tenant itself is a licensed licensed chemical waste collector? chemical waste collector (Licence (retention of trip ticket copies for 12 months) No.: 3810-421-L2676-OS) for CRT and LCD monitors. Storage of Liquid Waste $\bowtie$ 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\Box$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container $\boxtimes$ storage area constructed of impermeable material?



### 5. Other Issues **Description** Yes No N/A **Remarks** Landfill Gas Hazard Outside the LFG Consultation (within LFG Consultation Zone) Zone. 5.1 a. Workers and visitors alerted to possible LGF hazards? $\boxtimes$ b. Smoking and open fires prohibited? $\boxtimes$ 5.2 Security lighting directed downward into the work areas to prevent glare to the surrounding receivers? $\boxtimes$ П 5.3 Good housekeeping? Any areas within the lot to be used for recycling processes are concrete paved? $\boxtimes$ 5.5 Valid calibration certificate for any No monitoring equipment. monitoring equipment? **Dangerous Goods** $\boxtimes$ There were no DGs stored on site. 5.6 a. Valid license for manufacturing / storing dangerous goods? b. Storage area in compliance with the $\boxtimes$ approved plan? c. Storage area(s) has been securely П $\boxtimes$ locked? d. Total storage capacity in compliance with $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? $\boxtimes$ $\boxtimes$ f. Dangerous goods properly packaged? $\Box$ Potential stagnant pools cleared and $\boxtimes$ mosquito breeding prevented?



## **Action Items from This Audit**

No. Action Expected By

1. No critical issues were identified.

## **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 20 April 2011

Status

1. NIL NIL

## **Audit Summary and Sign-off**

The site was generally tidy.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Li Tong	Serco Guardian JV
Signed By	Carman CHUNG	-	Mr. SO	Morgan CHIU
Role	ET Site Auditor	-	Representative	Park Manager
Signature	Zonon		Hin	3

**Note:** \* IEC to sign-off only for a joint ET+IEC Inspection



## Audit Details

Te	nant	Li Tong Group					
Da	te & Time	Date 21 June 2	2011			Time	10:25am
Lo	t No.	EP07-02		_			
Au	dit Ref.	9		_			
IEC	C Joint Inspection	Yes	$\boxtimes$	No			
We	eather Conditions	Fine		Hazy		Ove	ercast Rain
Wi	nd	Calm	$\boxtimes$	Light Breeze	<del>)</del>	Stro	ong Wind
Те	mperature	32 °C					
Hu	midity	Low	$\boxtimes$	Medium		☐ HigI	h
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant displat entrance?	layed on notice bo	ards	/			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Poli	cy documented?					The Tenant's Environmental Policy is documented.
1.3	Environmental Mar	nagement Plan upo	dated	l? 🔀			The Tenant's EMP is documented.
1.4	a. Emergency Residocumented?	ponse Plan (ERP)					The Tenant's ERP is documented.
	b. Drill / training red	cords available?		$\boxtimes$			
1.5	Employee's training	g record available?	?				
1.6	Any record of prose	ecution / complaint	:?		$\boxtimes$		
1.7	Waste Managemer	nt Plan?		$\boxtimes$			The Tenant's WMP is documented.



### 2. Water Quality **Description** Yes No N/A **Remarks** 2.1 Valid Effluent Discharge License available? $\bowtie$ Licence No. WT00007957-2010 valid until 31 Dec 2015. 2.2 Any wastewater treatment facility prior to $\boxtimes$ Not required for domestic effluent discharge? wastewater. If yes, facility is properly maintained and $\boxtimes$ A chemical/container toilet is function normally? maintained on a monthly basis. $\boxtimes$ **Effluent Monitoring** As per the discharge licence, self-monitoring shall be 2.3 a. Sampling / Monitoring Record available? performed when required. b. Monitoring frequency met the license П $\boxtimes$ requirement? $\boxtimes$ c. Any exceedance? $\boxtimes$ d. If yes, follow-up action taken? Surface run-off control measures in place $\boxtimes$ 2.4 and adequately maintained? 2.5 Surface run-off discharging into drainage $\boxtimes$ system? $\boxtimes$ $\Box$ 2.6 All manholes are covered? $\boxtimes$ 2.7 Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided? $\boxtimes$ 2.8 Drainage system is well maintained to prevent flooding and overflow?



#### 2. Water Quality (continued) **Description** Yes No N/A **Remarks** The risk of contamination for the Processes with high Risk of $\boxtimes$ **Contamination** recycling process is low. 2.9 a. Processes / activities are located under a covered area? b. Stop-logs installed in the perimeter $\boxtimes$ The stop-logs have been passed to Tenant, who shall install in the drainage system for uncovered areas? perimeter drainage channel as and when necessary. $\boxtimes$ c. Contaminated water collected in the No contaminated water was surface drainage systems is treated at found. water treatment facility / other appropriate treatment facility? 2.10 Equipment oil and lubrication replacements $\boxtimes$ Not required. are performed only in bunded maintenance area? 2.11 a. Oil interceptor provided for drainage $\boxtimes$ Not required. discharging from maintenance area? b. If yes, oil and grease removed regularly? $\boxtimes$ c. Collected by licenced collector? $\boxtimes$ $\boxtimes$ **Cargo Handling** Not required. 2.12 a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading? b. Materials and bulk cargo are properly $\boxtimes$ packed?



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?			$\boxtimes$	
	Odour		$\boxtimes$	П	
3.2	a. Any odour detected?			_	
	b. If yes, can the source be identified?			$\boxtimes$	
	c. Odorous materials are covered?			$\boxtimes$	
	d. If odour control system is installed, is it operating normally?			$\boxtimes$	
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?			$\boxtimes$	
3.4	Dust Monitoring a. Monitoring Record available?			$\boxtimes$	Not required.
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?				
3.6	Open burning is avoided?				



### 3. Air Quality (continued) **Description** Yes No N/A **Remarks** 3.7 Dark smoke emitted from chimney or $\boxtimes$ There is no chimney installed onpowered plant is avoided? site. Vehicles and equipment are switched off $\boxtimes$ 3.8 while not in use? 3.9 Approval certificate issued by the Authority $\Box$ $\boxtimes$ is available for furnace, oven or chimney consuming: a. >25L of conventional liquid fuel per hour b. >35kg of conventional solid fuel per hour $\boxtimes$ c. >1,150 MJ of any gaseous fuel per hour $\boxtimes$ $\boxtimes$ 3.10 Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity? 3.11 Dust collected by any air pollution control $\boxtimes$ equipment installed by tenants must be tested to ensure compliance for landfill disposal. $\Box$ 3.12 a. Approval from Authority for the use of $\boxtimes$ Not required. controlled refrigerant? $\boxtimes$ b. If yes, record of refrigeration equipment service available? 3.13 All air pollution control systems are properly $\boxtimes$ maintained and function normally? 3.14 Only Ultra-Low Sulphur Diesel is used? $\boxtimes$



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** 4.1 $\boxtimes$ Registration No. 3840-421completed? L2676-01 for various types of chemical waste. $\boxtimes$ 4.2 Provision of sufficient waste disposal points/ $\Box$ receptacles? Waste disposed of regularly and properly? $\boxtimes$ The municipal waste is disposed of daily via the Operator, whereas the chemical waste is disposed of once or twice per month depending on the quantity generated. Sorting of materials on-site for reuse or $\boxtimes$ $\Box$ Recyclable materials were 4.4 disposal to designated outlet? passed to other recyclers. Record of quantities of waste generated, $\boxtimes$ 4.5 recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at $\boxtimes$ 4.6 regular intervals? Packaging of Chemical Waste $\boxtimes$ $\Box$ 4.7 a. Stored in suitable container? b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\Box$ $\boxtimes$ No spillage. the use of an absorbent? $\boxtimes$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste $\boxtimes$ a. Label is securely attached, clean and 4.8 visible? $\boxtimes$ b. Label is in proper dimension and bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste $\boxtimes$ 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ properly stored and locked at designated area which is clean and dry? f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be $\boxtimes$ Chemical waste was stored covered? indoor. 4.10 Chemical wastes are collected by a $\bowtie$ $\Box$ The Tenant itself is a licensed licensed chemical waste collector? chemical waste collector (Licence (retention of trip ticket copies for 12 months) No.: 3810-421-L2676-OS) for CRT and LCD monitors. Storage of Liquid Waste $\bowtie$ 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\Box$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container $\boxtimes$ storage area constructed of impermeable material?



### 5. Other Issues **Description** Yes No N/A Remarks Landfill Gas Hazard $\boxtimes$ Outside the LFG Consultation (within LFG Consultation Zone) Zone. 5.1 a. Workers and visitors alerted to possible LGF hazards? $\boxtimes$ b. Smoking and open fires prohibited? $\boxtimes$ 5.2 Security lighting directed downward into the work areas to prevent glare to the surrounding receivers? $\boxtimes$ П 5.3 Good housekeeping? 5.4 Any areas within the lot to be used for recycling processes are concrete paved? $\boxtimes$ 5.5 Valid calibration certificate for any No monitoring equipment. monitoring equipment? **Dangerous Goods** $\boxtimes$ There were no DGs stored on site. 5.6 a. Valid license for manufacturing / storing dangerous goods? b. Storage area in compliance with the $\boxtimes$ approved plan? c. Storage area(s) has been securely П $\boxtimes$ locked? d. Total storage capacity in compliance with $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? $\boxtimes$ f. Dangerous goods properly packaged? $\boxtimes$ Potential stagnant pools cleared and $\boxtimes$ mosquito breeding prevented?



## **Action Items from This Audit**

No. Action Expected By

1. No critical issues were identified.

## **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 25 May 2011

**Status** 

1. NIL NIL

## **Audit Summary and Sign-off**

The site was generally tidy.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Li Tong	Serco Guardian JV
Signed By	Carman CHUNG	-	Mr. SO	Morgan CHIU
Role	ET Site Auditor	-	Representative	Park Manager
Signature	Zonon		So	1

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



#### **Audit Details Tenant** Li Tong Group **Date & Time Date** 19 July 2011 **Time** 10:20am Lot No. EP07-02 Audit Ref. 10 ■ No **IEC Joint Inspection Weather Conditions** Hazy Overcast Rain Wind Calm Strong Wind 30 °C **Temperature Humidity** Low High 1. General **Description** No N/A **Remarks** Yes 1.1 EP for Tenant displayed on notice boards / $\boxtimes$ EP for EcoPark (EP-226/2005/A) at entrance? is displayed at the entrance of EcoPark. EP for Tenant is not required. 1.2 Environmental Policy documented? $\boxtimes$ The Tenant's Environmental Policy is documented. **Environmental Management Plan updated?** $\boxtimes$ The Tenant's EMP is 1.3 documented. a. Emergency Response Plan (ERP) $\boxtimes$ The Tenant's ERP is 1.4 documented? documented. $\boxtimes$ b. Drill / training records available? $\boxtimes$ $\Box$ Employee's training record available? 1.5 $\Box$ $\boxtimes$ 1.6 Any record of prosecution / complaint? $\boxtimes$ The Tenant's WMP is Waste Management Plan?

documented.



### 2. Water Quality **Description** Yes No N/A **Remarks** 2.1 Valid Effluent Discharge License available? $\bowtie$ Licence No. WT00007957-2010 valid until 31 Dec 2015. 2.2 Any wastewater treatment facility prior to $\boxtimes$ Not required for domestic effluent discharge? wastewater. If yes, facility is properly maintained and $\boxtimes$ A chemical/container toilet is function normally? maintained on a monthly basis. $\boxtimes$ **Effluent Monitoring** As per the discharge licence, self-monitoring shall be 2.3 a. Sampling / Monitoring Record available? performed when required. b. Monitoring frequency met the license П $\boxtimes$ requirement? $\boxtimes$ c. Any exceedance? $\boxtimes$ d. If yes, follow-up action taken? Surface run-off control measures in place $\boxtimes$ 2.4 and adequately maintained? 2.5 Surface run-off discharging into drainage $\boxtimes$ system? $\boxtimes$ $\Box$ 2.6 All manholes are covered? $\boxtimes$ 2.7 Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided? $\boxtimes$ 2.8 Drainage system is well maintained to prevent flooding and overflow?



#### 2. Water Quality (continued) **Description** Yes No N/A **Remarks** The risk of contamination for the Processes with high Risk of $\boxtimes$ **Contamination** recycling process is low. 2.9 a. Processes / activities are located under a covered area? b. Stop-logs installed in the perimeter $\boxtimes$ The stop-logs have been passed to Tenant, who shall install in the drainage system for uncovered areas? perimeter drainage channel as and when necessary. $\boxtimes$ c. Contaminated water collected in the No contaminated water was surface drainage systems is treated at found. water treatment facility / other appropriate treatment facility? 2.10 Equipment oil and lubrication replacements $\boxtimes$ Not required. are performed only in bunded maintenance area? $\boxtimes$ 2.11 a. Oil interceptor provided for drainage Not required. discharging from maintenance area? b. If yes, oil and grease removed regularly? $\boxtimes$ c. Collected by licenced collector? $\boxtimes$ $\boxtimes$ **Cargo Handling** Not required. 2.12 a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading? b. Materials and bulk cargo are properly $\boxtimes$ packed?



### 3. Air Quality Yes No N/A **Description Remarks** a. Valid Specified Process License for all Not required. 3.1 specified process available? $\boxtimes$ b. SP License conditions / monitoring requirements met? **Odour** 3.2 a. Any odour detected? $\boxtimes$ b. If yes, can the source be identified? $\boxtimes$ c. Odorous materials are covered? d. If odour control system is installed, is it $\boxtimes$ operating normally? 3.3 All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation? **Dust Monitoring** $\boxtimes$ Not required. 3.4 a. Monitoring Record available? b. Monitoring frequency met the $\boxtimes$ requirement? $\boxtimes$ c. Any exceedance? $\Box$ d. If yes, follow-up action taken? $\boxtimes$ 3.5 Enclosures are provided around the main $\Box$ dust-generating activities? Open burning is avoided? $\boxtimes$



### 3. Air Quality (continued) **Description** Yes No N/A **Remarks** 3.7 Dark smoke emitted from chimney or $\boxtimes$ There is no chimney installed onpowered plant is avoided? site. Vehicles and equipment are switched off $\boxtimes$ 3.8 while not in use? 3.9 Approval certificate issued by the Authority $\Box$ $\boxtimes$ is available for furnace, oven or chimney consuming: a. >25L of conventional liquid fuel per hour b. >35kg of conventional solid fuel per hour $\boxtimes$ c. >1,150 MJ of any gaseous fuel per hour $\boxtimes$ $\boxtimes$ 3.10 Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity? 3.11 Dust collected by any air pollution control $\boxtimes$ equipment installed by tenants must be tested to ensure compliance for landfill disposal. $\Box$ 3.12 a. Approval from Authority for the use of $\boxtimes$ Not required. controlled refrigerant? $\boxtimes$ b. If yes, record of refrigeration equipment service available? 3.13 All air pollution control systems are properly $\boxtimes$ maintained and function normally? 3.14 Only Ultra-Low Sulphur Diesel is used? $\boxtimes$



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** 4.1 $\boxtimes$ Registration No. 3840-421completed? L2676-01 for various types of chemical waste. $\boxtimes$ 4.2 Provision of sufficient waste disposal points/ $\Box$ receptacles? Waste disposed of regularly and properly? $\boxtimes$ The municipal waste is disposed of daily via the Operator, whereas the chemical waste is disposed of once or twice per month depending on the quantity generated. Recyclable materials were Sorting of materials on-site for reuse or $\boxtimes$ $\Box$ 4.4 disposal to designated outlet? passed to other recyclers. Record of quantities of waste generated, $\boxtimes$ 4.5 recycled and disposed properly kept and easily retrieved for inspection? Sludge is collected by a licensed collector at $\boxtimes$ 4.6 regular intervals? Packaging of Chemical Waste $\boxtimes$ $\Box$ 4.7 a. Stored in suitable container? b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\Box$ $\boxtimes$ No spillage. the use of an absorbent? $\boxtimes$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste $\boxtimes$ a. Label is securely attached, clean and 4.8 visible? $\boxtimes$ b. Label is in proper dimension and bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste $\boxtimes$ 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ See Action #1. properly stored and locked at designated area which is clean and dry? f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be $\boxtimes$ Chemical waste was stored covered? indoor. 4.10 Chemical wastes are collected by a $\bowtie$ $\Box$ The Tenant itself is a licensed licensed chemical waste collector? chemical waste collector (Licence (retention of trip ticket copies for 12 months) No.: 3810-421-L2676-OS) for CRT and LCD monitors. Storage of Liquid Waste $\bowtie$ 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\Box$ $\boxtimes$ to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container $\boxtimes$ storage area constructed of impermeable material?



### 5. Other Issues **Description** Yes No N/A Remarks Landfill Gas Hazard $\boxtimes$ Outside the LFG Consultation (within LFG Consultation Zone) Zone. 5.1 a. Workers and visitors alerted to possible LGF hazards? $\boxtimes$ b. Smoking and open fires prohibited? $\boxtimes$ 5.2 Security lighting directed downward into the work areas to prevent glare to the surrounding receivers? $\boxtimes$ П 5.3 Good housekeeping? 5.4 Any areas within the lot to be used for recycling processes are concrete paved? $\boxtimes$ 5.5 Valid calibration certificate for any No monitoring equipment. monitoring equipment? **Dangerous Goods** $\boxtimes$ There were no DGs stored on site. 5.6 a. Valid license for manufacturing / storing dangerous goods? b. Storage area in compliance with the $\boxtimes$ approved plan? c. Storage area(s) has been securely $\boxtimes$ locked? d. Total storage capacity in compliance with $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? $\boxtimes$ f. Dangerous goods properly packaged? $\boxtimes$ Potential stagnant pools cleared and $\boxtimes$ mosquito breeding prevented?



## **Action Items from This Audit**

No. Action Expected By

 Both chemical and non-chemical wastes were stored inside the chemical waste storage room, and the doors of the storage room were open. The Tenant was reminded to remove non-chemical waste from the chemical waste storage room and lock the doors of the area when it is not in use. 5 August 2011



### **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 21 June 2011

**Status** 

1. NIL NIL

## **Audit Summary and Sign-off**

The Tenant should remove non chemical waste from the chemical waste storage area and lock the doors of the area when not in use.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Li Tong	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	Teresa HO	Morgan CHIU
Role	ET Leader	IEC	Environmental Health and Safety Officer	Park Manager
Signature	The truy	Grafal		1

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



# **APPENDIX 6.5**

Tenant-specific Audit Checklists for the Reporting Quarter

Yan Oi Tong (P7)



	Audit Details						
Ten	ant	Yan Oi Tong Lim	ited				
Date	e & Time	Date 25 May 20	)11			Tin	ne 11:00am
Lot	No.	P7		_			
Aud	lit Ref.	10		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
Wea	ather Conditions	Fine		Hazy		$\boxtimes$	Overcast Rain
Win	d	Calm	$\boxtimes$	Light Br	eeze		Strong Wind
Ten	nperature	24 °C					
Hun	nidity	Low	$\boxtimes$	Medium			High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant disp at entrance?	layed on notice boa	ards	/			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for tenant is not required.
1.2	Environmental Poli	icy documented?				$\boxtimes$	The Operator's Environmental Policy is documented.
1.3	Environmental Mar	nagement Plan upd	latec	<u> </u>  ? ⊠			The Tenant's EMP is documented.
1.4	a. Emergency Res documented?	ponse Plan (ERP)					The Tenant's ERP is documented.
	b. Drill / training red	cords available?		$\boxtimes$			
1.5	Employee's training	g record available?		$\boxtimes$			
1.6	Any record of prose	ecution / complaint	?		$\boxtimes$		
1.7	Waste Managemen	nt Plan?		$\boxtimes$			The Tenant has included the WMP into the EMP.



## 2. Water Quality **Description** Yes No N/A Remarks Valid Effluent Discharge License available? Licence No. WT00006013-2010 valid 2.1 until 28 Feb 2015. Any wastewater treatment facility prior to 2.2 effluent discharge? If yes, facility is properly maintained and function normally? $\boxtimes$ As per the discharge licence, self-**Effluent Monitoring** monitoring shall be performed when 2.3 a. Sampling / Monitoring Record available? required. b. Monitoring frequency met the license requirement? $\boxtimes$ c. Any exceedance? d. If yes, follow-up action taken? $\boxtimes$ Surface run-off control measures in place 2.4 and adequately maintained? 2.5 Surface run-off discharging into drainage system? All manholes are covered? 2.7 Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided? Drainage system is well maintained to 2.8 prevent flooding and overflow?



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination				Works for recycling were undertaken at covered areas.
2.9	a. Processes / activities are located under a covered area?				
•	b. Stop-logs installed in the perimeter drainage system for uncovered areas?			$\boxtimes$	Stop-logs are not required for the lots of Phase 2.
	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?			$\boxtimes$	Water is unlikely to be contaminated within the lot.
2.10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Only grease is used at the lot.
.11	a. Oil interceptor provided for drainage discharging from maintenance area?			$\boxtimes$	Not required.
	b. If yes, oil and grease removed regularly?			$\boxtimes$	
	c. Collected by licenced collector?			$\boxtimes$	
2.12	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	Not required.
	b. Materials and bulk cargo are properly packed?				



# 3. Air Quality Yes No N/A **Description** Remarks a. Valid Specified Process License for all 3.1 Not required. specified process available? b. SP License conditions / monitoring requirements met? **Odour** 3.2 a. Any odour detected? b. If yes, can the source be identified? $\boxtimes$ c. Odorous materials are covered? d. If odour control system is installed, is it operating normally? All dusty materials are sprayed with water $\boxtimes$ No dusty materials were found to be or covered by impervious sheeting prior to used on-site. any loading, unloading or transfer operation? **Dust Monitoring** a. Monitoring Record available? 3.4 b. Monitoring frequency met the $\boxtimes$ requirement? $\sqcap$ $\sqcap$ $\boxtimes$ c. Any exceedance? d. If yes, follow-up action taken? 3.5 Enclosures are provided around the main dust-generating activities? Open burning is avoided?



#### 3. Air Quality (continued) **Description** Yes No N/A Remarks Dark smoke emitted from chimney or $\boxtimes$ There is no chimney installed on-3.7 powered plant is avoided? $\boxtimes$ П 3.8 Vehicles and equipment are switched off while not in use? $\boxtimes$ 3.9 Approval certificate issued by the Authority is available for furnace, oven or chimney consuming: a. >25L of conventional liquid fuel per hour $\boxtimes$ b. >35kg of conventional solid fuel per hour $\boxtimes$ c. >1,150 MJ of any gaseous fuel per hour 3.10 Approval from Authority is available for the $\boxtimes$ use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity? 3.11 Dust collected by any air pollution control $\boxtimes$ equipment installed by tenants must be tested to ensure compliance for landfill disposal. 3.12 a. Approval from Authority for the use of $\boxtimes$ controlled refrigerant? b. If yes, record of refrigeration equipment $\boxtimes$ service available? П $\Box$ 3.13 All air pollution control systems are properly $\boxtimes$ maintained and function normally? 3.14 Only Ultra-Low Sulphur Diesel is used? $\boxtimes$



#### 4. Waste / Chemical Management **Description** Yes No N/A Remarks **Chemical Waste Producer Registration** 4.1 Registration No. 9211-421-Y2453-03 completed? for spent mineral oil and spent lubricating oil. 4.2 Provision of sufficient waste disposal points/ receptacles? 4.3 Waste disposed of regularly and properly? $\boxtimes$ Twice a week. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at Sludge / debris from the wastewater regular intervals? treatment facility are collected by licensed collector regularly. Packaging of Chemical Waste $\Box$ $\boxtimes$ No chemical waste was produced. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\boxtimes$ the use of an absorbent? ПП $\bowtie$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste $\boxtimes$ No chemical waste was produced. a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\boxtimes$ bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste П $\boxtimes$ No chemical waste was produced. 4.9 a. Proper "Chemical Waste" signs are displayed? $\boxtimes$ b. Incompatible wastes separated by an impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? $\boxtimes$ d. Enclosed on 3 sides with no less than 2m in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? П $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a $\boxtimes$ licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was produced. 4.11 a. Storage area floor/surface permeationproof? ПП $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container $\boxtimes$ storage area constructed of impermeable material?



# 5. Other Issues **Description** Yes No N/A Remarks Landfill Gas Hazard The lot is within the LFG Consultation Zone and the Tenant has alerted (within LFG Consultation Zone) workers/visitors about possible LFG 5.1 a. Workers and visitors alerted to possible hazards. A notice is also posted at the LGF hazards? entrance. b. Smoking and open fires prohibited? 5.2 Security lighting directed downward into the $\boxtimes$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? Any areas within the lot to be used for Workers were paving the lot during the recycling processes are concrete paved? audit, and the whole lot would be concrete-paved. $\sqcap$ $\sqcap$ $\boxtimes$ 5.5 Valid calibration certificate for any monitoring equipment? $\Box$ $\boxtimes$ There were no DGs stored on site. **Dangerous Goods** 5.6 a. Valid license for manufacturing / storing dangerous goods? b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely $\boxtimes$ locked? d. Total storage capacity in compliance with $\sqcap$ $\sqcap$ $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? $\boxtimes$ f. Dangerous goods properly packaged? Potential stagnant pools cleared and mosquito breeding prevented?



NIL

# **Action Items from This Audit**

No.	Action	Expected B	y
No.	Action	Expected B	y

1. No critical issues were identified.

# **Follow-up from Previous Audits**

# No. Follow-up from Previous Audits Dated 20 April 2011 Status NIL

# **Audit Summary and Sign-off**

The site was generally tidy.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Yan Oi Tong	Serco Guardian JV
Signed By	Carman CHUNG	-	Kenneth LEUNG	Morgan CHIU
Role	ET Site Auditor	-	Manager	Park Manager
Signature	Zonan		LR.	3

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



	Audit Details						
Ten	ant	Yan Oi Tong Lim	ited				
Date	e & Time	Date 21 June 2	011			Tin	ne 11:30am
Lot	No.	P7		_			
Aud	lit Ref.	11		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
Wea	ather Conditions			Hazy			Overcast Rain
Win	ıd	Calm	$\boxtimes$	Light Br	eeze		Strong Wind
Ten	nperature	33 °C					
Hun	nidity	Low	$\boxtimes$	Medium			High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant disp at entrance?	layed on notice boa	ards	/ 🗆			EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Poli	cy documented?				$\boxtimes$	The Operator's Environmental Policy is documented.
1.3	Environmental Mar	nagement Plan upd	ated	l? 🛛			The Tenant's EMP is documented.
1.4	a. Emergency Res documented?	ponse Plan (ERP)					The Tenant's ERP is documented.
	b. Drill / training red	cords available?		$\boxtimes$			
1.5	Employee's training	g record available?					
1.6	Any record of pros	ecution / complaint	?		$\boxtimes$		
1.7	Waste Managemen	nt Plan?		$\boxtimes$			The Tenant has included the WMP into the EMP.



# 2. Water Quality **Description** Yes No N/A Remarks Valid Effluent Discharge License available? Licence No. WT00006013-2010 valid 2.1 until 28 Feb 2015. Any wastewater treatment facility prior to 2.2 effluent discharge? If yes, facility is properly maintained and function normally? $\boxtimes$ As per the discharge licence, self-**Effluent Monitoring** monitoring shall be performed when 2.3 a. Sampling / Monitoring Record available? required. b. Monitoring frequency met the license requirement? $\boxtimes$ c. Any exceedance? d. If yes, follow-up action taken? $\boxtimes$ Surface run-off control measures in place 2.4 and adequately maintained? 2.5 Surface run-off discharging into drainage system? All manholes are covered? 2.7 Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided? Drainage system is well maintained to 2.8 prevent flooding and overflow?



	Description	Yes	No	N/A	Remarks
2.9	Processes with high Risk of Contamination  a. Processes / activities are located under a				Works for recycling were undertaken at covered areas.
_	covered area?				
	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				Stop-logs are not required for the lots of Phase 2.
-	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?			$\boxtimes$	Water is unlikely to be contaminated within the lot.
2.10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Only grease is used at the lot.
.11	a. Oil interceptor provided for drainage discharging from maintenance area?			$\boxtimes$	Not required.
-	b. If yes, oil and grease removed regularly?			$\boxtimes$	
-	c. Collected by licenced collector?			$\boxtimes$	
-	Cargo Handling			$\boxtimes$	Not required.
2.12	a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?				
-	b. Materials and bulk cargo are properly packed?				



# 3. Air Quality Yes No N/A **Description** Remarks a. Valid Specified Process License for all 3.1 Not required. specified process available? b. SP License conditions / monitoring requirements met? **Odour** 3.2 a. Any odour detected? $\boxtimes$ b. If yes, can the source be identified? $\boxtimes$ c. Odorous materials are covered? d. If odour control system is installed, is it operating normally? All dusty materials are sprayed with water $\boxtimes$ No dusty materials were found to be or covered by impervious sheeting prior to used on-site. any loading, unloading or transfer operation? **Dust Monitoring** a. Monitoring Record available? 3.4 b. Monitoring frequency met the $\boxtimes$ requirement? $\sqcap$ $\sqcap$ $\boxtimes$ c. Any exceedance? d. If yes, follow-up action taken? $\boxtimes$ 3.5 Enclosures are provided around the main dust-generating activities? Open burning is avoided?



#### 3. Air Quality (continued) **Description** Yes No N/A Remarks Dark smoke emitted from chimney or $\boxtimes$ There is no chimney installed on-3.7 powered plant is avoided? $\boxtimes$ П 3.8 Vehicles and equipment are switched off while not in use? $\boxtimes$ 3.9 Approval certificate issued by the Authority is available for furnace, oven or chimney consuming: a. >25L of conventional liquid fuel per hour $\boxtimes$ b. >35kg of conventional solid fuel per hour $\boxtimes$ c. >1,150 MJ of any gaseous fuel per hour 3.10 Approval from Authority is available for the $\boxtimes$ use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity? 3.11 Dust collected by any air pollution control $\boxtimes$ equipment installed by tenants must be tested to ensure compliance for landfill disposal. 3.12 a. Approval from Authority for the use of $\boxtimes$ controlled refrigerant? b. If yes, record of refrigeration equipment $\boxtimes$ service available? П $\Box$ 3.13 All air pollution control systems are properly $\boxtimes$ maintained and function normally? 3.14 Only Ultra-Low Sulphur Diesel is used? $\boxtimes$



#### 4. Waste / Chemical Management **Description** Yes No N/A Remarks **Chemical Waste Producer Registration** 4.1 Registration No. 9211-421-Y2453-03 completed? for spent mineral oil and spent lubricating oil. 4.2 Provision of sufficient waste disposal points/ receptacles? 4.3 Waste disposed of regularly and properly? $\boxtimes$ Twice a week. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at Sludge / debris from the wastewater regular intervals? treatment facility are collected by licensed collector regularly. Packaging of Chemical Waste $\Box$ $\boxtimes$ No chemical waste was produced. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\boxtimes$ the use of an absorbent? ПП $\bowtie$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste $\boxtimes$ No chemical waste was produced. a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\boxtimes$ bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste П $\boxtimes$ No chemical waste was produced. 4.9 a. Proper "Chemical Waste" signs are displayed? $\boxtimes$ b. Incompatible wastes separated by an impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? $\boxtimes$ d. Enclosed on 3 sides with no less than 2m in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? П $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a $\boxtimes$ licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was produced. 4.11 a. Storage area floor/surface permeationproof? ПП $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container $\boxtimes$ storage area constructed of impermeable material?



# 5. Other Issues **Description** Yes No N/A Remarks Landfill Gas Hazard The lot is within the LFG Consultation Zone and the Tenant has alerted (within LFG Consultation Zone) workers/visitors about possible LFG 5.1 a. Workers and visitors alerted to possible hazards. A notice is also posted at the LGF hazards? entrance. b. Smoking and open fires prohibited? 5.2 Security lighting directed downward into the $\boxtimes$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? See Action #1. Any areas within the lot to be used for The whole lot has been concreterecycling processes are concrete paved? paved. $\bowtie$ 5.5 Valid calibration certificate for any monitoring equipment? $\Box$ $\boxtimes$ There were no DGs stored on site. **Dangerous Goods** 5.6 a. Valid license for manufacturing / storing dangerous goods? b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely $\boxtimes$ locked? d. Total storage capacity in compliance with $\sqcap$ $\sqcap$ $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? $\boxtimes$ f. Dangerous goods properly packaged? Potential stagnant pools cleared and mosquito breeding prevented?



#### **Action Items from This Audit**

No. Action Expected By

Lot P6 was temporarily lent to the Tenant for storing plastics. As observed during
the site audit, materials were littering the lot, and colour stains from ink cartridges
were found on ground. The Tenant was reminded to improve housekeeping and
remove the stains ASAP.

4 Jul 2011





#### **Follow-up from Previous Audits**

No. Follow-up from Previous Audits Dated 25 May 2011

**Status** 

1. NIL NIL

### **Audit Summary and Sign-off**

The Tenant should improve housekeeping and remove the colour stains at P6 ASAP.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Yan Oi Tong	Serco Guardian JV
Signed By	Carman CHUNG	-	Kenneth LEUNG	Morgan CHIU
Role	ET Site Auditor	-	Manager	Park Manager
Signature	Zonan		Ah	3

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



	Audit Details						
Ter	nant	Yan Oi Tong Lim	ited				
Dat	te & Time	Date 19 July 20	)11			Tin	ne 11:20am
Lot	t No.	P7		_			
Au	dit Ref.	12					
IEC	Joint Inspection			No			
We	eather Conditions	Fine		Hazy			Overcast   Rain
Wii	nd	Calm	$\boxtimes$	Light Bre	eeze		Strong Wind
Ter	mperature	27 °C					
Hu	midity	Low		Medium		$\boxtimes$	High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant disp at entrance?	layed on notice bo	ards /				EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Poli	cy documented?					The Operator's Environmental Policy is documented.
4.0		, DI					The Table 11 EMP is the second of
1.3	Environmental Mar	nagement Plan upo	dated'	? 🛛	Ш		The Tenant's EMP is documented.
1.4	a. Emergency Res	ponse Plan (ERP)		$\boxtimes$			The Tenant's ERP is documented.
	documented?						
	b. Drill / training re	corde available?		$\boxtimes$			
	b. Dilli / trailling rec	corus avallable:			Ш		
1.5	Employee's training	g record available?	)	$\boxtimes$			
1.6	Any record of pros	ecution / complaint	2		$\boxtimes$		
1.0	Any record or pros	country complaint	•				
1.7	Waste Managemen	nt Plan?		$\boxtimes$			The Tenant has included the WMP into the EMP.
							GIO LIVII .
(							



# 2. Water Quality **Description** Yes No N/A Remarks Valid Effluent Discharge License available? Licence No. WT00006013-2010 valid 2.1 until 28 Feb 2015. 2.2 Any wastewater treatment facility prior to effluent discharge? If yes, facility is properly maintained and function normally? $\boxtimes$ As per the discharge licence, self-**Effluent Monitoring** monitoring shall be performed when 2.3 a. Sampling / Monitoring Record available? required. b. Monitoring frequency met the license requirement? $\boxtimes$ c. Any exceedance? d. If yes, follow-up action taken? $\boxtimes$ Surface run-off control measures in place 2.4 and adequately maintained? 2.5 Surface run-off discharging into drainage system? 2.6 All manholes are covered? 2.7 Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided? Drainage system is well maintained to 2.8 prevent flooding and overflow?



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination				Works for recycling were undertaken at covered areas.
2.9	a. Processes / activities are located under a covered area?				
•	b. Stop-logs installed in the perimeter drainage system for uncovered areas?			$\boxtimes$	Stop-logs are not required for the lots of Phase 2.
	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?			$\boxtimes$	Water is unlikely to be contaminated within the lot.
2.10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Only grease is used at the lot.
.11	a. Oil interceptor provided for drainage discharging from maintenance area?			$\boxtimes$	Not required.
	b. If yes, oil and grease removed regularly?			$\boxtimes$	
	c. Collected by licenced collector?			$\boxtimes$	
2.12	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	Not required.
	b. Materials and bulk cargo are properly packed?				



# 3. Air Quality Yes No N/A **Description** Remarks a. Valid Specified Process License for all 3.1 Not required. specified process available? b. SP License conditions / monitoring requirements met? Odour 3.2 a. Any odour detected? $\boxtimes$ b. If yes, can the source be identified? $\boxtimes$ c. Odorous materials are covered? d. If odour control system is installed, is it operating normally? All dusty materials are sprayed with water $\boxtimes$ No dusty materials were found to be or covered by impervious sheeting prior to used on-site. any loading, unloading or transfer operation? **Dust Monitoring** 3.4 a. Monitoring Record available? b. Monitoring frequency met the $\boxtimes$ requirement? $\sqcap$ $\sqcap$ $\boxtimes$ c. Any exceedance? d. If yes, follow-up action taken? $\boxtimes$ 3.5 Enclosures are provided around the main dust-generating activities? Open burning is avoided?



#### 3. Air Quality (continued) **Description** Yes No N/A Remarks Dark smoke emitted from chimney or $\boxtimes$ There is no chimney installed on-3.7 powered plant is avoided? $\boxtimes$ П 3.8 Vehicles and equipment are switched off while not in use? $\boxtimes$ 3.9 Approval certificate issued by the Authority is available for furnace, oven or chimney consuming: a. >25L of conventional liquid fuel per hour $\boxtimes$ b. >35kg of conventional solid fuel per hour $\boxtimes$ c. >1,150 MJ of any gaseous fuel per hour 3.10 Approval from Authority is available for the $\boxtimes$ use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity? 3.11 Dust collected by any air pollution control $\boxtimes$ equipment installed by tenants must be tested to ensure compliance for landfill disposal. 3.12 a. Approval from Authority for the use of $\boxtimes$ controlled refrigerant? b. If yes, record of refrigeration equipment $\boxtimes$ service available? П $\Box$ 3.13 All air pollution control systems are properly $\boxtimes$ maintained and function normally? 3.14 Only Ultra-Low Sulphur Diesel is used? $\boxtimes$



#### 4. Waste / Chemical Management **Description** Yes No N/A Remarks **Chemical Waste Producer Registration** 4.1 Registration No. 9211-421-Y2453-03 completed? for spent mineral oil and spent lubricating oil. 4.2 Provision of sufficient waste disposal points/ receptacles? 4.3 Waste disposed of regularly and properly? $\boxtimes$ Twice a week. 4.4 Sorting of materials on-site for reuse or disposal to designated outlet? Record of quantities of waste generated, 4.5 recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at Sludge / debris from the wastewater regular intervals? treatment facility are collected by licensed collector regularly. Packaging of Chemical Waste $\Box$ $\boxtimes$ No chemical waste was produced. a. Stored in suitable container? 4.7 b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\boxtimes$ the use of an absorbent? ПП $\bowtie$ d. Approval obtained for capacity of containers > 450L? Labelling of Chemical Waste $\boxtimes$ No chemical waste was produced. a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\boxtimes$ bilingual? $\boxtimes$ c. Information is accurate and sufficient?



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste П $\boxtimes$ No chemical waste was produced. 4.9 a. Proper "Chemical Waste" signs are displayed? $\boxtimes$ b. Incompatible wastes separated by an impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? $\boxtimes$ d. Enclosed on 3 sides with no less than 2m in height or height of tallest container or stack of containers? $\boxtimes$ e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry? П $\boxtimes$ f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a $\boxtimes$ licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was produced. 4.11 a. Storage area floor/surface permeationproof? ПП $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? c. Walls or partitions of stacked container $\boxtimes$ storage area constructed of impermeable material?



# 5. Other Issues **Description** Yes No N/A Remarks Landfill Gas Hazard The lot is within the LFG Consultation Zone and the Tenant has alerted (within LFG Consultation Zone) workers/visitors about possible LFG 5.1 a. Workers and visitors alerted to possible hazards. A notice is also posted at the LGF hazards? entrance. b. Smoking and open fires prohibited? 5.2 Security lighting directed downward into the $\boxtimes$ work areas to prevent glare to the surrounding receivers? 5.3 Good housekeeping? See Follow-up Action #1. Any areas within the lot to be used for The whole lot has been concreterecycling processes are concrete paved? paved. $\bowtie$ 5.5 Valid calibration certificate for any monitoring equipment? $\Box$ $\boxtimes$ There were no DGs stored on site. **Dangerous Goods** 5.6 a. Valid license for manufacturing / storing dangerous goods? b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely $\boxtimes$ locked? d. Total storage capacity in compliance with $\sqcap$ $\sqcap$ $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? $\boxtimes$ f. Dangerous goods properly packaged? Potential stagnant pools cleared and mosquito breeding prevented?



# **Action Items from This Audit**

No	Action	Expected By
NO.	ACTION	Expected by

1. No critical issues were identified.

NIL

# **Follow-up from Previous Audits**

# No. Follow-up from Previous Audits Dated 21 June 2011

**Status** 

 Due to the heavy rain during site audit, it was impossible to check the housekeeping and colour stains issues at Lot P6. The situation will be monitored in the next Monthly Site Audit in August 2011. Outstanding

# **Audit Summary and Sign-off**

The site was generally tidy.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Yan Oi Tong	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	Kenneth LEUNG	Morgan CHIU
Role	ET Leader	IEC	Manager	Park Manager
Signature	Than	Grafal	Lh	1

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



# **APPENDIX 6.6**

Tenant-specific Audit Checklists for the Reporting Quarter

St. James' Settlement (P5)



#### **Audit Details Tenant** St. James' Settlement **Date & Time** Date 25 May 2011 **Time** 11:15am Lot No. P5 Audit Ref. No **IEC Joint Inspection** Yes **Weather Conditions** Fine Hazy Rain Wind Calm Strong Wind 24 °C **Temperature Humidity** Low High 1. General **Description** No N/A **Remarks** Yes EP for Tenant displayed on notice boards / $\boxtimes$ EP for EcoPark (EP-226/2005/A) 1.1 at entrance? is displayed at the entrance of EcoPark. EP for tenant is not required. 1.2 Environmental Policy documented? $\boxtimes$ The Operator's Environmental Policy is documented. Tenant follows this. **Environmental Management Plan updated?** $\boxtimes$ The Tenant's EMP is 1.3 documented. a. Emergency Response Plan (ERP) $\boxtimes$ The Tenant's ERP is 1.4 documented? documented. $\boxtimes$ b. Drill / training records available? $\boxtimes$ $\Box$ Employee's training record available? 1.5 $\Box$ $\boxtimes$ 1.6 Any record of prosecution / complaint? The Tenant's WMP is Waste Management Plan? $\bowtie$ documented.



	Description	Yes	No	N/A	Remarks
1	Valid Effluent Discharge License available?				Licence No. WT00007365-2010 valid until 31 Aug 2015.
2	Any wastewater treatment facility prior to effluent discharge?	$\boxtimes$			A screen has been installed as treatment device.
	If yes, facility is properly maintained and function normally?	$\boxtimes$			
3	Effluent Monitoring a. Sampling / Monitoring Record available?			$\boxtimes$	As per the discharge licence, self-monitoring shall be performed when required.
	b. Monitoring frequency met the license requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
4	Surface run-off control measures in place and adequately maintained?			$\boxtimes$	
5	Surface run-off discharging into drainage system?	$\boxtimes$			
6	All manholes are covered?	$\boxtimes$			
7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?	$\boxtimes$			
8	Drainage system is well maintained to prevent flooding and overflow?				



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination	$\boxtimes$			The risk of contamination for the recycling process is low.
9	a. Processes / activities are located under a covered area?				
-	b. Stop-logs installed in the perimeter drainage system for uncovered areas?			$\boxtimes$	Stop-logs are not required for the lots of Phase 2.
-	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				No contaminated water was found.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Not observed.
11	a. Oil interceptor provided for drainage discharging from maintenance area?			$\boxtimes$	Not required.
-	b. If yes, oil and grease removed regularly?			$\boxtimes$	
-	c. Collected by licenced collector?			$\boxtimes$	
12	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	Not required.
-	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?				
	Odour		$\boxtimes$		
3.2	a. Any odour detected?				
	b. If yes, can the source be identified?			$\boxtimes$	
	c. Odorous materials are covered?			$\boxtimes$	
	d. If odour control system is installed, is it operating normally?				
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?			$\boxtimes$	No dusty materials were found to be used on-site.
3.4	Dust Monitoring a. Monitoring Record available?			$\boxtimes$	Not required.
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?			$\boxtimes$	
3.6	Open burning is avoided?	$\boxtimes$			
					,



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed onsite.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:  a. >25L of conventional liquid fuel per hour				
	b. >35kg of conventional solid fuel per hour				
	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?				
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				
3.12	Approval from Authority for the use of controlled refrigerant?	$\boxtimes$			All relevant equipments are provided by EPD.
	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	Recorded by EPD.
3.13	All air pollution control systems are properly maintained and function normally?	$\boxtimes$			
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** 4.1 $\boxtimes$ Registration No. 9211-421completed? S3222-08 for spent lubricating oil, unwanted refrigerant and CRT. 4.2 Provision of sufficient waste disposal points/ $\boxtimes$ receptacles? $\boxtimes$ 4.3 Waste disposed of regularly and properly? Waste from workshop are stored in temporary area and disposed of as general refuse twice a week. $\boxtimes$ П 4.4 Sorting of materials on-site for reuse or Recyclable materials were disposal to designated outlet? passed to other recyclers. $\boxtimes$ 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at regular intervals? Packaging of Chemical Waste $\boxtimes$ a. Stored in suitable container? 4.7 b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\Box$ $\boxtimes$ No spillage. the use of an absorbent? d. Approval obtained for capacity of $\Box$ $\boxtimes$ containers > 450L? Labelling of Chemical Waste $\boxtimes$ a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\boxtimes$ bilingual? c. Information is accurate and sufficient? $\boxtimes$



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste $\boxtimes$ 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ П material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ properly stored and locked at designated area which is clean and dry? f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be $\boxtimes$ covered? 4.10 Chemical wastes are collected by a $\bowtie$ $\Box$ licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was observed. 4.11 a. Storage area floor/surface permeationproof? $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? $\boxtimes$ c. Walls or partitions of stacked container storage area constructed of impermeable material?



#### 5. Other Issues **Description** No N/A **Remarks** Landfill Gas Hazard The lot is within the LFG $\boxtimes$ (within LFG Consultation Zone) Consultation Zone and the Tenant has alerted workers/visitors about a. Workers and visitors alerted to possible possible LFG hazards. A notice is LGF hazards? also posted at the visitor centre. b. Smoking and open fires prohibited? 5.2 Security lighting directed downward into the П $\boxtimes$ work areas to prevent glare to the surrounding receivers? $\boxtimes$ 5.3 Good housekeeping? $\boxtimes$ $\Box$ Any areas within the lot to be used for recycling processes are concrete paved? Valid calibration certificate for any $\boxtimes$ 5.5 No monitoring equipment. monitoring equipment? $\boxtimes$ There were no DGs stored on **Dangerous Goods** site. 5.6 a. Valid license for manufacturing / storing dangerous goods? $\boxtimes$ b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely П $\boxtimes$ locked? $\boxtimes$ d. Total storage capacity in compliance with the relevant statutory requirement? $\boxtimes$ e. Proper Labelling? $\Box$ $\boxtimes$ f. Dangerous goods properly packaged? $\boxtimes$ See Action #1. Potential stagnant pools cleared and mosquito breeding prevented?



# **Action Items from This Audit**

No. Action Expected By

 Stagnant pool of water was found on WEEE at the storage area. The Tenant was reminded to clear the stagnant water and cover the materials with canvas ASAP. 3 Jun 2011



# **Follow-up from Previous Audits**

#### No. Follow-up from Previous Audit Dated 20 April 2011

**Status** 

1. Non-chemical waste materials were removed from the chemical waste store.

Closed



# **Audit Summary and Sign-off**

The Tenant should clear the stagnant water and cover the materials with canvas ASAP.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	St. James	Serco Guardian JV
Signed By	Carman CHUNG	-	MAK Fung Chi	Morgan CHIU
Role	ET Site Auditor	-	Assistant Manager	Park Manager
Signature	Zonon		Makfuntall	3

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



# Audit Details Tenant St. James' Settlement

Date & Time	<b>Date</b>	21 June 2011	Time	11:45am

Lot No. P5
Audit Ref. 9

 $\begin{tabular}{ll} \textbf{IEC Joint Inspection} & \square & Yes & \boxtimes & No \\ \end{tabular}$ 

Weather Conditions ☐ Fine ☐ Hazy ☐ Overcast ☐ Rain

Wind ☐ Calm ☐ Light Breeze ☐ Strong Wind

Temperature 34\_°C

# 1. General

	Description	Yes	No	N/A	Remarks
1.1	EP for Tenant displayed on notice boards / at entrance?				EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Policy documented?	$\boxtimes$			The Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Management Plan updated?				The Tenant's EMP is documented.
1.4	a. Emergency Response Plan (ERP) documented?				The Tenant's ERP is documented.
	b. Drill / training records available?				
1.5	Employee's training record available?	$\boxtimes$			
1.6	Any record of prosecution / complaint?				
1.7	Waste Management Plan?				The Tenant's WMP is documented.



	2. Water Quality				
	Description	Yes	No	N/A	Remarks
2.1	Valid Effluent Discharge License available?				Licence No. WT00007365-2010 valid until 31 Aug 2015.
2.2	Any wastewater treatment facility prior to effluent discharge?	$\boxtimes$			A screen has been installed as treatment device.
	If yes, facility is properly maintained and function normally?	$\boxtimes$			
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?			$\boxtimes$	As per the discharge licence, self-monitoring shall be performed when required.
	b. Monitoring frequency met the license requirement?				
	c. Any exceedance?				
	d. If yes, follow-up action taken?			$\boxtimes$	
2.4	Surface run-off control measures in place and adequately maintained?			$\boxtimes$	
2.5	Surface run-off discharging into drainage system?	$\boxtimes$			
2.6	All manholes are covered?	$\boxtimes$			
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?				
2.8	Drainage system is well maintained to prevent flooding and overflow?				



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination	$\boxtimes$			The risk of contamination for the recycling process is low.
9	a. Processes / activities are located under a covered area?				
-	b. Stop-logs installed in the perimeter drainage system for uncovered areas?			$\boxtimes$	Stop-logs are not required for the lots of Phase 2.
-	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?				No contaminated water was found.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Not observed.
11	a. Oil interceptor provided for drainage discharging from maintenance area?			$\boxtimes$	Not required.
-	b. If yes, oil and grease removed regularly?			$\boxtimes$	
-	c. Collected by licenced collector?			$\boxtimes$	
12	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	Not required.
-	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?				
	Odour				
3.2	a. Any odour detected?	_	_	_	
	b. If yes, can the source be identified?			$\boxtimes$	
	c. Odorous materials are covered?			$\boxtimes$	
	d. If odour control system is installed, is it operating normally?				
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?			$\boxtimes$	No dusty materials were found to be used on-site.
3.4	Dust Monitoring  a. Monitoring Record available?			$\boxtimes$	Not required.
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?				
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?			$\boxtimes$	
3.6	Open burning is avoided?	$\boxtimes$			



	3. Air Quality (continued)				
	Description	Yes	No	N/A	Remarks
3.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed onsite.
3.8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
3.9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:  a. >25L of conventional liquid fuel per hour			$\boxtimes$	
	b. >35kg of conventional solid fuel per hour				
•	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
3.10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?			$\boxtimes$	
3.11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.				
3.12	Approval from Authority for the use of controlled refrigerant?				All relevant equipments are provided by EPD.
	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	Recorded by EPD.
3.13	All air pollution control systems are properly maintained and function normally?				
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** 4.1 $\boxtimes$ Registration No. 9211-421completed? S3222-08 for spent lubricating oil, unwanted refrigerant and CRT. 4.2 Provision of sufficient waste disposal points/ $\boxtimes$ receptacles? $\boxtimes$ 4.3 Waste disposed of regularly and properly? Waste from workshop are stored in temporary area and disposed of as general refuse twice a week. $\boxtimes$ 4.4 Sorting of materials on-site for reuse or $\Box$ Recyclable materials were disposal to designated outlet? passed to other recyclers. $\boxtimes$ 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at regular intervals? Packaging of Chemical Waste $\boxtimes$ 4.7 a. Stored in suitable container? b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\Box$ $\boxtimes$ No spillage. the use of an absorbent? d. Approval obtained for capacity of $\boxtimes$ containers > 450L? Labelling of Chemical Waste $\boxtimes$ a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\boxtimes$ bilingual? c. Information is accurate and sufficient? $\boxtimes$



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste $\boxtimes$ 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ П material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ properly stored and locked at designated area which is clean and dry? f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be $\boxtimes$ covered? 4.10 Chemical wastes are collected by a $\bowtie$ $\Box$ licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was observed. 4.11 a. Storage area floor/surface permeationproof? $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? $\boxtimes$ c. Walls or partitions of stacked container storage area constructed of impermeable material?



#### 5. Other Issues **Description** No N/A **Remarks** Landfill Gas Hazard The lot is within the LFG $\boxtimes$ (within LFG Consultation Zone) Consultation Zone and the Tenant has alerted workers/visitors about a. Workers and visitors alerted to possible possible LFG hazards. A notice is LGF hazards? also posted at the visitor centre. b. Smoking and open fires prohibited? 5.2 Security lighting directed downward into the $\Box$ $\boxtimes$ work areas to prevent glare to the surrounding receivers? $\boxtimes$ 5.3 Good housekeeping? $\boxtimes$ $\Box$ Any areas within the lot to be used for recycling processes are concrete paved? Valid calibration certificate for any $\boxtimes$ 5.5 No monitoring equipment. monitoring equipment? $\boxtimes$ There were no DGs stored on **Dangerous Goods** site. 5.6 a. Valid license for manufacturing / storing dangerous goods? $\boxtimes$ b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely П $\boxtimes$ locked? $\boxtimes$ d. Total storage capacity in compliance with the relevant statutory requirement? $\boxtimes$ e. Proper Labelling? $\Box$ $\boxtimes$ f. Dangerous goods properly packaged? $\boxtimes$ Potential stagnant pools cleared and See Follow-up Action #1. mosquito breeding prevented?



## **Action Items from This Audit**

No. Action Expected By

No critical issues were identified.

NIL

## **Follow-up from Previous Audits**

## No. Follow-up from Previous Audit Dated 25 May 2011

**Status** 

 No pools of stagnant water were found at the WEEE storage area. As advised by the Tenant, all WEEE stored in the open storage area would be covered with impervious sheeting (plastic sheet, canvas, etc). Closed



# **Audit Summary and Sign-off**

The Tenant should cover the WEEE stored in the open storage area with impervious sheeting ASAP.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	St. James	Serco Guardian JV
Signed By	Carman CHUNG	-	MAK Fung Chi	Morgan CHIU
Role	ET Site Auditor	-	Assistant Manager	Park Manager
Signature	Zonan		Selve	12

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



	Αı	udi	t	Dei	tail:
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Ten	ant	St. James' Settle	emer	nt		
Dat	e & Time	Date 19 July 20	011		Time	11:50am
Lot	No.	P5		_		
Aud	dit Ref.	10		_		
IEC	Joint Inspection			No		
Wea	ather Conditions	Fine		Hazy	Ov	rercast 🛛 Rain
Wir	nd	Calm	$\boxtimes$	Light Breeze	Str	rong Wind
Ten	nperature	25 °C				
Hur	nidity	Low		Medium	⊠ Hiç	gh
	1. General  Description			Yes No	o N/A	Remarks
1.1	EP for Tenant disp at entrance?	layed on notice bo	ards	/		EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for Tenant is not required.
1.2	Environmental Poli	cy documented?				The Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Mar	nagement Plan upo	dated	d? ⊠ □		The Tenant's EMP is documented.
1.4	a. Emergency Res documented?	ponse Plan (ERP)				The Tenant's ERP is documented.
	b. Drill / training red	cords available?				
1.5	Employee's training	g record available?	)			
1.6	Any record of proso	ecution / complaint	?			
1.7	Waste Managemen	nt Plan?				The Tenant's WMP is documented.



	2. Water Quality				
	Description	Yes	No	N/A	Remarks
2.1	Valid Effluent Discharge License available?				Licence No. WT00007365-2010 valid until 31 Aug 2015.
2.2	Any wastewater treatment facility prior to effluent discharge?	$\boxtimes$			A screen has been installed as treatment device.
	If yes, facility is properly maintained and function normally?				
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?			$\boxtimes$	As per the discharge licence, self-monitoring shall be performed when required.
	b. Monitoring frequency met the license requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
2.4	Surface run-off control measures in place and adequately maintained?			$\boxtimes$	
2.5	Surface run-off discharging into drainage system?	$\boxtimes$			
2.6	All manholes are covered?	$\boxtimes$			
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?	$\boxtimes$			
2.8	Drainage system is well maintained to prevent flooding and overflow?	$\boxtimes$			



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination	$\boxtimes$			The risk of contamination for the recycling process is low.
9	a. Processes / activities are located under a covered area?				
	b. Stop-logs installed in the perimeter drainage system for uncovered areas?				Stop-logs are not required for the lots of Phase 2.
	c. Contaminated water collected in the surface drainage systems is treated at water treatment facility / other appropriate treatment facility?			$\boxtimes$	No contaminated water was found.
10	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Not observed.
11	a. Oil interceptor provided for drainage discharging from maintenance area?				Not required.
•	b. If yes, oil and grease removed regularly?			$\boxtimes$	
	c. Collected by licenced collector?				
	Cargo Handling  a. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?			$\boxtimes$	Not required.
•	b. Materials and bulk cargo are properly packed?			$\boxtimes$	



	3. Air Quality				
	Description	Yes	No	N/A	Remarks
3.1	a. Valid Specified Process License for all specified process available?				Not required.
	b. SP License conditions / monitoring requirements met?			$\boxtimes$	
3.2	Odour a. Any odour detected?				
	b. If yes, can the source be identified?				
	c. Odorous materials are covered?			$\boxtimes$	
	d. If odour control system is installed, is it operating normally?				
3.3	All dusty materials are sprayed with water or covered by impervious sheeting prior to any loading, unloading or transfer operation?			$\boxtimes$	No dusty materials were found to be used on-site.
3.4	Dust Monitoring a. Monitoring Record available?			$\boxtimes$	Not required.
	b. Monitoring frequency met the requirement?			$\boxtimes$	
	c. Any exceedance?			$\boxtimes$	
	d. If yes, follow-up action taken?			$\boxtimes$	
3.5	Enclosures are provided around the main dust-generating activities?			$\boxtimes$	
3.6	Open burning is avoided?	$\boxtimes$			



	Description	Yes	No	N/A	Remarks
.7	Dark smoke emitted from chimney or powered plant is avoided?				There is no chimney installed on site.
8	Vehicles and equipment are switched off while not in use?	$\boxtimes$			
9	Approval certificate issued by the Authority is available for furnace, oven or chimney consuming:			$\boxtimes$	
-	<ul><li>a. &gt;25L of conventional liquid fuel per hour</li><li>b. &gt;35kg of conventional solid fuel per hour</li></ul>			$\boxtimes$	
-	c. >1,150 MJ of any gaseous fuel per hour			$\boxtimes$	
10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?			$\boxtimes$	
11	Dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.			$\boxtimes$	
.12	a. Approval from Authority for the use of controlled refrigerant?	$\boxtimes$			All relevant equipments are provided by EPD.
•	b. If yes, record of refrigeration equipment service available?				Recorded by EPD.
	All air pollution control systems are properly maintained and function normally?				
14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** 4.1 $\boxtimes$ Registration No. 9211-421completed? S3222-08 for spent lubricating oil, unwanted refrigerant and CRT. 4.2 Provision of sufficient waste disposal points/ $\boxtimes$ receptacles? $\boxtimes$ 4.3 Waste disposed of regularly and properly? Waste from workshop are stored in temporary area and disposed of as general refuse twice a week via the Operator. $\boxtimes$ П 4.4 Sorting of materials on-site for reuse or Recyclable materials were disposal to designated outlet? passed to other recyclers. $\boxtimes$ 4.5 Record of quantities of waste generated, recycled and disposed properly kept and easily retrieved for inspection? $\boxtimes$ 4.6 Sludge is collected by a licensed collector at regular intervals? Packaging of Chemical Waste $\boxtimes$ 4.7 a. Stored in suitable container? b. Container properly closed or sealed? $\boxtimes$ c. Spillage cleaned up immediately through $\Box$ $\boxtimes$ No spillage. the use of an absorbent? d. Approval obtained for capacity of $\boxtimes$ containers > 450L? Labelling of Chemical Waste $\boxtimes$ a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\boxtimes$ bilingual? c. Information is accurate and sufficient? $\boxtimes$



#### 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste $\boxtimes$ 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an $\boxtimes$ impermeable partition? c. Containers kept in receptacle of suitable $\boxtimes$ П material and construction (if quantity <50L) or drip trays capable of storing 110% of the volume of largest (if quantity >50L)? d. Enclosed on 3 sides with no less than 2m $\boxtimes$ in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ properly stored and locked at designated area which is clean and dry? f. Adequacy of area ventilation? $\boxtimes$ g. Outdoors storage area should be $\boxtimes$ covered? 4.10 Chemical wastes are collected by a $\bowtie$ $\Box$ licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste $\boxtimes$ No liquid waste was observed. 4.11 a. Storage area floor/surface permeationproof? $\boxtimes$ b. Capacity of retention structure sufficient to accommodate contents of the largest container or 20% volume of waste in storage? $\boxtimes$ c. Walls or partitions of stacked container storage area constructed of impermeable material?



#### 5. Other Issues **Description** No N/A **Remarks** Landfill Gas Hazard The lot is within the LFG $\boxtimes$ (within LFG Consultation Zone) Consultation Zone and the Tenant has alerted workers/visitors about a. Workers and visitors alerted to possible possible LFG hazards. A notice is LGF hazards? also posted at the visitor centre. b. Smoking and open fires prohibited? 5.2 Security lighting directed downward into the П $\boxtimes$ work areas to prevent glare to the surrounding receivers? $\boxtimes$ 5.3 Good housekeeping? $\boxtimes$ $\Box$ Any areas within the lot to be used for recycling processes are concrete paved? Valid calibration certificate for any $\boxtimes$ 5.5 No monitoring equipment. monitoring equipment? $\boxtimes$ There were no DGs stored on **Dangerous Goods** site. 5.6 a. Valid license for manufacturing / storing dangerous goods? $\boxtimes$ b. Storage area in compliance with the approved plan? c. Storage area(s) has been securely П $\boxtimes$ locked? $\boxtimes$ d. Total storage capacity in compliance with the relevant statutory requirement? $\boxtimes$ e. Proper Labelling? $\Box$ $\boxtimes$ f. Dangerous goods properly packaged? $\boxtimes$ Potential stagnant pools cleared and mosquito breeding prevented?



## **Action Items from This Audit**

No. Action Expected By

1. No critical issues were identified.

NIL

## **Follow-up from Previous Audits**

No. Follow-up from Previous Audit Dated 21 June 2011

**Status** 

1. NIL

NIL

## **Audit Summary and Sign-off**

The site was generally tidy.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	St. James	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	Alex TAM	Morgan CHIU
Role	ET Leader	IEC	Manager	Park Manager
Signature	July 1	Grafal	Alth	1

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



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General EcoPark Checklists for the Reporting Quarter



### **Audit Details**

Date & Time	Date 25 May	2011	Time 9:30am to	12:00noon
Weather Conditions	Fine	☐ Hazy		Rain
Wind	Calm		☐ Strong Wind	
Temperature	24 °C			
Humidity	Low		High	

**Operator / Tenant Follow-up Action** 

### **Action Items from This Audit**

## ID ET Findings / Recommendations

# Hong Kong Telford Envirotech Group Ltd.

Large amount of plastics was stored in the lot.
 No critical issues were observed except the outstanding issues identified in the previous



Cosmos Star Holdings Co.

2.

3.

The construction works were in progress. No critical issues were observed.



Other Areas
No new observations.

NIL

NIL

NIL



### **Follow-up from Previous Audits**

## ID ET Findings / Recommendations

#### Hong Kong Telford Envirotech Group Ltd.

- Debris and refuse were still found inside the surface channels.
- Same as last month's observation, no secondary containment was provided to chemical drums, and some chemical drums / oil buckets were uncovered.



### **Operator / Tenant Follow-up Action**

The tenant should remove the debris and refuse ASAP and provide regular maintenance of the surface channels. (Outstanding)

The tenant should provide cover and secondary containment (drip tray, etc) underneath all chemical drums / oil buckets to prevent this sort of problem. (Outstanding)

 Large numbers of oil stains were still found near the machines.



The tenant should clear the oil stains and oilcontaminated soil by absorbent and dispose of them properly. (Outstanding)

Cosmos Star Holdings Co.

4. NIL

NIL

**Other Areas** 

5. NIL

NIL



# **Observations and Sign-off**

Several observations were still found inside Telford's lot. The Tenant should implement appropriate measures to address these issues.

	ET	IEC*	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Serco Guardian JV
Signed By	Carman CHUNG	-	Morgan CHIU
Role	ET Site Auditor	-	Park Manager
Signature	Zonan		3

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



### **Audit Details**

Date & Time	Date 21 June	2011	Time 9:30am to	12:15pm
Weather Conditions		☐ Hazy	Overcast	Rain
Wind	Calm		☐ Strong Wind	
Temperature	<u>33</u> °C			
Humidity	Low		High	

## **Action Items from This Audit**

## **ID ET Findings / Recommendations**

## Hong Kong Telford Envirotech Group Ltd.

 The oil/water mixture from the baling machine flowed into the surface channels.



#### **Operator / Tenant Follow-up Action**

The Tenant should remove the mixture from the surface channels ASAP and clear the drip tray provided to the machine regularly.

## Cosmos Star Holdings Co.

The construction works were in progress. No critical issues were observed.



# NIL

#### **Other Areas**

3. No new observations.

NIL



### **Follow-up from Previous Audits**

## ID ET Findings / Recommendations

## Hong Kong Telford Envirotech Group Ltd.

- Since the areas near surface channels were blocked, the issue about debris and refuse inside surface channels will be followed-up in the next quarterly site visit in July 2011.
- Same as last month's observation, no secondary containment was provided to chemical drums, and some chemical drums / oil buckets were uncovered.





3. Large numbers of oil stains were still found near the machines and surface channels.



Cosmos Star Holdings Co.

I. NIL
Other Areas

5. NIL

4.

NIL

NIL

### **Operator / Tenant Follow-up Action**

The Tenant should remove the debris and refuse ASAP (if any) and provide regular maintenance to the surface channels. (Outstanding)

The Tenant should provide cover and secondary containment (drip tray, etc) underneath all chemical drums / oil buckets to prevent this sort of problem. (Outstanding)

The Tenant should clear the oil stains and oilcontaminated soil by absorbent and dispose of them properly. (Outstanding)



# **Observations and Sign-off**

Several observations were still found inside Telford's lot. The Tenant should implement appropriate measures to address these issues.

	ET	IEC*	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Serco Guardian JV
Signed By	Carman CHUNG	-	Morgan CHIU
Role	ET Site Auditor	-	Park Manager
Signature	Zonon		1

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



### **Audit Details**

Date & Time	Date 19 July 2	2011	Time 9:30am to	12:15pm
Weather Conditions		☐ Hazy	Overcast	
Wind	Calm		Strong Wind	
Temperature	<u>30 °C</u>			
Humidity	Low		High	

#### **Action Items from This Audit**

## **ID ET Findings / Recommendations**

#### **Operator / Tenant Follow-up Action**

## Hong Kong Telford Envirotech Group Ltd.

It was not possible to access the lot because the gate was NIL locked and the representative of the Tenant was not present. No critical issues were observed from outside.



## Cosmos Star Holdings Co.

It was not possible to access the lot because the gate was NIL locked and the representative of the Tenant was not present. No critical issues were observed from outside.



### **Other Areas**

3. No new observations.

NIL



### **Follow-up from Previous Audits**

### ID ET Findings / Recommendations

### Hong Kong Telford Envirotech Group Ltd.

- Since the lot was inaccessible, the issue of debris and refuse inside surface channels will be followed-up in the next Monthly Site Audit in August 2011.
- Since the lot was inaccessible, the issue of uncovered chemical drums / oil buckets and providing secondary containment for chemical drums will be followed-up in the next Monthly Site Audit in August 2011.
- 3. Since the lot was inaccessible, the issue of large numbers of oil stains near machines and in surface channels will be followed-up in the next Monthly Site Audit in August 2011.
- Due to the heavy rain, it was not possible to check if the oil/water mixture from the baling machine still flowed into the surface channels. The situation will be followed-up in the next Monthly Site Audit in August 2011.

Cosmos Star Holdings Co.

5. NIL

Other Areas

6. NIL

#### **Operator / Tenant Follow-up Action**

The Tenant should remove the debris and refuse ASAP (if any) and provide regular maintenance to the surface channels. (Outstanding)

The Tenant should provide cover and secondary containment (drip tray, etc) underneath all chemical drums / oil buckets to prevent potential leakage. (Outstanding)

The Tenant should clear the oil stains and oil-contaminated soil by absorbent and dispose of them properly. (Outstanding)

The Tenant should remove the mixture from the surface channels ASAP and clear the drip tray provided to the machine regularly. (Outstanding)

NIL

NIL

## **Observations and Sign-off**

It was not possible to check the outstanding observations inside Telford's lot because the lot was not accessible and because of heavy rain. The Tenant should implement appropriate measures to address the outstanding observations.

	ET	IEC*	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	Morgan CHIU
Role	ET Leader	IEC	Park Manager
Signature	The tay	Grafal	1

Note: \* IEC to sign-off only for a joint ET+IEC Inspection



# **APPENDIX 8**

Incident/Complaint Reports 002 and 003



#### **Summary**

Report No. 002 **Previous Related Reports** 001 **Tenant Concerned** Champway Technology Ltd. EP07-03 Lot No. Type of Incident **Odour Complaint Incident Occurred** Date Since September 2010 Time Throughout the day **Complaint Received Date** 9 June 2011 Time 4:44pm ET Advised on **Date** 10 June 2011 Date 14 June 2011 **ET Action on** 

#### **Details**

#### Incident

SGJV (the Management Office of EcoPark) received a complaint from Mr Michael KAY, the General Manager of ECO Aviation Fuel Services Ltd. (ECO) about an odour nuisance from Champway. The ET Leader was notified about the complaint by Ms Noel AU of SGJV *via* email on 10 June 2011. The ET Leader then notified WRG/EPD, SGJV and the IEC *via* email on 13 June 2011 that the complaint was noted and a site investigation would be arranged at ~10am on 14 June 2011 to find out the cause of odour. The ET Leader's email on 13 June 2011 is enclosed in *Appendix 1* for reference.

#### Investigation

A site investigation for the odour complaint was conducted by Ms Noel AU of SGJV and Ms Carman CHUNG/Ms Lily LIU of the ET between 10am and noon on 14 June 2011. Telephone interviews with Mr Chris TAM of ECO and Mr Kwok Hin SO of Li Tong Group (Li Tong, the nearest air sensitive receiver to Champway), as well as interviews with Mr Teddy CHOI/Mr WONG Tsz Kit/Mr Kenji WONG of Champway were carried out by SGJV and the ET. The findings of the site investigation are summarised below:

- As described by Mr TAM of ECO, the odour nuisance noted at their site was similar to the rotten, decayed smell from grease trap waste. The odour became stronger in the last 2 months, particularly on Thursday and Friday, and it could last from 7am to 10pm. He questioned if such smell would affect the health of their staff, such as the upper respiratory system.
- During the site investigation, the ET noted strong odour with rotten, decayed smell throughout the majority of Champway's lot, especially near the Oil/ Water Mixture Storage Tanks and the Surplus Water with Dregs Storage Tank.
- 3. Steam was observed to be emitted from gaps of the cover of the Surplus Water with Dregs Storage Tank (*Photo 1* refers). Such emission was considered as one of the key sources of odour.
- 4. Cleaning or transfer of oil from the Oil/Water Mixture Storage Tanks to the oil separators (*Photo 2* refers) was performed during the site investigation. One of the covers of the tanks was completely opened whilst this process took place, which was another key source of odour.
- As advised by Champway, only one of the five activated carbon filters was in use, and the replacement of activated carbon was undertaken weekly.

# Actions Taken / To Be Taken

Since the odour nuisance was likely to be caused by improper working practice, Champway advised that correction actions such as instructing the workers to operate the air pollution control system prior to manufacturing have been taken. Notwithstanding, in order to control the odour emission, the followings should be provided to the ET / implemented:



#### **Details (continued)**

#### Actions Taken / To Be Taken (continued)

- Schematic Flow Diagram and Operational Procedures: drawings and documents that describe the procedures of manufacturing biodiesel, operation of air pollution control system, as well as collection, storage and disposal of waste cooking oil / biodiesel should be provided to the ET for reference and review. Such guidelines should also be distributed to workers so that they are familiar with the proper operational practice.
- 2. **Sealing the cover of tanks:** the covers of Oil/Water Mixture Storage Tanks and Surplus Water with Dregs Storage Tank should be sealed as far as practicable to minimize the gaps.
- Use of air pollution control system: the system must be in use for any
  activities which can cause odour emission, including oil and surplus water
  transfer and biodiesel manufacturing.
- 4. Tank cleaning and oil transfer within the site: the oil is manually transferred from the Oil/Water Mixture Storage Tanks after settling for about one day and visual inspection is required. Since emission from the opened covers is one of the key sources of odour, Champway should consider not to open the cover when cleaning the tanks or transferring the oil as far as practicable. Alternatively, more extraction fans could be switched on to create a negative pressure so as to minimise the odour emission from the opening.
- Storage of activated carbon: the activated carbon should be stored in a dry and weatherproof environment so that its removal efficiency could be optimised.

The ET will follow-up the implementation of the above mitigation measures in the Monthly Site Audit on 21 June 2011.

#### Remarks

Mr. SO of Li Tong advised that odour nuisance with rotten, decayed and/or sour smell (酸餿氣味) from Champway was noted recently. The odour was relatively stronger during non-working hours.

#### **Photo Record**

## Photo 1 Steam emitted from gaps of the cover of the Surplus Water with Dregs Storage Tank



Emission of Steam

Surplus Water with Dregs Storage Tank



# **Photo Record**

Photo 2 Cleaning or Transference of oil at the Oil/Water Mixture Storage Tanks



# Sign-off

	ET	IEC
Organisation	SMEC Asia Ltd	Atkins China Ltd
Signed By	Antony WONG	Sharifah OR
Role	ET Leader	IEC
Signature	That my	Grafal
Date	17 June 2011	17 June 2011



### Appendix 1 ET Leader's Email to WRG/EPD, SGJV and the IEC on 13 June 2011

From: Wong, Antony

Sent: Monday, June 13, 2011 9:48 PM

To: Or, Sharifah

Cc: Chau, Keith; Chung, Carman; Bhanja, Alexi; Noel Au; 'Morgan Chiu (SGJV)'; 'May Wu (SGJV)'; 'Michael Chan

(SGJV)'; samchoi@epd.gov.hk; Liu, Lily

Subject: Odour Complaint of Champway from ECO Aviation Fuel Services Limited

Dear Sharifah,

Attached please find the complaint letter from PAFF provided by SGJV on last Friday for your reference. We will visit Champway tomorrow (14 Jun 2011) to investigate this odour complaint.

Please let us know should there be any queries.

Kind regards,

**Antony** 

From: Noel Au [mailto:nkfau@ecopark-mgnt.com]

Sent: Friday, June 10, 2011 12:41 PM

To: Wong, Antony

Cc: Bhanja, Alexi; Chung, Carman; morganchiu@ecopark-mgnt.com; maywu@ecopark-mgnt.com;

samchoi@epd.gov.hk

Subject: Odour Complaint of Champway from ECO Aviation Fuel Services Limited

Dear Antony,

Attached please find the letter from our neighbor, ECO Aviation Fuel Services Limited complained the odour from Champway.

As their queries concerning professional knowledge especially on environmental protection, grateful if you can assist to answer their queries/concern before we send them formal reply letter. Thanks!

Please feel free to discuss with me.

Regards,

Noel



#### **Summary**

Report No. 003 Previous Related Reports 001 & 002 **Tenant Concerned** Champway Technology Ltd. EP07-03 Lot No. Type of Incident Odour Complaint **Incident Occurred Date** 13 June 2011 Time 9:00pm **Complaint Received Date** 15 June 2011 Time 10:50am ET Advised on **Date** 16 June 2011 Date 21 June 2011 **ET Action on** 

#### **Details**

#### Incident

SGJV (the Management Office of EcoPark) received a complaint from Mr Alan LAI of Shiu Wing Steel Ltd. (SW) about an odour nuisance from Champway. The ET Leader was notified about the complaint by Ms Noel AU of SGJV *via* email on 16 June 2011. The ET Leader then notified SGJV and the IEC *via* email on 17 June 2011 that the complaint was noted and a site investigation would be arranged at ~10:30am on 21 June 2011 to find out the cause of odour. The ET Leader's email on 17 June 2011 is enclosed in *Appendix 1* for reference.

### Investigation

A site investigation for the odour complaint was conducted by Ms Noel AU of SGJV and Ms Carman CHUNG/Ms Lily LIU of the ET between 10:40am and noon on 21 June 2011. Telephone interviews with Mr Alan LAI of SW and Mr Chris TAM of ECO Aviation Fuel Services Ltd. (ECO), as well as interviews with Mr Teddy CHOI/Mr WONG Tsz Kit/Mr HO Chi Cheong of Champway were carried out by SGJV and the ET. The findings of the site investigation are summarised below:

- As described by Mr LAI of SW, the odour nuisance noted at their site was similar to the rotten, decayed smell from grease trap, and it could last from time to time. At about 9pm on 13 June 2011, the odour was so strong that SW staff needed to stop working and leave the stinking area;
- 2. The ET noted the smell of odour at the lot, yet its level was relatively weak compared with that of the previous site investigation on 14 June 2011;
- 3. No steam was emitted from gaps of the cover of the Surplus Water with Dregs Storage Tank;
- 4. The cleaning of the Oil/Water Mixture Storage Tanks or transfer of oil from the Oil/Water Mixture Storage Tanks to the oil separators was not carried out during the site visit (*Photo 1* refers); and
- Odour was noted at the extraction system/activated carbon storage container (*Photo 2* refers). As this may be caused by leakage of the extraction system, it was suggested to check the system thoroughly.

The implementation of mitigation measures suggested in the Incident/Complaint Report 002 was found as follows:

- Schematic Flow Diagram and Operational Procedure: posters that describe the pre-treatment procedures were placed at various parts of the lot, and the workers seemed to follow such guidelines;
- Sealing the covers of tanks: as advised by Champway, the sealing of covers may not be possible due to the high temperature of the oil/water;



#### **Details (continued)**

# Investigation (continued)

- Use of air pollution control system: it was again reminded that the control system should be used for any activities which can cause odour emission, no matter during day time or night time. During the site visit, only 1 of the 5 activated carbon filters was in use;
- 4. Tank cleaning and oil transfer within the site: as advised by Champway, it may not be possible to use transparent cover or not to open the cover when cleaning the tanks or transferring the oil; and
- 5. **Storage of activated carbon:** activated carbon was not stored in fully enclosed container (*Photo 3* refers).

#### Actions Taken / To Be Taken (continued)

- 1. **Schematic Flow Diagram and Operational Procedure:** Champway has provided the schematic flow diagram to the ET on 27 June 2011;
- Air pollution control system: Champway is going to use 2 more activated carbon filters in conjunction with the existing one in 2 weeks' time, and their efficiencies shall be monitored in the next Quarterly Site Audit in July 2011;
- Extraction fans: Champway is going to install 1 more extraction fan in the coming 2 weeks so as to control the odour emission. The efficiency of the 3 extraction fans (2 existing and 1 newly installed) shall be monitored in the next Quarterly Site Audit in July 2011; and
- 4. Storage of activated carbon: in order to ensure that the activated carbon is stored in a dry and weather proof environment, it was suggested to fully enclose the storage container, such as closing the door and covering the vent.

#### Remarks

Mr. Chris TAM of ECO advised that the situation has been improved, yet the odour during night time and weekend was still rather strong. ECO will keep log of the odour issue.

### Photo Record

Photo 1 Covers of the Oil/Water Mixture Storage Tanks and Surplus Water with Dregs Storage Tank Remained Closed





# **Photo Record**

# Photo 2 Air Extraction System inside the Activated Carbon Storage Container



**Photo 3** The Storage of Activated Carbon in the Open Environment



# Sign-off

	ET	IEC
Organisation	SMEC Asia Ltd	Atkins China Ltd
Signed By	Antony WONG	Sharifah OR
Role	ET Leader	IEC
Signature	That my	Shortel
Date	28 June 2011	29 June 2011



### Appendix 1 ET Leader's Email to WRG/EPD, SGJV and the IEC on 17 June 2011

From: Wong, Antony

Sent: Friday, June 17, 2011 8:39 PM

To: Or, Sharifah

Cc: Chau, Keith; Bhanja, Alexi; Chung, Carman; samchoi@epd.gov.hk; 'Morgan Chiu (SGJV)'; 'May Wu (SGJV)';

Liu, Lily

Subject: FW: Complaint on Odour from Shiu Wing Steel

Dear Sharifah,

Please find the attached emails forwarded by SGJV complaining about the odour from Champway for your reference.

We will investigate the odour complaint on next Tue.

Kind regards,

**Antony** 

From: Noel Au [mailto:nkfau@ecopark-mgnt.com]

Sent: Thursday, June 16, 2011 9:24 AM

To: Wong, Antony

Cc: Chung, Carman; Bhanja, Alexi; samchoi@epd.gov.hk; morganchiu@ecopark-mgnt.com; 'May wu'

Subject: Complaint on Odour from Shiu Wing Steel

Dear Antony,

Attached please find the e-mail from Shiu Wing Steel which is adjacent to Champway as well (not inside EcoPark) complaining the odour from Champway.

I should be grateful if you could investigate the case and advise Champway what measures should be done to prevent the emission of odour smell.

Kindly please note that I have sent a reply via e-mail to Alan Lai of Shiu Wing.

Many thanks!

Regards,

Noel



# **APPENDIX 9**

Complaint Log 001 to 003



Log Ref.	001			
Date / Location	Unknown date of complaint  Lot EP07-03: Champway Technology Ltd.			
Complainant / Date of Contact	A complaint from Mr HO was received by RO/EPD on 29 April 2011 at 11:26  Mr Allan LEUNG of RO/EPD notified the IEC and the ETL <i>via</i> email on 4 May 2011			
Details of Complaint	As advised by Mr Dennis LEUNG of RO/EPD over the phone, Mr HO complained about odour nuisance with rotten, decayed and/or sour smell (酸餿氣味) from Champway's lot.			
	A site investigation at the tenant lots of Champway and Li Tong Group (Li Tong, the nearest air sensitive receiver to Champway) was conducted by the Operator (SGJV) and the ET on the morning of 5 May 2011. The key potential source of odour was identified to be the two newly installed oil/water mixture (Lipofit Grade B) storage tanks and one newly installed wastewater storage tank for collecting the wastewater from the oil/water mixture.			
Investigation / Mitigation Action	As advised by Champway during the investigation, construction of the air collection system connecting the two oil/water collection tanks and the activated carbon were not completed before 29 April 2011.			
	Notwithstanding, the air collection system was found to be in operation during the site investigation. No significant odour was noted outside Champway's lot (Li Tong's lot inclusive).			
	Additional improvement works will be provided by Champway.			
	The odour problem is considered to be mitigated. The odour issue of Champway will be monitored by the ET in subsequent Monthly Site Audits.			
Follow-up Action	During the Monthly Site Audit on 25 May 2011, the ET found that both mitigation measures recommended in the Incident/Complaint Report 001 were implemented. Additionally as presented in <i>Appendix 1</i> , EPD has verbally advised on 8 June 2011 that the odour issue was resolved. As such the complaint has been closed.			
Certified by ETL	Verified by IEC  Verified by IEC			
File Closed	8 June 2011			

**Note:** ETL: Environmental Team Leader, Mr. Antony WONG (SMEC) | IEC: Independent Environmental Checker, Ms. Sharifah OR (Atkins)



#### Appendix 1 Email between ETL and EPD on the Closing of Champway's Odour Complaint

#### J494A: Odour Complaint of Champway

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Wong, Antony
Sent: Wed 6/8/2011 3:34 PM
To: samchoi@epd.gov.hk
Cc Bhanja, Alexi; 'May Wu (SGJV)'; 'Michael Chan (SGJV)'; 'Morgan Chiu (SGJV)'; Chung, Carman; Noel Au
 As verbally advised by Dennis LEUNG (tel.: 2417 6063) of RWG/EPD over the phone this afternoon,
 RWG/EPD have replied the complainant that the odour issues had been resolved and no further complaints
 Please let us know should there be any queries.
 Kind regards,
 Antony
 ----Original Message-----
 From: samchoi@epd.gov.hk [mailto:samchoi@epd.gov.hk]
 Sent: Wednesday, June 08, 2011 12:20 PM
 To: Noel Au
 Cc: Bhanja, Alexi; 'May Wu (SGJV)'; 'Michael Chan (SGJV)'; 'Morgan Chiu (SGJV)'; Wong, Antony; Chung,
 Carman
 Subject: Re: J494A: Flow Diagram of Champway
 Any progress on this issue? Has RWG/EPD approved everything? Any follow up action required further to
 the odour sensed in the visit on 25 May 2011?
 Thanks.
 SamChoi
 EPD
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Log Ref.	002				
Date / Location	Since September 2010; odour became stronger on Thursday and Friday, and it could last from 7am to 10pm.				
Location	Lot EP07-03: Champway Technology Ltd.				
Complainant / Date of	A complaint from Mr Michael KAY, the General Manager of ECO Aviation Fuel Services Ltd. (ECO) was received by SGJV on 9 June 2011 at 16:44.				
Contact	Ms Noel AU of SGJV notified the ETL <i>via</i> email on 10 June 2011. The ETL then notified WRG/EPD, SGJV and the IEC <i>via</i> email on 13 June 2011.				
Details of Complaint	As described by Mr TAM of ECO, the odour nuisance noted at their site was similar to the rotten, decayed smell from grease trap waste. He questioned if such smell would affect the health of their staff, such as the upper respiratory system.				
	A site investigation at Champway's lot was conducted by the Operator and the ET in the morning of 14 June 2011. Telephone interviews with ECO and Li Tong, as well as interviews with Champway were carried out by SGJV and the ET.				
Investigation	The key sources of odour were identified to be the steam emitted from gaps of the cover of the Surplus Water with Dregs Storage Tank, and emission from the Oil/Water Mixture Storage Tanks during cleaning or transfer of oil from the Oil/Water Mixture Storage Tanks to the oil separators.				
/ Mitigation Action	Since the odour nuisance was likely to be caused by improper working practice, Champway advised that correction actions such as instructing the workers to operate the air pollution control system prior to manufacturing have been taken. Notwithstanding, in order to control the odour emission, a series of mitigation measures as detailed in the Incident/Complaint Report 002 was proposed to Champway.				
	The odour problem is therefore considered to be mitigated. The odour issue of Champway will be monitored by the ET in subsequent Monthly Site Audits.				
Follow-up Action	During the Monthly Site Audit on 21 June 2011, the ET found that some of the mitigation measures suggested in the Incident/Complaint Report 002 were implemented. However, odour could still be smelt at the lot, especially at the extraction system/activated carbon storage container. As a result, additional mitigation measures were further advised by the ET. The implementation of such measure as well as the previously proposed measures will be monitored in the Quarterly Site Audit in July 2011.				
ACTION	During the Quarterly Site Audit on 19 July 2011, the odour nuisance was improved but it could still be noted around the lot. The situation is believed to be improved after the additional extraction fan and activated carbon filter are in use. Further to the email enclosed in <i>Appendix 2</i> , SGJV advised that the complainant agreed to close the file unless the situation worsens again. Therefore, the complaint has been closed.				
Certified by ETL	Verified by IEC  Verified by IEC				
	19 July 2011				
File Closed	19 July 2011				



#### Appendix 2 Email between SGJV and EPD on the Closing of Champway's Odour Complaint

From: Noel Au [nkfau@ecopark-mgnt.com]
Sent: Tuesday, July 19, 2011 3:30 PM

To: samchoi@epd.gov.hk

Cc: Wong, Antony; maywu@ecopark-mgnt.com; michaelchan@ecopark-mgnt.com;

morganchiu@ecopark-mgnt.com; Chung, Carman RE: FW: ECO Aviation Fuel Facility - Bio-Diesel Plant

Dear Sam,

Subject:

Below are the progress/findings of the odour problem:

- 1. The odour smell was improved during our regular site visits
- 2. Miss Kam of ECO Aviation Fuel Services Limited was consulted on the odour problem last week and she disclosed that the situation was improved
- 3. Mr. Chris Tam of ECO Aviation Fuel Services Limited disclosed that the situation has been improved during the past two weeks & he agreed to close the file unless the situation became worse again
- Champway has commenced the installation work of extraction fan and
   will be completed before this Friday. Then, one more activated carbon filter will be used.
   It is believed that the situation will improve in a bigger step once the installation completed.

For your information, please.

Regards,

Noel

----Original Message-----

From: samchoi@epd.gov.hk [mailto:samchoi@epd.gov.hk]

Sent: Tuesday, July 19, 2011 2:37 PM

To: Noel Au

Cc: 'Wong, Antony'; maywu@ecopark-mgnt.com; michaelchan@ecopark-mgnt.com; morganchiu@ecopark-

mgnt.com

Subject: Re: FW: ECO Aviation Fuel Facility - Bio-Diesel Plant

Hi Noel,

Any progress on this matter? Has it been settled already? Thanks.

SamChoi

EPD

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Log Ref.	003			
Date / Location	From time to time; odour was particularly strong at about 9pm on 13 June 2011 that the complainant's staff needed to stop working and leave the stinking area.  Lot EP07-03: Champway Technology Ltd.			
Complainant / Date of Contact	A complaint from Mr Alan LAI of Shiu Wing Steel Ltd. (SW) was received by SGJV on 15 June 2011 at 10:50.  Ms Noel AU of SGJV notified the ETL <i>via</i> email on 16 June 2011. The ETL then notified WRG/EPD, SGJV and the IEC <i>via</i> email on 17 June 2011.			
Details of Complaint	As described by Mr LAI of SW, the odour nuisance noted at their site was similar to the rotten, decayed smell from grease trap waste, and it could last from time to time. At about 9pm on 13 June 2011, the odour was so strong that SW staff needed to stop working and leave the stinking area.			
Investigation / Mitigation Action	A site investigation at Champway's lot was conducted by the Operator and the ET on the morning of 21 June 2011. Telephone interviews with SW and ECO, as well as interviews with Champway were carried out by SGJV and the ET.  The key source of odour was found at the extraction system/activated carbon storage container. As this may be caused by leakage of the extraction system, it was suggested to check the system thoroughly.  Due to the proximity of complaint dates, the implementation of mitigation measures suggested in the Incident/Complaint Report 002 were checked during the site investigation. Since only some of them were executed, and odour could still be smelt at the lot, additional mitigation measures as detailed in the Incident/Complaint Report 003 were further advised to Champway.  The odour problem is therefore considered to be mitigated. The odour issue of Champway will be monitored by the ET in subsequent Monthly Site Audits.			
Follow-up Action	During the Monthly Site Audit on 19 July 2011, the odour nuisance was improved although it could be noted around the lot. The situation is believed to be improved after the additional extraction fan and activated carbon filter are in use. The implementation of these measures as well as the previously proposed measures will be monitored in the Monthly Site Audit in August 2011.  Since no further complaints are received, the complaint has been closed.			
Certified by ETL	Verified by IEC  Verified by IEC			
File Closed	19 July 2011			