

# **EM&A Report**

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

February to April 2011









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July Shall

February to April 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 sixteenth quarterly EM&A report prepared for the operation phase of EcoPark and covers February to April 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-April 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have commenced recycling activities within their lots. Two tenants, Telford and Cosmos, have not 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:

- Champway. 309,101kg of cooking oil and 1,374,490kg of grease-trap waste were delivered and processed, producing 701,529kg of treated cooking oil, 506,030kg of biodiesel and 15,182kg of glycerine. A total of 1,064,653kg of waste was generated, including 28,000kg of inorganic waste, 415,461kg of organic waste and 621,192kg of water waste (semi-solid and slurry inclusive).
- 2. **Shiu Wing.** 2,305,250kg 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.** 484,000kg of waste wood was delivered and processed, resulting in 2,244,000kg of wood chips as product output. No waste was generated.
- 4. **Li Tong.** 92,364kg of WEEE was delivered and processed, producing 19,460kg of metals and 13,333kg of non-metals. 1,545kg of general refuse was generated.
- 5. **Telford.** Although formal recycling activities are not currently being carried out, 66,000kg of waste plastics were delivered.
- 6. **Cosmos.** No recycling activities are being carried out and no waste has been delivered.
- 7. **Yan Oi Tong.** 210,771kg of waste plastics were delivered and 200,575kg were processed. 38,334kg of general refuse was generated from mixed waste plastics.
- 8. **St James' Settlement.** 67,042kg of WEEE was delivered and processed, producing 998 pieces of repaired / refurbished Electrical and Electronic Equipment (EEE), 8,860kg of metals and 966kg of non-metals. 2,545kg of general refuse was generated.

#### **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 26 April 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 summarized below:

 Complaint: one complaint about odour nuisance with rotten, decayed and/or sour smell from Champway's lot was received by EPD on 29 April 2011. Details of the complaint are presented in Section 8, and the incident report is 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 April 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 April 2011, biodiesel was no longer 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 recorded and rectified include uncovered oil bucket and oil stains at the reserved area for EcoPark's WWTP and glycerine overflow, yet the observations of uncovered oil buckets and oil stains, as well as oil/grease inside the sewer of EcoPark remained outstanding. As a result, Champway was reminded to cover all oil buckets, remove the oil stains and regularly maintain the oil/grease removal devices. Champway should also check



- with EPD whether the installation of a new waste oil collection tank requires a variation to the current Specified Process (SP) Licence.
- 2. Shiu Wing. Sheared waste metal into heavy ferrous scrap, although the misting system and industrial dust collector are not yet in place. In addition to the settlement of collecting and disposing of Asbestos Containing Materials (ACM), environmental observations such as debris and materials inside surface channels and stagnant water inside uncovered containers were recorded and rectified in this reporting quarter.
- 3. **Hung Wai.** Shredded large amount of waste wood into wooden chips. No critical environmental issues were observed and the lot was generally tidy.
- 4. **Li Tong.** Checked and dismantled WEEE manually. No critical environmental issues were observed and the lot was generally tidy.
- Yan Oi Tong. The key environmental concerns include housekeeping, refuse
  inside the gully gratings and stagnant water, which have been rectified in this
  reporting quarter. The housekeeping performance will be monitored in subsequent
  monthly site visits.
- 6. St. James' Settlement. Sorted and checked WEEE manually. Issues on labelling chemical waste containers and storage areas, refuse inside surface channels and locking the chemical waste storage areas were identified and rectified in this reporting quarter. Another key environmental concern was storing non-chemical waste materials at the chemical waste storage areas, the tenant was thus reminded to remove such materials from the storage areas.

Remedial actions were recommended to tenants, and the remedial status shall be followed up in the next monthly site inspection.

# 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*.

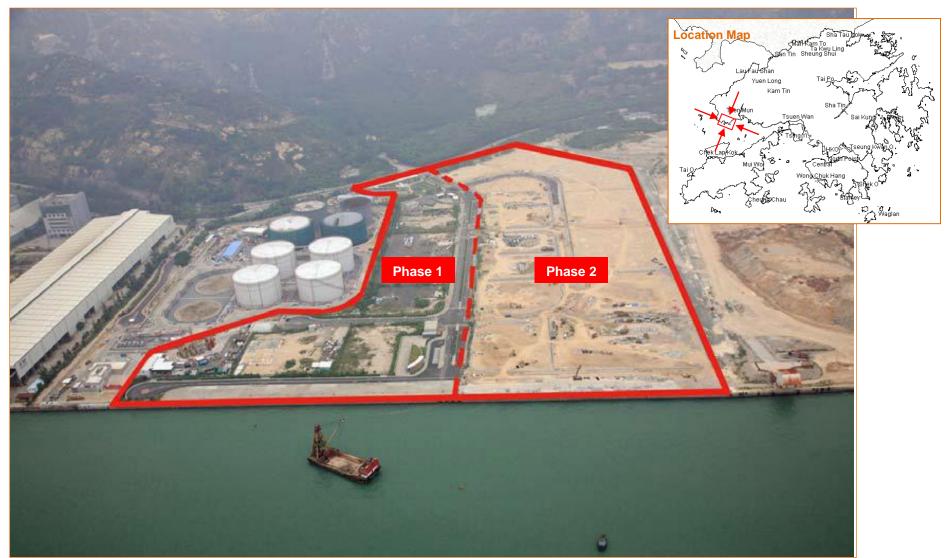
Table 1-1 EM&A Personnel Contact Details

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 (October 2009)



Figure 1-2 Organisation Chart of SGJV

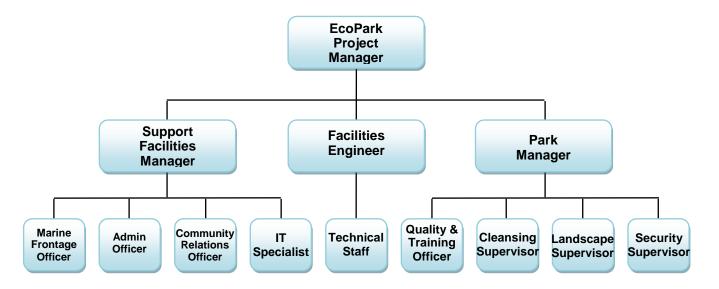
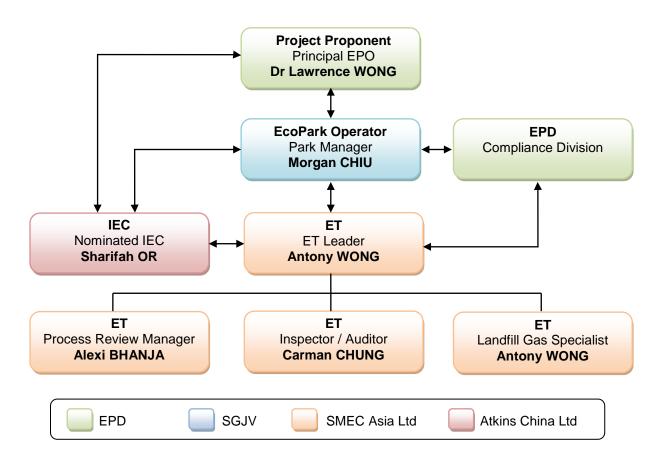


Figure 1-3 Organisation Chart of EM&A Works (Operation)





#### 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 SGJV. Subsequently, two monitoring locations in Phase 2 were proposed by ET and agreed by IEC and SGJV 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	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

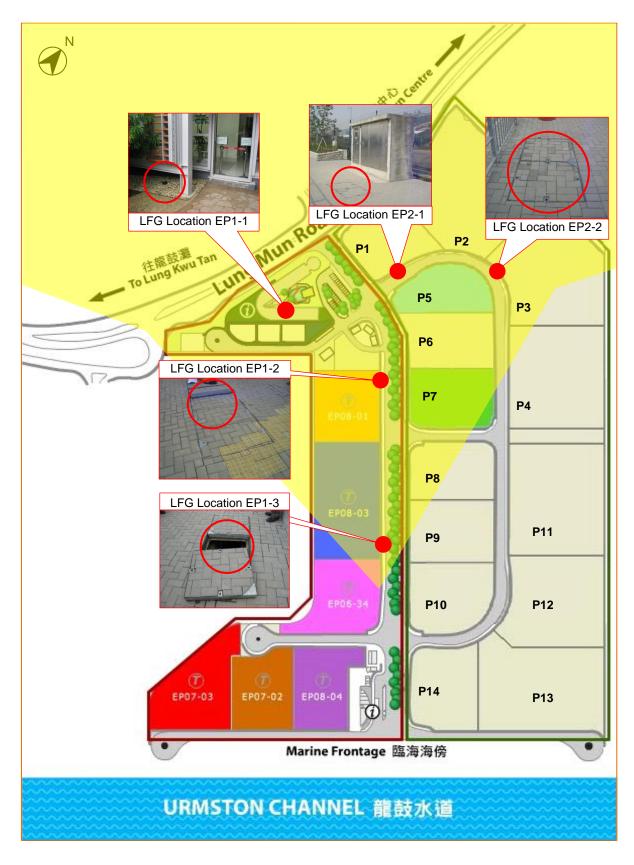
Environmental mitigation measures applicable to the operation phase EM&A as stated in the Implementation Schedule are summarised in *Appendix 1*.

# 2.5 Environmental Requirements in Tenancy Agreements

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



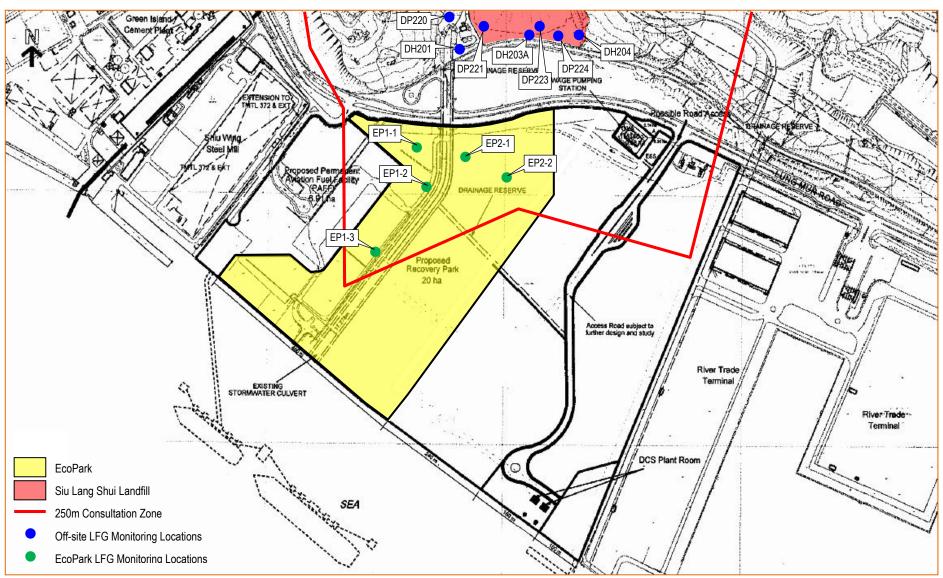
Figure 2-1 LFG Monitoring Locations within EcoPark



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, biodiesel was no longer 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-April 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-April 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-April 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have commenced recycling activities within their lots. Two tenants, Telford and Cosmos, have not 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:

- 1. **Champway.** 309,101kg of cooking oil and 1,374,490kg of grease-trap waste were delivered and processed, producing 701,529kg of treated cooking oil, 506,030kg of biodiesel and 15,182kg of glycerine. A total of 1,064,653kg of waste was generated, including 28,000kg of inorganic waste, 415,461kg of organic waste and 621,192kg of water waste (semi-solid and slurry inclusive).
- 2. **Shiu Wing.** 2,305,250kg 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.** 484,000kg of waste wood was delivered to and processed, resulting in 2,244,000kg of wood chips as product output. No waste was generated.
- 4. **Li Tong.** 92,364kg of WEEE was delivered to and processed, producing 19,460kg of metals and 13,333kg of non-metals.1,545kg of general refuse was generated.
- 5. **Telford.** Although formal recycling activities are not currently being carried out, 66,000kg of waste plastics were delivered.
- 6. **Cosmos.** No recycling activities are being carried out and no waste has been delivered.
- 7. **Yan Oi Tong.** 210,771kg of waste plastics were delivered and 200,575kg were processed. 38,334kg of general refuse was generated from mixed waste plastics.
- 8. **St James' Settlement.** 67,042kg of WEEE was delivered and processed, producing 998 pieces of repaired / refurbished EEE, 8,860kg of metals and 966kg of non-metals. 2,545kg of general refuse was generated.

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-April 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have 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 26 April 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	26 April 2011	10:50 – 10:54	4 minutes	28°C	Fine
EP1-2		10:30 – 10:34	4 minutes	27°C	Fine
EP1-3		10:20 – 10:24	4 minutes	27°C	Fine
EP2-1		10:35 – 10:39	4 minutes	27°C	Fine
EP2-2		10:40 – 10:44	4 minutes	28°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)	CO <sub>2</sub> (% v/v)	Barometric Pressure (mBar)	
EP1-1	0.0	0	21	0.0	1014	
EP1-2	0.0	0	21	0.0	1014	
EP1-3	0.0	0	21	0.0	1013	
EP2-1	0.0	0	21	0.0	1015	
EP2-2	0.0	0	21	0.0	1014	

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



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

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

- Champway. A total of 1,064,653kg of waste, including 28,000kg of inorganic
  waste, 415,461kg of organic waste and 621,192kg 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.** 1,545kg of general refuse was produced from the WEEE, and subsequently disposed of at WENT Landfill.
- 5. **Yan Oi Tong.** 38,334kg of general refuse was sorted from the mixed waste plastics, and subsequently disposed of at WENT Landfill.
- 6. **St. James' Settlement.** 2,545kg of general refuse was produced from the WEEE, and subsequently disposed of at WENT Landfill.



#### 7 SUMMARY OF ENVIRONMENTAL AUDIT

### **7.1** February 2011

Environmental audits of active tenants and the general EcoPark audit were carried out by the ET on 22 February 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 observation of uncovered oil buckets and oil stains at the reserved area for EcoPark's Wastewater Treatment Plant (WWTP) remained outstanding, and the tenant was again reminded to place oil/chemicals/chemical wastes in proper containers with covers, remove the oil stains and dispose of it properly. Two new observations of glycerine overflow and uncovered oil buckets plus oil stains were recorded during the audit. The tenant was thus reminded to take corrective actions for preventing overflow, cover all oil buckets and remove the oil stains. The completed checklist for Champway is provided in *Appendix 6.1*.
- 2. Shiu Wing. Previous observations of collecting and disposing Asbestos Containing Materials (ACM) and oil leakage were rectified, whereas the observation of debris and materials inside surface channels remained outstanding. Therefore the tenant was again reminded to provide regular maintenance to surface channels. 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.
- 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. Previous observation of overflow at the wastewater collection system was rectified, whilst the observations of materials littering the storage area and refuse inside the gully gratings remained outstanding. Thus the tenant was again reminded to improve housekeeping and clear the materials inside the gully on a regular basis. One new observation of stagnant water pool behind the manual separation area was recorded, and the tenant was reminded to clear the pool of water as soon as possible. The completed checklist for Yan Oi Tong is provided in Appendix 6.5.
- 6. St. James' Settlement. Previous observation of labelling chemical waste containers and storage areas was rectified, whilst the observations of refuse inside surface channels and locking the chemical waste storage areas remained outstanding. Hence the tenant was again reminded to provide regular maintenance to surface channels and lock the chemical waste storage areas while not in use. No new observations were recorded during the audit. The completed checklist for St. James' Settlement is provided in *Appendix 6.6*.



#### 7.1.2 General EcoPark Audit

Following the site audit in January 2011, the observation of muddy trail outside P9 was rectified, whereas the rest of environmental deficiencies remained outstanding. Therefore the tenants were 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 March 2011

Environmental audits of active tenants and the general EcoPark audit were carried out by the ET on 29 March 2010.

#### 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 observations of uncovered oil buckets and oil stains at the reserved area for EcoPark's WWTP and glycerine overflow were rectified, whilst the observation of uncovered oil buckets and oil stains remained outstanding. Thus the tenant was again reminded to cover all oil buckets and remove the oil stains. One new observation of oil/grease inside the sewer of EcoPark was recorded during the audit, and the tenant was reminded to clear the oil/grease so as to prevent potential blockage of the sewer. The completed checklist for Champway is provided in Appendix 6.1.
- Shiu Wing. Previous observation of debris and materials inside surface channels
  was rectified. One new observation of stagnant water inside uncovered containers
  was recorded during the audit, and the tenant was reminded to clear the stagnant
  water as soon as possible and cover the containers. 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*.
- 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.** Previous observations of refuse inside the gully gratings and stagnant water pool were rectified, whilst the observation of materials littering the storage area remained outstanding. Hence the tenant was again reminded to improve housekeeping. No new observations were recorded during the audit. The completed checklist for Yan Oi Tong is provided in *Appendix 6.5*.
- St. James' Settlement. Previous observations of refuse inside surface channels and locking the chemical waste storage areas were 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 February 2011, the observations of stagnant water at Cosmos's lot and uncovered oil buckets at Telford's lot was rectified, whereas the rest of environmental deficiencies at Telford's lot remained outstanding. One new observation of oil stains at Telford's lot was recorded during the audit, and the tenant was again reminded to implement appropriate mitigation measures to address these issues. The completed general checklist for EcoPark (and non-active tenants) is provided in *Appendix 7*.

#### 7.3 April 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 20 April 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 uncovered oil buckets and oil stains, as well as oil/grease inside the sewer of EcoPark remained outstanding. Thus the tenant was again reminded to cover all oil buckets, remove the oil stains and regularly maintain the oil/grease removal devices. One new observation on the installation of a new waste oil collection tank was recorded during the audit, and the tenant was reminded to check with EPD whether the modification of the process requires a variation to the current Specified Process (SP) Licence. The completed checklist for Champway is provided in *Appendix 6.1*.
- Shiu Wing. Previous observation of stagnant water inside uncovered containers
  was rectified, 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, and 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, and no new observations were recorded during the audit. The completed checklist for Li Tong is provided in *Appendix 6.4*.
- Yan Oi Tong. Previous observation of materials littering the storage area was rectified, and the housekeeping performance will be monitored in subsequent monthly site visits. No new observation was recorded during the audit. The completed checklist for Yan Oi Tong is provided in *Appendix 6.5*.
- 6. **St. James' Settlement.** No follow-up action was required from the previous site audit. One new observation of storing non-chemical waste materials at the chemical waste storage areas was recorded during the audit, and the tenant was reminded to remove such materials from the storage areas. The completed checklist for St. James' Settlement is provided in *Appendix 6.6*.



#### 7.3.2 General EcoPark Audit

Following the site audit in March 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 observations were recorded during the audit. The completed general checklist for EcoPark (and non-active tenants) is provided in *Appendix 7*.

The LFG monitoring was undertaken on 26 April 2011 at the five monitoring locations (three in Phase 1 and two in Phase 2) agreed by the ET, IEC and SGJV. 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-April 2011, six tenants (Champway, Shiu Wing, Hung Wai, Li Tong, Yan Oi Tong and St. James' Settlement) have commenced recycling activities within their lots. Telford have commenced trial commissioning since 4 November 2010.

One complaint about odour nuisance with "rotten, decayed and/or sour smell" from Champway's lot was received by EPD on 29 April 2011, and the IEC and ET Leader were notified by EPD on 4 May 2011. A site investigation was therefore carried out by the ET and SGJV on the morning of 5 May 2011 to identify the cause of odour.

The odour is believed to be generated from the two newly installed oil/water storage tanks. At the time of the complaint, although exhaust air from the two oil/water storage tanks was collected by PVC pipes and treated by activated carbon, complete tank enclosures were not provided. Furthermore, the PVC pipes were damaged, possibly by the relatively high temperature of the exhaust air.

Another potential source of odour is the oil/water mixture pumping process, although the ET did not notice any odour during the transference of oil/water mixture. However, the vent pipe of the tanker was blocked after transference and purging was required. While some odour was noted at ~1 to 2m from the tanker during purging, no odour was noted at marine frontage or at Li Tong's lot (the nearest air sensitive receiver to Champway).

In order to abate odour, Champway had improved the air collection system by providing complete enclosures and replacing the PVC pipes by galvanized steel pipes, and the improvement works were undertaken in April and completed on 3 May 2011. Therefore, the odour nuisance that caused the complaint is believed to have occurred before completion of the improvement works. During the site investigation on 5 May 2011, the two oil/water storage tanks were found to be enclosed and the air was conveyed to the activated carbon filter by galvanized steel pipes. On the other hand, the storage tank for unwanted dreggy water was open, although no odour was noted even at ~1m away from the opening of the tank.

With the aim to further minimise the odour, Champway would enclose the unwanted dreggy water storage tank and connect the air of the tank to the activated carbon filter. Furthermore, the vent pipe of the tanker will be connected to a flexible pipe and the air from the tanker will be treated by activated carbon. The performance of Champway's odour abatement system will be monitored by the ET in subsequent monthly site audits.

The incident report of such complaint with details is enclosed in *Appendix 8*, and the Complaint Log shall be provided when the case is closed after conducting the second site investigation.



#### 9 CONCLUSIONS

This is the sixteenth quarterly EM&A report prepared for the operation phase of EcoPark and covers February to April 2011.

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

- 1. **Champway.** 309,101kg of cooking oil and 1,374,490kg of grease-trap waste were delivered and processed, producing 701,529kg of treated cooking oil, 506,030kg of biodiesel and 15,182kg of glycerine. A total of 1,064,653kg of waste was generated, including 28,000kg of inorganic waste, 415,461kg of organic waste and 621,192kg of water waste (semi-solid and slurry inclusive).
- 2. **Shiu Wing.** 2,305,250kg 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.** 484,000kg of waste wood was delivered and processed, resulting in 2,244,000kg of wood chips as product output. No waste was generated.
- 4. **Li Tong.** 92,364kg of WEEE was delivered and processed, producing 19,460kg of metals and 13,333kg of non-metals. 1,545kg of general refuse was generated.
- 5. **Telford.** Although formal recycling activities are not currently being carried out, 66,000kg of waste plastics were delivered.
- Cosmos. No recycling activities are being carried out and no waste has been delivered.
- 7. **Yan Oi Tong.** 210,771kg of waste plastics were delivered and 200,575kg were processed. 38,334kg of general refuse was generated from mixed waste plastics.
- 8. **St James' Settlement.** 67,042kg of WEEE was delivered and processed, producing 998 pieces of repaired / refurbished EEE, 8,860kg of metals and 9,826kg of non-metals. 2,545kg of general refuse was generated.

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 26 April 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.

One complaint about odour nuisance with rotten, decayed and/or sour smell from Champway's lot was received by EPD on 29 April 2011; consequently a site investigation was carried out by the ET and SGJV on 5 May 2011 morning to reveal the



cause of odour. Details of the complaint are presented in **Section 8**, and the incident report is 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			<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	ınagemer	nt			
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>			
		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.			



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	Glycerine Total		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

- 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	-

<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	-		

#### 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)		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	-

<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]		
	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	-	-		

<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		

<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)			Product Outpu	t (kg)		Waste Disposal (kg)
Date	WEEE	Repaired / Refurbished EEE (pieces) <sup>[Note 2]</sup>	Reusable Parts	Metals (e.g. ferrous metals, aluminium)	Non-metals (e.g. fibres, plastics)	Total	General Refuse
Oct-Dec 10 [Note 3]	42,134	652	-	-	540	652 pieces + 540kg	1,925
Jan-11 [Note 3]	23,199	309	-	16,065	6,982	309 pieces + 23,047kg	1,000
Feb-11	17,912	310	-	-	60	310 pieces + 60kg	467
Mar-11	34,404	400	-	-	847	400 pieces + 847kg	1,348
Apr-11	14,726	288	-	8,860	59	288 pieces + 8,919kg	730

- 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.

Tel : +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

29/12/2010

Next calibration date

29/06/2011

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	1.0	-0.02
Carbon dioxide (CO <sub>2</sub> )	15,1	14.9	-0.2
Oxygen (O <sub>2</sub> )	1.03	1.2	-0.17

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

Certified by :

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

Date

29/12/2010

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

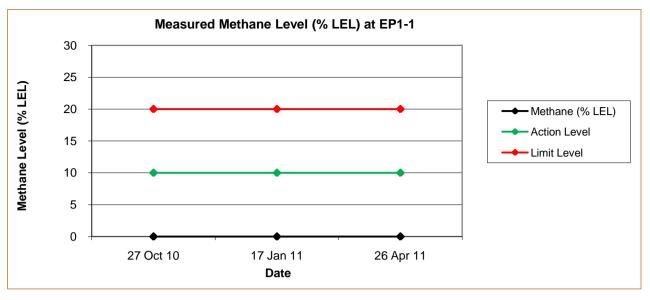
### Landfill Gas Monitoring Results - April 2011

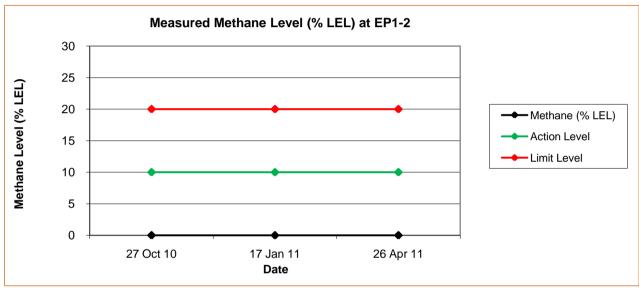
								M	easuremei	nt Results		Α	ction Leve	el	l	Limit Leve	I	
Monitoring Station ID	Monitoring Locations	Date	Weather Conditions	Temperature (degree)	Start Time	End Time	Metl	hane	Oxygen	Carbon Dioxide	Barometric Pressure	Methane	Oxygen	Carbon Dioxide	Methane	Oxygen	Carbon Dioxide	Remarks
							% v/v	% LEL	% 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			28	10:50	10:54	0.0	0	21	0.0	1014							Nil
EP1-2	PCCW below- ground chamber outside Lot EP08-01			27	10:30	10:34	0.0	0	21	0.0	1014							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03	26 Apr 11	Fine	27	10:20	10:24	0.0	0	21	0.0	1013	> 10	< 19	> 0.5	> 20	< 18	> 1.5	Nil
EF2-1	HGC Broadband below-ground chamber outside Lot P1			27	10:35	10:39	0.0	0	21	0.0	1015							Nil
	HGC Broadband below-ground chamber outside Lot P3			28	10:40	10:44	0.0	0	21	0.0	1014							Nil

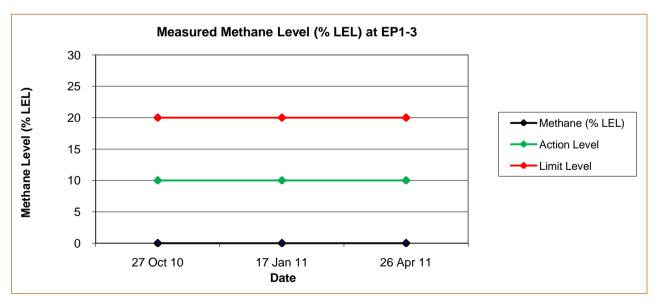
#### Note

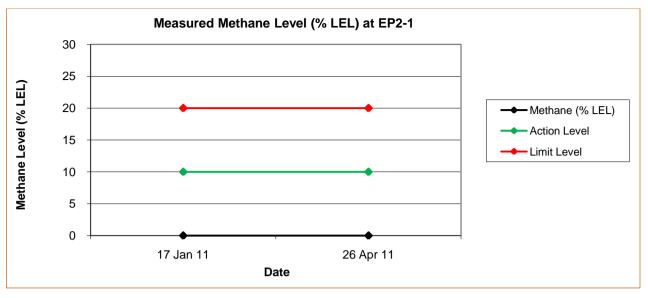
<sup>(1)</sup> Underlined figure indicates an exceedance of Action Level

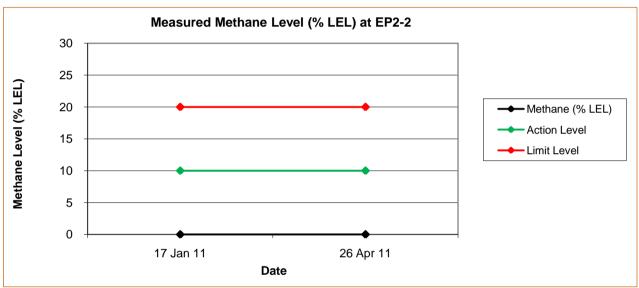
<sup>(2)</sup> Shaded area indicates an exceedance of Limit Level

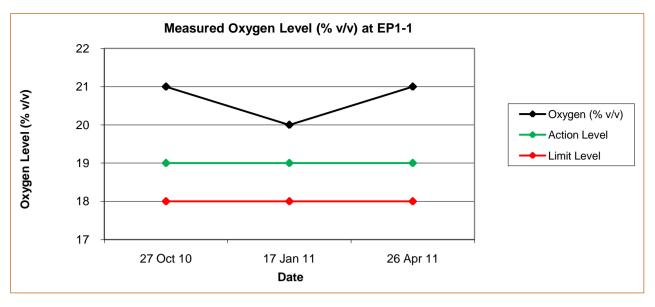


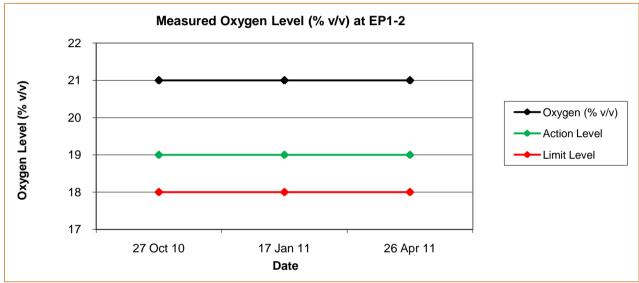


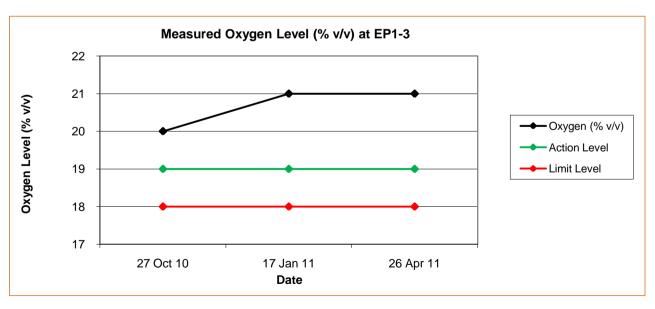


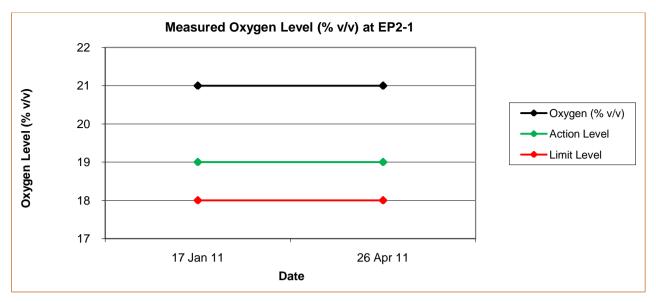


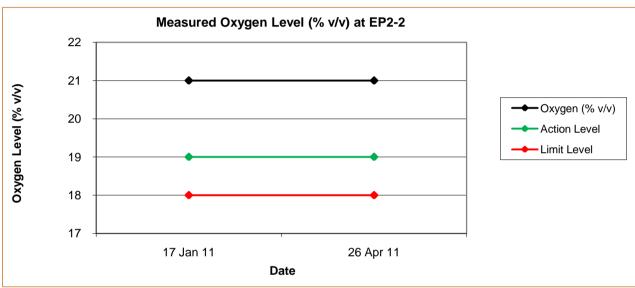


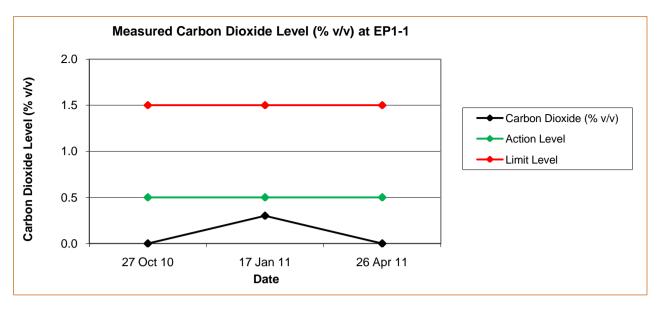


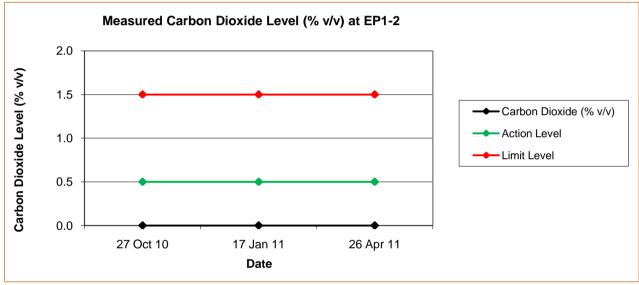


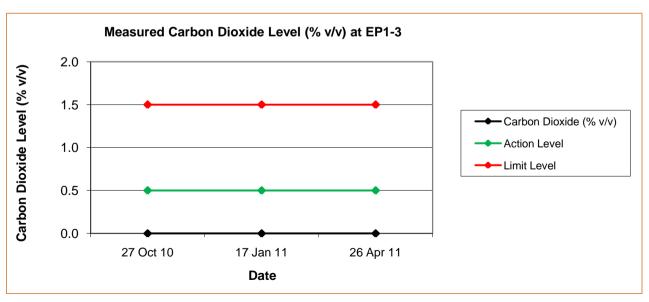


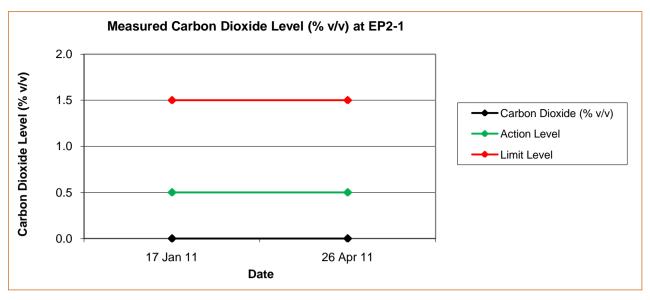


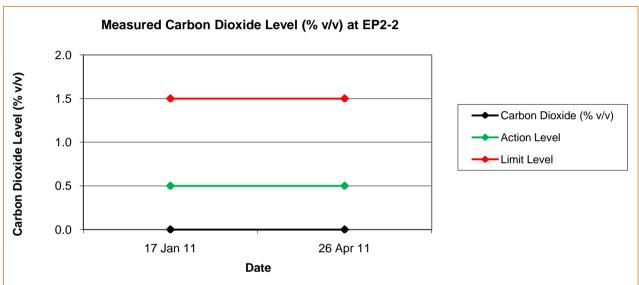


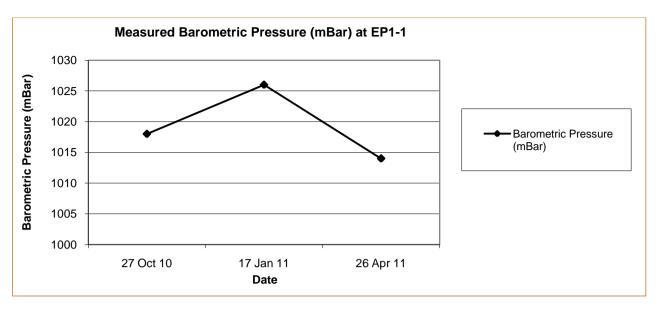


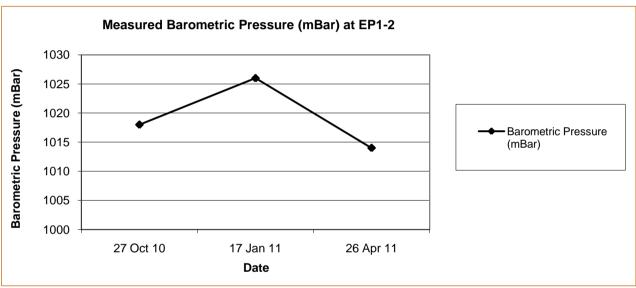


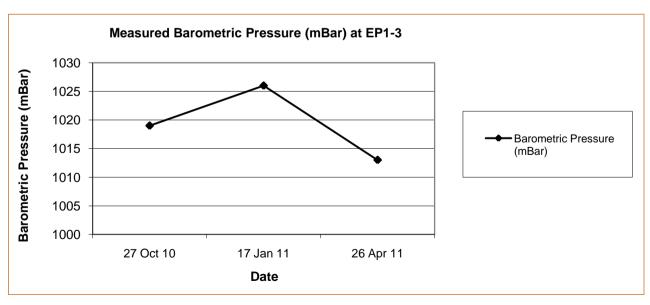


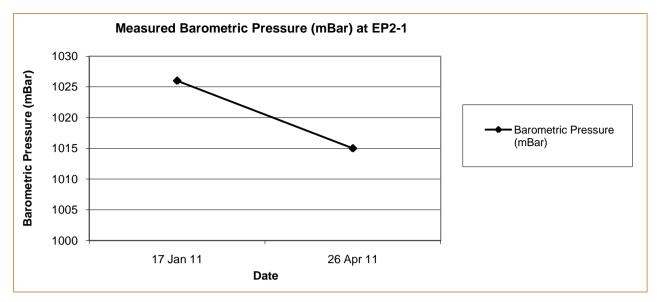


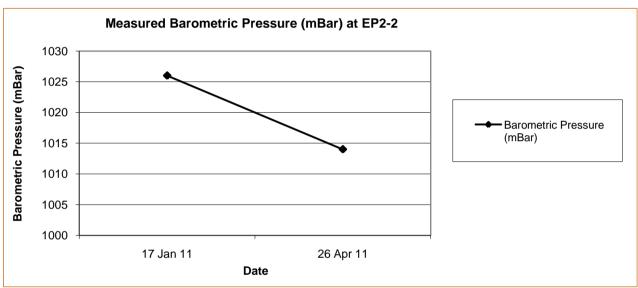














Tenant-specific Audit Checklists for the Reporting Quarter



### **APPENDIX 6.1**

Tenant-specific Audit Checklists for the Reporting Quarter

Champway (EP07-03)



	Audit Details						
Ten	ant	Champway Tech	nolo	gy Ltd			
Date	e & Time	Date 22 Februa	ary 2	011		Tin	ne <u>10:20am</u>
Lot	No.	EP07-03					
Aud	lit Ref.	7		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
Wea	ather Conditions	Fine	$\boxtimes$	Hazy			Overcast Rain
Win	d	Calm	$\boxtimes$	Light Br	eeze		Strong Wind
Tem	perature	<u>15</u> °C					
Hun	nidity			Medium			High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant displ	ayed on notice boo	ards	/		$\boxtimes$	EP for EcoPark (EP-226/2005/A) is
	at entrance?						displayed at the entrance of EcoPark. EP for tenant is not required.
					_		
1.2	Environmental Police	cy documented?				$\boxtimes$	Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Man	nagement Plan upo	lated	d?		$\boxtimes$	
1.4	a. Emergency Resp documented?	oonse Plan (ERP)					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?	ı				Tenant keeps a training record for BPI.
1.6	Any record of prose	ecution / complaint	?		$\boxtimes$	П	
		•		_	_		
1.7	Waste Managemen	nt Plan?				$\boxtimes$	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. Any wastewater treatment facility prior to Oil interceptor & grease trap. 2.2 effluent discharge? If yes, facility is properly maintained and $\square$ function normally? **Effluent Monitoring** $\boxtimes$ As per the discharge licence, self-monitoring shall be performed when a. Sampling / Monitoring Record available? 2.3 required. No sampling was undertaken in this month. As advised by the Tenant, another sample of grease trap effluent was collected in February 2011. Results are expected to be available in March. b. Monitoring frequency met the license requirement? 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? 2.6 All manholes are covered? $\boxtimes$ See Action #1. 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	$\boxtimes$			
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?				
	Odour	$\boxtimes$			
3.2	a. Any odour detected?				
	b. If yes, can the source be identified?				From the grease trap waste storage tank and uncovered oil buckets.
	c. Odorous materials are covered?				See Action #2.
	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?				No dusty materials were found to be used on-site.
3.4	Dust Monitoring a. Monitoring Record available?				Dust monitoring is not required according to PRC.
	b. Monitoring frequency met the requirement?				
	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 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	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?				
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 Registration No. 6311-421-C3617-01 **Chemical Waste Producer Registration** 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				
4.9	Storage of Chemical Waste  a. Proper "Chemical Waste" signs are displayed?				Not observed.				
	b. Incompatible wastes separated by an impermeable partition?								
	c. Containers kept in receptacle of suitable material and construction ( <i>if quantity &lt;50L</i> ) or drip trays capable of storing 110% of the volume of largest ( <i>if quantity &gt;50L</i> )?								
	d. Enclosed on 3 sides with no less than 2m in height or height of tallest container or stack of containers?								
•	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?			$\boxtimes$					
4.10	Chemical wastes are collected by a licensed chemical waste collector? (retention of trip ticket copies for 12 months)				No collection.				
4.11	Storage of Liquid Waste  a. Storage area floor/surface permeation-proof?				No bulk storage.				
	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 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? 5.4 Any areas within the lot to be used for recycling processes are concrete paved? 5.5 Valid calibration certificate for any 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. Overflow occurred at one of the glycerine storage tanks and significant amount of glycerine entered the surface channels of the lot. The tenant has absorbed the glycerine by sand immediately. They were also reminded to take corrective actions for preventing such incident in future.

23 Feb 2011





Uncovered oil buckets and oil stains were found around the lot. Since these items
are potential sources of odour, the Tenant was reminded to cover all oil buckets,
remove the oil stains and dispose of waste materials properly.

28 Feb 2011







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

## No. Follow-up from Previous Audit Dated 17 January 2011

**Status** 

 Uncovered oil buckets and oil stains were still found at the reserved area for EcoPark's Wastewater Treatment Plant (WWTP). The Tenant was again reminded to use proper containers with covers for containing all oil/chemicals/chemical wastes, remove the oil stains and oily contaminated soil, and dispose of these properly. Outstanding





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

The Tenant should clean up the overflow of glycerine and oil stain as soon as possible, and provide covers to all oil buckets / chemical containers.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Champway	Serco Guardian JV
Signed By	Carman CHUNG	-	Kenji WONG	Morgan CHIU
Role	ET Site Auditor	-	Technical Manager	Park Manager
Signature	Zonon		PP. NO	1



	Audit Details		
Te	nant	Champway Technology Ltd	
Da	te & Time	Date         29 March 2011         Time         10:25am	
Lo	t No.	EP07-03	
Au	dit Ref.	8	
IEC	C Joint Inspection	☐ Yes ☒ No	
We	eather Conditions		
Wi	nd	☐ Calm ☐ Light Breeze ☐ Strong Wind	
Те	mperature	21_°C	
Hu	midity		
	1. General		
/	Description	Yes No N/A Remarks	
1.1	EP for Tenant displate entrance?	layed on notice boards /             EP for EcoPark (EP-226/2005/A displayed at the entrance of Eco EP for tenant is not required.	
1.2	Environmental Police	cy documented?	
1.3	Environmental Man	nagement Plan updated?	
1.4	a. Emergency Resp documented?	oonse Plan (ERP)   Operator's ERP is documented. follows this.	Tenant
	b. Drill / training rec	cords available?	r ERP
1.5	Employee's training	g record available? \(\sum \Boxed{\subseteq} \Boxed{\subseteq} \Boxed{\subseteq} \tag{\subseteq} \subsete	or BPI.
1.6	Any record of prose	ecution / complaint?	
1.7	Waste Managemen	ot Plan?	-



	2. Water Quality				
	Description	Yes	No	N/A	Remarks
1	Valid Effluent Discharge License available?				Licence No.: WT00004430-2009 valiuntil 31 July 2014.
2	Any wastewater treatment facility prior to effluent discharge?	$\boxtimes$			Oil interceptor & grease trap.
	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. No sampling was undertak in this month.  The testing results of the grease trapeffluent shall be made available in April.
,	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?	$\boxtimes$			
,	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?		$\boxtimes$		See Action #1 and Follow-up Action #2.



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination				
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?				
_	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?	$\boxtimes$			
	Odour	$\boxtimes$	П	П	
3.2	a. Any odour detected?		_	_	
	b. If yes, can the source be identified?				From the grease trap waste storage tank, uncovered oil buckets and oil stains on ground.
	c. Odorous materials are covered?				See Follow-up Action #3.
	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?			$\boxtimes$	No dusty materials were found to be used on-site.
3.4	Dust Monitoring a. Monitoring Record available?				Dust monitoring is not required according to PRC.
	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?				
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.				
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?				
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 Registration No. 6311-421-C3617-01 **Chemical Waste Producer Registration** 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				
4.9	Storage of Chemical Waste  a. Proper "Chemical Waste" signs are displayed?				Not observed.				
	b. Incompatible wastes separated by an impermeable partition?			$\boxtimes$					
	c. Containers kept in receptacle of suitable material and construction ( <i>if quantity</i> <50L) or drip trays capable of storing 110% of the volume of largest ( <i>if quantity</i> >50L)?								
•	d. Enclosed on 3 sides with no less than 2m in height or height of tallest container or stack of containers?								
	e. Containers with chemical waste are properly stored and locked at designated area which is clean and dry?								
•	f. Adequacy of area ventilation?			$\boxtimes$					
	g. Outdoors storage area should be covered?			$\boxtimes$					
4.10	Chemical wastes are collected by a licensed chemical waste collector? (retention of trip ticket copies for 12 months)				No collection.				
4.11	Storage of Liquid Waste  a. Storage area floor/surface permeation-proof?			$\boxtimes$	No bulk storage.				
	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 storage area constructed of impermeable material?			$\boxtimes$					



# 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? 5.4 Any areas within the lot to be used for recycling processes are concrete paved? 5.5 Valid calibration certificate for any 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

 Considerable amount of oil/grease was found inside the sewer of EcoPark. The tenant was reminded to clear the oil/grease to prevent potential blockage of the sewer. 6 Apr 2011



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

## No. Follow-up from Previous Audit Dated 22 February 2011

**Status** 

 Uncovered oil buckets were no longer found at the reserved area for EcoPark's Wastewater Treatment Plant (WWTP). Soil was used to absorb the oil stains on ground. (Repeated observation since 17 January 2011) Closed



2. Overflow of glycerine was no longer found inside the surface channels.

Closed





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

## No. Follow-up from Previous Audit Dated 22 February 2011

**Status** 

 Uncovered oil buckets and oil stains were still found around the lot, and odour was noted outside Cosmos's lot (about 100m away from Champway's lot). Since these items are potential sources of odour, the Tenant was again reminded to cover all oil buckets, remove the oil stains and dispose of waste materials properly. Outstanding





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

The Tenant should clear the oil/grease in sewer and oil stain on ground as soon as possible, as well as provide covers to all oil buckets.

	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		(Jahren)	13



	Audit Details	
Te	nant	Champway Technology Ltd
Da	te & Time	Date         20 April 2011         Time         10:50am
Lo	t No.	EP07-03
Au	dit Ref.	9
IEC	C Joint Inspection	
We	eather Conditions	
Wi	nd	☐ Calm ☐ Light Breeze ☐ Strong Wind
Те	mperature	25 °C
Hu	midity	
	1. General	
	Description	Yes No N/A Remarks
1.1	EP for Tenant displant entrance?	ayed on notice boards /
1.2	Environmental Police	cy documented?
1.3	Environmental Man	agement Plan updated?
1.4	a. Emergency Resp documented?	oonse Plan (ERP)    Operator's ERP is documented. Tenant follows this.
	b. Drill / training rec	rords available?
1.5	Employee's training	record available?     Tenant keeps a training record for BPI.
1.6	Any record of prose	ecution / complaint?
1.7	Waste Managemen	ot 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. Any wastewater treatment facility prior to 2.2 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? $\boxtimes$ d. If yes, follow-up action taken? 2.4 Surface run-off control measures in place $\square$ and adequately maintained? 2.5 Surface run-off discharging into drainage $\square$ $\square$ system? All manholes are covered? 2.7 Foam, oil, grease, litter or other See Follow-up Action #2. 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 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 Action #1. requirements met? **Odour** 3.2 a. Any odour detected? From the grease trap waste storage b. If yes, can the source be identified? tank, uncovered oil buckets and oil stains on ground. c. Odorous materials are covered? See Follow-up Action #1. d. If odour control system is installed, is it $\square$ Odour is treated by activated carbon. operating normally? Activated carbon will be replaced if necessary. All dusty materials are sprayed with water $\boxtimes$ No dusty materials were found to be 3.3 or covered by impervious sheeting prior to used on-site. any loading, unloading or transfer operation? **Dust Monitoring** Dust monitoring is not required according to PRC. a. Monitoring Record available? 3.4 b. Monitoring frequency met the $\boxtimes$ requirement? $\boxtimes$ c. Any exceedance? d. If yes, follow-up action taken? 3.5 Enclosures are provided around the main $\sqcap$ $\sqcap$ $\boxtimes$ 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:  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	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?				
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 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? 5.4 Any areas within the lot to be used for recycling processes are concrete paved? 5.5 Valid calibration certificate for any 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

It was noted that a new waste oil collection tank had been installed and it was not
in use during the site visit. Champway should check with the Regional Office
(West) of EPD whether the modification of the process should require a variation to
the current Specified Process (SP) Licence. If yes, Champway should make the
application of Variation of SP Licence before the modification operates.

6 May 2011

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

#### No. Follow-up from Previous Audit Dated 29 March 2011

**Status** 

Uncovered 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, remove the oil stains and dispose of waste materials properly.
(Repeated observation since 22 February 2011)

Outstanding





 Although oil/grease was still found inside the sewer, the situation was found to be improved during this site visit. The Tenant was reminded to regularly maintain the oil and grease removal devices to avoid non-compliance with the Discharge Licence. The situation will be checked by the ET in the next monthly site audit in May 2011. Outstanding





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

The Tenant should clear the oil stain on ground as soon as possible, as well as provide covers to all oil buckets.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Champway	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	Teddy CHOI	Morgan CHIU
Role	ET Leader	IEC	Executive Director	Park Manager
Signature	That my	Gnorfal	Teddy	3
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# **APPENDIX 6.2**

Tenant-specific Audit Checklists for the Reporting Quarter

Shiu Wing (EP08-03)



	Audit Details						
Ten	ant	Shiu Wing Steel	Limi	ted			
Date	e & Time	Date 22 Februa	ry 2	011		Tir	ne <u>9:35am</u>
Lot	No.	EP08-03		_			
Aud	lit Ref.	7		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
Wea	ather Conditions	Fine	$\boxtimes$	Hazy			Overcast Rain
Win	d	Calm	$\boxtimes$	Light Br	eeze		Strong Wind
Ten	nperature	<u>14</u> °C					
Hun	nidity	<b>∑</b> Low		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?					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)		$\boxtimes$			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?			$\boxtimes$	
	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?	$\boxtimes$			
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?				See Follow-up Action #2.
2.8	Drainage system is well maintained to prevent flooding and overflow?				See Follow-up Action #2.



	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.
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?			$\boxtimes$	
	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?				Water is sprayed on materials when necessary.
3.4	Dust Monitoring a. Monitoring Record available?			$\boxtimes$	
	b. Monitoring frequency met the requirement?				
	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 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?			$\boxtimes$	
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	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?				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** 4.1 Registration No. 3839-421-S3054-02 completed? for spent lubricating oil. 4.2 Provision of sufficient waste disposal points/ $\square$ $\square$ receptacles? Waste disposed of regularly and properly? The collection frequency depends on the quantity of waste generated. $\square$ $\square$ $\square$ 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? 4.6 Sludge is collected by a licensed collector at $\boxtimes$ regular intervals? Packaging of Chemical Waste $\boxtimes$ See Follow-up Action #1. 4.7 a. Stored in suitable container? b. Container properly closed or sealed? See Follow-up Action #1. c. Spillage cleaned up immediately through See Follow-up Action #3. $\boxtimes$ П П the use of an absorbent? d. Approval obtained for capacity of $\sqcap$ $\sqcap$ $\boxtimes$ containers > 450L? Labelling of Chemical Waste $\boxtimes$ See Follow-up Action #1. a. Label is securely attached, clean and 4.8 visible? b. Label is in proper dimension and $\boxtimes$ See Follow-up Action #1. bilingual? c. Information is accurate and sufficient? $\boxtimes$ See Follow-up Action #1.



## 4. Waste / Chemical Management (continued) **Description** Yes No N/A Remarks Storage of Chemical Waste See Follow-up Action #1. 4.9 a. Proper "Chemical Waste" signs are displayed? b. Incompatible wastes separated by an See Follow-up Action #1. impermeable partition? c. Containers kept in receptacle of suitable See Follow-up Action #1. 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 $\bowtie$ See Follow-up Action #1. in height or height of tallest container or stack of containers? e. Containers with chemical waste are $\boxtimes$ See Follow-up Action #1. properly stored and locked at designated area which is clean and dry? f. Adequacy of area ventilation? See Follow-up Action #1. $\boxtimes$ g. Outdoors storage area should be covered? 4.10 Chemical wastes are collected by a See Follow-up Action #1. licensed chemical waste collector? (retention of trip ticket copies for 12 months) Storage of Liquid Waste 4.11 a. Storage area floor/surface permeationproof? b. Capacity of retention structure sufficient $\square$ $\square$ 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? $\boxtimes$ c. Storage area(s) has been securely 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 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 17 January 2011

**Status** 

 The Tenant has engaged Waylung Waste Services Ltd. to collect the asbestos containing materials (ACM) on 28 January 2011. A copy of trip ticket has been retained for record. (Repeated observation since 30 August 2010) Closed

Debris and materials were still found inside surface channels. The tenant was again
reminded to clear the materials ASAP and provide regular maintenance to all
surface channels.



3. Oil leakage and oil stain were no longer found at the lot.

Closed



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

The Tenant should provide regular maintenance to surface channels.

	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		Thes	1



	Audit Details					
Ten	ant	Shiu Wing Steel Limited	d			
Date	e & Time	<b>Date</b> 29 March 2011			Tin	ne 9:30am
Lot	No.	EP08-03				
Aud	lit Ref.	8				
IEC	Joint Inspection	☐ Yes ⊠ N	lo			
Wea	ather Conditions	⊠ Fine □ H	lazy			Overcast Rain
Win	d	☐ Calm 🖂 L	ight Bre	eeze		Strong Wind
Tem	perature	<u>19</u> °C				
Hun	nidity	□ N	1edium			High
	1. General					
	Description		Yes	No	N/A	Remarks
1.1	EP for Tenant displat 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?		$\boxtimes$		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	cution / 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?				
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?				See Follow-up Action #1.
2.8	Drainage system is well maintained to prevent flooding and overflow?				See Follow-up Action #1.



Processes with high Risk of Contamination  a. Processes / activities are located under a covered area?  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 / other appropriate treatment facility?  C. Equipment oil and lubrication replacements are performed only in bunded maintenance area?  b. If yes, oil and grease removed regularly?  Cargo Handling  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of contamination for the recycling process is low.  The risk of process is low.  The recycling process is low.  The risk of process is low.  The recycling process is low.  The recycling process is low.  The recycling process is low.  The recycl		Description	Yes	No	N/A	Remarks
drainage system for uncovered areas?  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?  L10 Equipment oil and lubrication replacements are performed only in bunded maintenance area?  L11 a. Oil interceptor provided for drainage discharging from maintenance area?  D. Not required.  L12 a. Cargo Handling  C. Collected by licenced collector?  Cargo Handling  A Cargo Handling  Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?  D. Materials and bulk cargo are properly  D. Materials and bulk cargo are properly	2.9	Processes with high Risk of Contamination  a. Processes / activities are located under a				
surface drainage systems is treated at water treatment facility / other appropriate 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?  12 b. If yes, oil and grease removed regularly?  13 c. Collected by licenced collector?  14 c. Cargo Handling  15 c. Cargo Handling  16 c. Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?  16 b. Materials and bulk cargo are properly	-			$\boxtimes$		perimeter drainage channel as and
are performed only in bunded maintenance area?    Teplacement were performed inside the tenant lot.   Teplacement were performed inside the tenant lot.	-	surface drainage systems is treated at water treatment facility / other				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	.10	are performed only in bunded maintenance				replacement were performed inside
c. Collected by licenced collector?	2.11				$\boxtimes$	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?			$\boxtimes$	
<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?			$\boxtimes$	
	.12	a. Cargo Handling Guideline available and followed to minimise chance of accidental			$\boxtimes$	Not required.
	-				$\boxtimes$	



	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?			$\boxtimes$	
	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?				Water is sprayed on materials when necessary.
3.4	Dust Monitoring a. Monitoring Record available?			$\boxtimes$	
	b. Monitoring frequency met the requirement?				
	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 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?			$\boxtimes$	
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	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?				Not yet installed.
3.14	Only Ultra-Low Sulphur Diesel is used?				



# 4. Waste / Chemical Management **Description** Yes No N/A Remarks **Chemical Waste Producer Registration** Registration No. 3839-421-S3054-02 4.1 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? $\boxtimes$ 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. $\boxtimes$ 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? $\boxtimes$ 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 $\boxtimes$ See Action#1. mosquito breeding prevented?



### No. Action

**Expected by** 

1. Stagnant water was found inside the uncovered containers. The tenant was reminded to clear the stagnant water ASAP and cover the containers.

6 April 2011



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

## No. Follow-up from Previous Audit Dated 22 February 2011

**Status** 

 The tenant has cleared the debris and materials inside surface channels, and covered the channels by metal plates due to ease of maintenance. (Repeated observation since 17 January 2011) Closed



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

The Tenant should clear the stagnant water inside containers ASAP and prevent the accumulation of water within the lot.

	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		Hey	13

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



	Audit Details						
Ten	nant	Shiu Wing Steel L	imit	ted			
Dat	e & Time	Date 20 April 20	11			Tin	ne 9:45am
Lot	No.	EP08-03		_			
Aud	dit Ref.	9		_			
IEC	Joint Inspection			No			
We	ather Conditions			Hazy			Overcast Rain
Wir	nd	Calm	$\boxtimes$	Light Bre	eeze		Strong Wind
Ten	nperature	<u>24</u> °C					
Hur	midity			Medium			High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant displat entrance?	ayed on notice boar	rds	/			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 Tenant is going to integrate the Environmental Policy into their Safety Operations Manual soon.
1.3	Environmental Man	nagement Plan upda	nted	?			The Tenant is going to integrate the EMP into their Safety Operations Manual soon.
1.4	a. Emergency Responded documented?	oonse Plan (ERP)		$\boxtimes$			The ERP has been included in the Tenant's Safety Operations Manual.
	b. Drill / training rec	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 Managemer	nt 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?			$\boxtimes$	
	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?	$\boxtimes$			
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				The risk of contamination for the recycling process is low.
	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?				
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?			$\boxtimes$	
	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?				Water is sprayed on materials when necessary.
3.4	Dust Monitoring a. Monitoring Record available?				
	b. Monitoring frequency met the requirement?				
	c. Any exceedance?				
	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
.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?				
.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.			$\boxtimes$	Misting system and industrial dust collector are not yet installed.
.12	Approval from Authority for the use of controlled refrigerant?			$\boxtimes$	
-	b. If yes, record of refrigeration equipment service available?			$\boxtimes$	
.13	All air pollution control systems are properly maintained and function normally?			$\boxtimes$	Not yet installed.
.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? $\boxtimes$ 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. $\boxtimes$ 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? $\Box$ $\boxtimes$ 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 $\boxtimes$ See Follow-up Action#1. mosquito breeding prevented?



No. Action Expected by

1. No critical issues were identified.

NIL

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

### No. Follow-up from Previous Audit Dated 29 March 2011

**Status** 

1. No stagnant water was found inside containers and no open container allowing stagnant water was observed during this site visit.

Closed



## **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	Antony WONG	Sharifah OR	Alex WAI	Morgan CHIU
Role	ET Leader	IEC	Manager	Park Manager
Signature	That my	Gunfal	Shy	3

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



# **APPENDIX 6.3**

Tenant-specific Audit Checklists for the Reporting Quarter

Hung Wai (EP06-034)



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Λ	па	פנו	tails

Tenant Hong Kong Hung Wai Wooden Bo					Board	Compar	ny
Da	te & Time	Date 22 Februa	ary 201	1		Time	10:00am
Lo	t No.	EP06-034					
Au	ıdit Ref.	6					
IEC	C Joint Inspection	Yes	⊠ N	lo			
We	eather Conditions	Fine	⊠ H	lazy		Ove	ercast Rain
Wi	nd	Calm	⊠ Li	ight Bree	ze	Stro	ong Wind
Те	mperature	<u>14</u> °C					
Hu	ımidity		□ N	ledium		Hig	h
	1. General						
/	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant displat 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?					Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Mar	nagement Plan upo	lated?				
1.4	a. Emergency Responded documented?	ponse Plan (ERP)					Operator's ERP is documented. Tenant follows this.
	b. Drill / training rec	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 Managemer	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?			$\boxtimes$	
	If yes, facility is properly maintained and function normally?			$\boxtimes$	
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?				
	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 U-channel 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	$\boxtimes$			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?				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.
1	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?			$\boxtimes$	
	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?				
3.4	Dust Monitoring a. Monitoring Record available?				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?				



	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.				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?	$\boxtimes$			
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** $\boxtimes$ 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 $\boxtimes$ 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 (conf				
	Description	Yes	No	N/A	Remarks
1.9	Storage of Chemical Waste  a. Proper "Chemical Waste" signs are displayed?				No chemical wastes were observed.
•	b. Incompatible wastes separated by an impermeable partition?			$\boxtimes$	
	c. Containers kept in receptacle of suitable material and construction ( <i>if quantity</i> <50L) or drip trays capable of storing 110% of the volume of largest ( <i>if quantity</i> >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?				
	f. Adequacy of area ventilation?			$\boxtimes$	
	g. Outdoors storage area should be covered?			$\boxtimes$	
10	Chemical wastes are collected by a licensed chemical waste collector? (retention of trip ticket copies for 12 months)			$\boxtimes$	No chemical wastes were observed.
11	Storage of Liquid Waste  a. Storage area floor/surface permeation-proof?			$\boxtimes$	No liquid waste was observed.
•	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 storage area constructed of impermeable material?			$\boxtimes$	



	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. No critical issues were identified.

NIL

## Follow-up from Previous Audits

No. Follow-up from Previous Audit Dated 17 January 2011

Status

1. NII

N/A

# Audit Summary and Sign-off

The site was generally tidy.

	MALKH ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Hung Wai	Serco Guardian JV
Signed By	Carman CHUNG	-	Mr. CHEUNG	Morgan CHIU
Role	ET Site Auditor	*	Representative	Park Manager
Signature	Zonan		MAN	Po

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





### Hong Kong Hung Wai Wooden Board Company **Date & Time Date** 29 March 2011 Time 9:45am

Lot No. EP06-034 Audit Ref. 7 No **IEC Joint Inspection** Yes **Weather Conditions** ☐ Hazy Overcast Rain Wind Calm ☐ Strong Wind

High Humidity Medium

19 °C

## 1. General

**Temperature** 

**Audit Details** 

**Tenant** 

	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?				Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Management Plan updated?				
1.4	a. Emergency Response Plan (ERP) documented?				Operator's ERP is documented. Tenant follows this.
	b. Drill / training records available?				Training has been provided but the records are not available.
1.5	Employee's training record available?				Training has been provided but the records are not available.
1.6	Any record of prosecution / complaint?		$\boxtimes$		
1.7	Waste Management Plan?			$\boxtimes$	Operator's WMP is documented. Tenant follows this.



Description	Yes	No	N/A	Remarks
Valid Effluent Discharge License available?				No wastewater is generated fro the recycling process.
Any wastewater treatment facility prior to effluent discharge?			$\boxtimes$	
If yes, facility is properly maintained and function normally?			$\boxtimes$	
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?	$\boxtimes$			
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.
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	$\boxtimes$			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?		$\boxtimes$		The stop-logs have been passe to Tenant, who shall install in th 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?				Not observed.
1	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	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			$\boxtimes$	



	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?				
	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?	$\boxtimes$			



	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.				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?	$\boxtimes$			
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** $\boxtimes$ 4.1 Not required. completed? $\boxtimes$ 4.2 Provision of sufficient waste disposal points/ receptacles? Waste disposed of regularly and properly? $\boxtimes$ 4.3 $\boxtimes$ 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 $\boxtimes$ 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? f. Adequacy of area ventilation? $\boxtimes$ 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?			$\boxtimes$	
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?			$\boxtimes$	
	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 22 February 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	Hung Wai	Serco Guardian JV
Signed By	Carman CHUNG	*	Mr. CHEUNG	Morgan CHIU
Role	ET Site Auditor	-	Representative	Park Manager
Signature	Zona		Madach Bo	2/4

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

₽ 8 APR 2011



# **Audit Details**

Ten	ant	Hong Kong Hun	g Wai '	Wooden E	Board	Compar	ny
Date	e & Time	Date 20 April 2	2011			Time	10:20am
Lot	No.	EP06-034					
Aud	lit Ref.	8					
IEC	Joint Inspection			No			
Wea	ather Conditions			Hazy		Ove	ercast Rain
Win	nd	Calm	⊠ l	_ight Bree	ze	Stro	ong Wind
Ten	nperature	<u>24</u> °C					
Hur	nidity	<b>⊠</b> Low	<u> </u>	Medium		Hig	h
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant disp at entrance?	olayed 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 Pol	icy documented?					Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Ma	nagement Plan upo	dated?			$\boxtimes$	
1.4	a. Emergency Res documented?	sponse Plan (ERP)				$\boxtimes$	Operator's ERP is documented. Tenant follows this.
	b. Drill / training re	cords available?					Training has been provided but the records are not available.
1.5	Employee's trainin	g record available?	?			$\boxtimes$	Training has been provided but the records are not available.
1.6	Any record of pros	ecution / complaint	t?		$\boxtimes$		
1.7	Waste Manageme	nt Plan?				$\boxtimes$	Operator's WMP is documented. Tenant follows this.



	Description	Yes	No	N/A	Remarks
I	Valid Effluent Discharge License available?				No wastewater is generated fro 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?			$\boxtimes$	
5	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	$\boxtimes$			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?				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.
1	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?				
	Odour				
3.2	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?			$\boxtimes$	
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?				Not required.
	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?				



	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.				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?	$\boxtimes$			
3.14	Only Ultra-Low Sulphur Diesel is used?	$\boxtimes$			



#### 4. Waste / Chemical Management **Description** Yes No N/A **Remarks Chemical Waste Producer Registration** $\boxtimes$ 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 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? f. Adequacy of area ventilation? $\boxtimes$ 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?				



## **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 29 March 2011 Status

NIL 1.

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	Antony WONG	Sharifah OR	Mr. SIU	Morgan CHIU
Role	ET Leader	IEC	Representative	Park Manager
Signature	Dutay	Grafal	Inan_	3



# **APPENDIX 6.4**

Tenant-specific Audit Checklists for the Reporting Quarter

Li Tong (EP07-02)



## Audit Details

ant	Li Tong Group					
e & Time	Date 22 Februa	ary 2	011	Tir	me	11:00am
No.	EP07-02		_			
dit Ref.	5		_			
Joint Inspection	Yes	$\boxtimes$	No			
ather Conditions	Fine	$\boxtimes$	Hazy		Ove	ercast Rain
nd	Calm	$\boxtimes$	Light Breeze		Stro	ong Wind
nperature	<u>15</u> °C					
midity			Medium		Higl	1
1. General						
Description			Yes No	<b>o</b>	N/A	Remarks
EP for Tenant displat entrance?	ayed on notice bo	ards	/	]		EP for EcoPark (EP-226/2005/A) is displayed at the entrance of EcoPark. EP for tenant is not required.
Environmental Poli	cy documented?			]		The Tenant's Environmental Policy is documented.
Environmental Mar	agement Plan upo	dated	<del> </del> ? 🛛 🗀	]		The Tenant's EMP is documented.
a. Emergency Res documented?	oonse Plan (ERP)			]		The Tenant's ERP is documented.
b. Drill / training red	cords available?			]		
Employee's training	g record available?	)		]		
Any record of prose	ecution / complaint	?				
Waste Managemer	nt Plan?			]		The Tenant's WMP is documented.
	No.  dit Ref. Joint Inspection ather Conditions and anperature midity  1. General  Description EP for Tenant displat entrance?  Environmental Police Environmental Marrance documented?  b. Drill / training recommended.	No. EP07-02  dit Ref. 5  Joint Inspection Yes ather Conditions Fine and Calm Insperature Is OC Is Low  1. General  Description  EP for Tenant displayed on notice boat entrance?  Environmental Policy documented?  Environmental Management Plan upon documented?  a. Emergency Response Plan (ERP) documented?  Employee's training record available?	No. EP07-02  Sit Ref. 5  Joint Inspection Yes And Calm Anperature 15 °C And Calm Anperature 15 °C And Angelian	Date 22 February 2011  No. EP07-02  dit Ref. 5  Joint Inspection   Yes   No ather Conditions   Fine   Hazy and   Calm   Light Breeze apperature   15 °C midity   Low   Medium  1. General  Description   Yes   No EP for Tenant displayed on notice boards / at entrance?  Environmental Policy documented?     Environmental Management Plan updated?        a. Emergency Response Plan (ERP)          documented?          Employee's training records available?          Any record of prosecution / complaint?	Date 22 February 2011  No. EP07-02  dit Ref. 5  Joint Inspection   Yes   No ather Conditions   Fine   Hazy   Hazy and   Calm   Light Breeze   Inperature   15 °C midity   Low   Medium   Medium    1. General  Description   Yes   No EP for Tenant displayed on notice boards / at entrance?  Environmental Policy documented?         Environmental Management Plan updated?       a. Emergency Response Plan (ERP)         documented?         Employee's training record available?          Any record of prosecution / complaint?	Date 22 February 2011  No. EP07-02  dit Ref. 5  Joint Inspection   Yes   No   No   No   No   No   No   No   N



#### 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. No sampling was undertaken in this month. 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? Foam, oil, grease, litter or other 2.7 $\boxtimes$ objectionable matters in water of nearby drain / sewer are avoided? 2.8 Drainage system is well maintained to $\boxtimes$ $\Box$ 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?				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?			$\boxtimes$	Not required.
.11	a. Oil interceptor provided for drainage discharging from maintenance area?			$\boxtimes$	Not required.
-	b. If yes, oil and grease removed regularly?				
-	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?				
	Odour				
3.2	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?			$\boxtimes$	
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?				
	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 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			$\boxtimes$	
	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.			$\boxtimes$	
3.12	Approval from Authority for the use of controlled refrigerant?				Not required.
	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?	$\boxtimes$			



#### 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. 4.2 Provision of sufficient waste disposal points/ $\boxtimes$ receptacles? $\boxtimes$ 4.3 Waste disposed of regularly and properly? $\boxtimes$ П 4.4 Sorting of materials on-site for reuse or Recyclable materials were 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 $\boxtimes$ 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 $\boxtimes$ 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? c. Information is accurate and sufficient? $\bowtie$



#### 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 $\boxtimes$ locked? d. Total storage capacity in compliance with $\boxtimes$ the relevant statutory requirement? e. Proper Labelling? $\boxtimes$ f. Dangerous goods properly packaged? $\Box$ Potential stagnant pools cleared and $\boxtimes$ mosquito breeding prevented?



NIL

## **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 17 January 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	1

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



# **Audit Details**

Tenant	Li Tong Group							
Date & Time	Date 29 Marc	h 2011	Time <u>10:55am</u>					
Lot No.	EP07-02							
Audit Ref.	6							
IEC Joint Inspection	☐ Yes	⊠ No						
Weather Conditions		Hazy	Overcast	Rain				
Wind	Calm	□ Light Breeze	☐ Strong Wind					
Temperature	21 °C							
Humidity	⊠ Low	Medium	High					

## 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 Tenant's Environmental Policy is documented.
1.3	Environmental Management Plan updated?	$\boxtimes$			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?	$\boxtimes$			
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? $\bowtie$ 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. No sampling was undertaken in this month. 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? Foam, oil, grease, litter or other 2.7 $\boxtimes$ objectionable matters in water of nearby drain / sewer are avoided? 2.8 Drainage system is well maintained to $\boxtimes$ $\Box$ 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?				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 required.
1	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?				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?				
3.2	Odour 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?				
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?				



	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			$\boxtimes$	
	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.			$\boxtimes$	
3.12	Approval from Authority for the use of controlled refrigerant?				Not required.
	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?	$\boxtimes$			
					,



#### 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 $\boxtimes$ 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. NIL

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

No. Follow-up from Previous Audit Dated 22 February 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		Him	13

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



## Audit Details

ant e & Time	Li Tong Group				`
e & Time					
	Date 20 April 2	011		Time	10:30am
No.	EP07-02		_		
lit Ref.	7		_		
Joint Inspection			No		
ather Conditions	Fine		Hazy		overcast Rain
d	Calm	$\boxtimes$	Light Breeze	S	trong Wind
perature	<u>24</u> °C				
nidity			Medium	□ н	ligh
1. General					
Description			Yes No	N/A	A Remarks
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.
Environmental Poli	cy documented?				The Tenant's Environmental Policy is documented.
Environmental Man	agement Plan upo	dated	? 🛛		The Tenant's EMP is documented.
a. Emergency Resp documented?	oonse Plan (ERP)				The Tenant's ERP is documented.
b. Drill / training rec	cords available?				
Employee's training	g record available?	)		l 🗆	
Any record of prose	ecution / complaint	?		I 🗆	
Waste Managemer	nt Plan?				The Tenant's WMP is documented.
	Joint Inspection ather Conditions d Inperature Inidity  1. General  Description EP for Tenant displat entrance?  Environmental Police Environmental Man a. Emergency Respective documented?  b. Drill / training recommendations  Employee's training  Any record of proses	Joint Inspection  Yes  Ather Conditions  Fine  Calm  Calm  Perature  24 °C  Calm  Low  Low  Low  Low  Low  Low  Low  At entrance?	Joint Inspection Yes	Joint Inspection	Joint Inspection



#### 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? Foam, oil, grease, litter or other 2.7 $\boxtimes$ objectionable matters in water of nearby drain / sewer are avoided? 2.8 Drainage system is well maintained to $\boxtimes$ $\Box$ 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?				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 required.
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?				
2	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 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 $\Box$ $\boxtimes$ $\boxtimes$ 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 $\boxtimes$ 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? $\boxtimes$ 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?



Status

## **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 29 March 2011

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	Antony WONG	Sharifah OR	Mr. SO	Morgan CHIU
Role	ET Leader	IEC	Representative	Park Manager
Signature	Andry	Grafal	Him	3

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	nant	Yan Oi Tong L	imited.				
Dat	e & Time	Date 22 Febr	ruary 20	011		Tin	me 11:25am
Lot	No.	P7		_			
Aud	dit Ref.	7		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
We	ather Conditions	Fine		Hazy			Overcast Rain
Wir	nd	☐ Calm ☑ Li		Light Br	_ight Breeze		Strong Wind
Ten	nperature						
Hur	midity	<b>∑</b> Low		Medium			High
	1. General						
	Description			Yes	No	N/A	Remarks
1.1	EP for Tenant disp at entrance?	olayed on notice b	ooards .	/ 🗆			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 u	ıpdated	? 🛛			The Tenant's EMP is documented.
1.4	a. Emergency Res documented?	ponse Plan (ERF	P)	$\boxtimes$			The Tenant's ERP is documented.
	b. Drill / training red	cords available?					
1.5	Employee's training	g record availabl	e?				
1.6	Any record of pros	ecution / compla	int?		$\boxtimes$		
1.7	Waste Managemen	nt Plan?					The Tenant has included the WMP into the EMP.



	2. Water Quality				
	Description	Yes	No	N/A	Remarks
2.1	Valid Effluent Discharge License available?				Licence No. WT00006013-2010 valid until 28 Feb 2015.
2.2	Any wastewater treatment facility prior to effluent discharge?	$\boxtimes$			
	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. Sampling has been undertaken this month and the testing result shall be provided by the Tenant.
	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?				
2.5	Surface run-off discharging into drainage system?	$\boxtimes$			See Follow-Up Action #2.
2.6	All manholes are covered?				
2.7	Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided?		$\boxtimes$		See Follow-Up Action #3.
2.8	Drainage system is well maintained to prevent flooding and overflow?		$\boxtimes$		See Follow-Up Action #3.



	Description	Yes	No	N/A	Remarks
	Processes with high Risk of Contamination	$\boxtimes$			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?			$\boxtimes$	



	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?				
	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?			$\boxtimes$	No dusty materials were found to be used on-site.
3.4	Dust Monitoring a. Monitoring Record available?				
	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 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?



	Description	Yes	No	N/A	Remarks
)	a. Proper "Chemical Waste" signs are displayed?	Ш	Ш		No chemical waste was produced.
•	b. Incompatible wastes separated by an impermeable partition?			$\boxtimes$	
	c. Containers kept in receptacle of suitable material and construction ( <i>if quantity &lt;50L</i> ) or drip trays capable of storing 110% of the volume of largest ( <i>if quantity &gt;50L</i> )?			$\boxtimes$	
•	d. Enclosed on 3 sides with no less than 2m in height or height of tallest container or stack of containers?				
	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?			$\boxtimes$	
0	Chemical wastes are collected by a licensed chemical waste collector? (retention of trip ticket copies for 12 months)			$\boxtimes$	
l.11	Storage of Liquid Waste  a. Storage area floor/surface permeation-proof?			$\boxtimes$	No liquid waste was produced.
	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 storage area constructed of impermeable material?			$\boxtimes$	



#### 5. Other Issues **Description** Yes No N/A Remarks The lot is within the LFG Consultation Landfill Gas Hazard 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? $\boxtimes$ 5.3 Good housekeeping? See Follow-up Action #1. Any areas within the lot to be used for Most of the areas used for recycling recycling processes are concrete paved? are concrete-paved. $\bowtie$ 5.5 Valid calibration certificate for any monitoring equipment? $\boxtimes$ There were no dangerous goods **Dangerous Goods** 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? Potential stagnant pools cleared and $\boxtimes$ See Action #1 and Follow-up Action mosquito breeding prevented? #2.



**Expected By** 

# **Action Items from This Audit**

#### No. Action

A stagnant pool of water was found behind the manual separation area. The tenant
 4 Mar 2011
 was reminded to clear the water as soon as possible.



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

#### No. Follow-up from Previous Audits Dated 17 January 2011

**Status** 

While housekeeping within the lot has generally improved, material was still
littering the waste storage area and being blown around by the wind. The Tenant
was reminded to further improve housekeeping. (Repeated observation since 30
August 2010)

Outstanding



2. Overflow at the wastewater collection system of the working area and stagnant water underneath refuse storage containers were no longer found. (Repeated observation since 29 September 2010)

Closed





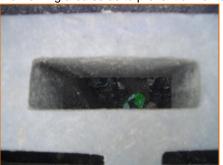
#### **Follow-up from Previous Audits**

# No. Follow-up from Previous Audits Dated 17 January 2011

**Status** 

3. Stagnant water and refuse were still found inside the gully gratings along the access road. The tenant was suggested to install screens to all drain inlets near the working area so as to prevent unwanted materials entering the drains.

Outstanding



# **Audit Summary and Sign-off**

The Tenant should improve the overall tidiness of the lot, remove stagnant pool of water and install screens to all drain inlets.

For the ease of maintenance and safety, it may be considered to provide proper covers to the surface drain subject to compliance with the standards of relevant authorities (e.g. HyD, BD, DSD, etc).

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Yan Oi Tong	Serco Guardian JV
Signed By	Carman CHUNG	-	Ginny WONG	Morgan CHIU
Role	ET Site Auditor	-	Assistant Manager	Park Manager
Signature	Zonon		In 2	1

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



	Audit Details						
Ten	ant	Yan Oi Tong Lim	ited				
Dat	e & Time	Date 29 March	201 <sup>-</sup>	1		Tin	ne 11:20am
Lot	No.	P7					
Auc	lit Ref.	8		_			
IEC	Joint Inspection	Yes	$\boxtimes$	No			
Wea	ather Conditions			Hazy			Overcast Rain
Win	nd	Calm	$\boxtimes$	Light Bre	eeze		Strong Wind
Ten	nperature	23 °C					
Hur	nidity			Medium			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	icy documented?				$\boxtimes$	The Operator's Environmental Policy is documented.
1.3	Environmental Mar	nagement Plan upo	lated	? ⊠			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?	ı	$\boxtimes$			
1.6	Any record of prose	ecution / complaint	?		$\boxtimes$		
1.7	Waste Managemen	nt Plan?					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 See Follow-Up Action #2. Foam, oil, grease, litter or other objectionable matters in water of nearby drain / sewer are avoided? Drainage system is well maintained to See Follow-Up Action #2. 2.8 prevent flooding and overflow?



2.9 a	Processes with high Risk of Contamination a. Processes / activities are located under a	$\boxtimes$	_		
t	any and analog				Works for recycling were undertaken at covered areas.
t	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	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.
a	Equipment oil and lubrication replacements are performed only in bunded maintenance area?				Only grease is used at the lot.
.11 a	a. Oil interceptor provided for drainage discharging from maintenance area?			$\boxtimes$	Not required.
b	b. If yes, oil and grease removed regularly?			$\boxtimes$	
	c. Collected by licenced collector?			$\boxtimes$	
	Cargo Handling			$\boxtimes$	Not required.
.12 8	<ul> <li>Cargo Handling Guideline available and followed to minimise chance of accidental spillage when loading or unloading?</li> </ul>				
t	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? 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 $\boxtimes$ 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 The lot is within the LFG Consultation Landfill Gas Hazard 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? $\boxtimes$ 5.3 Good housekeeping? See Follow-up Action #1. 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. $\boxtimes$ 5.5 Valid calibration certificate for any monitoring equipment? $\boxtimes$ There were no dangerous goods **Dangerous Goods** 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? Potential stagnant pools cleared and See Follow-up Action #3. 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 Audits Dated 22 February 2011

**Status** 

While housekeeping within the lot has generally improved, material was still
littering the waste storage area and being blown around by the wind. The Tenant
was reminded to further improve housekeeping. (Repeated observation since 30
August 2010)

Outstanding



 Screens were installed at all drain inlets near the working area. As advised by the Tenant, they have tried to clear the refuse inside the gully gratings prior to the installation of screens. (Repeated observation since 17 January 2011) Closed



3. Stagnant pool of water was no longer found behind the manual separation area.

Closed





# **Audit Summary and Sign-off**

The Tenant should improve the overall tidiness of the lot.

For the ease of maintenance and safety, it may be considered to provide proper covers to the surface drain subject to compliance with the standards of relevant authorities (e.g. HyD, BD, DSD, etc).

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	Yan Oi Tong	Serco Guardian JV
Signed By	Carman CHUNG	-	Ginny WONG	Morgan CHIU
Role	ET Site Auditor	-	Assistant Manager	Park Manager
Signature	Zonon		p.p.	13

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



	Audit Details	
Ten	ant	Yan Oi Tong Limited
Dat	e & Time	<b>Date</b> 20 April 2011 <b>Time</b> 11:40am
Lot	No.	P7
Auc	lit Ref.	9
IEC	Joint Inspection	
Wea	ather Conditions	
Win	d	☐ Calm ☐ Light Breeze ☐ Strong Wind
Ten	nperature	<u>26</u> °C
Hur	nidity	
	1. General	
	Description	Yes No N/A Remarks
1.1	EP for Tenant disp 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 Poli	cy documented?
1.3	Environmental Mar	agement Plan updated?   The Tenant's EMP is documented.
1.4	a. Emergency Res documented?	oonse Plan (ERP)
	b. Drill / training red	ords available?
1.5	Employee's training	record available?
1.6	Any record of pros	cution / complaint?
1.7	Waste Managemen	t Plan?



# 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? 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?				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?				Water is unlikely to be contaminated within the lot.
.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?				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 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 $\boxtimes$ 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? $\boxtimes$ 5.3 Good housekeeping? Generally improved and see Follow-up Action #1 for details. 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. $\boxtimes$ 5.5 Valid calibration certificate for any monitoring equipment? $\boxtimes$ 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 $\boxtimes$ 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

1. No critical issues were identified.

NIL

# **Follow-up from Previous Audits**

#### No. Follow-up from Previous Audits Dated 29 March 2011

**Status** 

Closed

 Concrete paving was being carried out during the site visit and the housekeeping was found to be much improved compared with the observations of previous audits. The surface drains were also found to be cleared. The Tenant was reminded to maintain the housekeeping regularly, and the housekeeping performance will be monitored in subsequent monthly site visits.



**Audit Summary and Sign-off** 



The overall tidiness of the lot was found to be improved and the housekeeping performance will be monitored by the ET *via* subsequent monthly site visits.

	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	That my	Guarfal	hh.	13

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)

<u>17</u> °C

**Temperature** 

Humidity



Audit Details					
Tenant	St. James' Se	ettlement			_
Date & Time	Date 22 Feb	oruary 2011	Time <u>11:50am</u>		
Lot No.	P5				
Audit Ref.	5				
IEC Joint Inspection	Yes	⊠ No			
Weather Conditions	Fine		Overcast	Rain	
Wind	Calm		☐ Strong Wind		

High

Medium

	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?	$\boxtimes$			
1.5	Employee's training record available?	$\boxtimes$			
1.6	Any record of prosecution / complaint?		$\boxtimes$		
1.7	Waste Management Plan?	$\boxtimes$			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?				As per the discharge licence, self-monitoring shall be performed when required. No sampling was undertaken in this month.
	b. Monitoring frequency met the license requirement?			$\boxtimes$	
	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?		$\boxtimes$		See Follow-up Action #1.
2.8	Drainage system is well maintained to prevent flooding and overflow?		$\boxtimes$		See Follow-up Action #1.



	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?				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?				
	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?				
	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?	$\boxtimes$			



	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				
10	Approval from Authority is available for the use of liquid fuel with a viscosity point of ignition >30 centistokes or an equivalent viscosity?				
.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? $\boxtimes$ 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? Sludge is collected by a licensed collector at $\boxtimes$ 4.6 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 $\boxtimes$ See Follow-up Action #2. a. Label is securely attached, clean and 4.8 visible? $\boxtimes$ 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 $\boxtimes$ See Follow-up Action #3. 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 $\boxtimes$ See Follow-up Action #3. 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 Follow-up Action #3. 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 wastes were 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 The lot is within the LFG $\boxtimes$ (within LFG Consultation Zone) Consultation Zone and the Tenant has alerted workers/visitors about 5.1 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? 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? $\Box$ $\boxtimes$ 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

1. No critical issues were identified.

NIL

**Expected By** 

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

#### No. Follow-up from Previous Audit Dated 17 January 2011

**Status** 

 Debris and refuse were still found inside surface channels. The tenant was again reminded to clear the refuse ASAP and provide regular maintenance of surface channels. For the ease of maintenance and safety, it is recommended to cover the channels properly. Outstanding



2. All chemical waste containers were attached with proper labels.

Closed



While proper "Chemical Waste" signs were displayed at the storage area and all
containers were placed inside the secondary containment area, the storage area
still remain unlocked. The tenant was again reminded to lock the storage areas
when not in use.

Outstanding





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

The tenant should provide regular maintenance to surface channels and lock the chemical waste storage areas when not in use.

	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		考解答	1



# Audit Details

Te	nant	St. James' Settle	men	nt			
Da	ate & Time	Date 29 March	201 <sup>-</sup>	1		Time	11:40am
Lo	ot No.	P5		_			
Αι	ıdit Ref.	6		_			
IE	C Joint Inspection	Yes	$\boxtimes$	No			
W	eather Conditions	Fine		Hazy		Ove	ercast Rain
Wi	ind	Calm	$\boxtimes$	Light Breeze		Stro	ong Wind
Те	mperature	22 °C					
Hu	ımidity			Medium		☐ Higl	h
	1. General						
	Description			Yes N	lo	N/A	Remarks
1.1	EP for Tenant displat 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 Operator's Environmental Policy is documented. Tenant follows this.
1.3	Environmental Mar	nagement Plan upo	dated	<mark>!?</mark> 🛛 [			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 prose	ecution / complaint	?		$\boxtimes$		
1.7	Waste Managemer	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?	$\boxtimes$			
2.3	Effluent Monitoring a. Sampling / Monitoring Record available?				As per the discharge licence, self-monitoring shall be performed when required. No sampling was undertaken in this month.
	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?				
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?				See Follow-up Action #1.
2.8	Drainage system is well maintained to prevent flooding and overflow?	$\boxtimes$			See Follow-up Action #1.



	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?				
	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?				
	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:  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 $\boxtimes$ 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 Follow-up Action #2. 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 wastes were 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.

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

#### No. Follow-up from Previous Audit Dated 22 February 2011

**Status** 

 Debris and refuse were no longer found inside surface channels. For the ease of maintenance and safety, it is recommended to cover the channels properly. (Repeated observation since 17 January 2011) Closed



 The chemical waste storage area still remain unlocked. For safety reason, the Tenant was recommended to lock the storage areas when not in use. (Repeated observation since 17 January 2011) Closed

# **Audit Summary and Sign-off**

The Tenant is recommended to cover the surface channels and lock the chemical waste storage areas when not in use.

	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		MAGEURG BU!	13

Humidity



#### **Audit Details Tenant** St. James' Settlement **Date & Time** Date 20 April 2011 Time 11:55am Lot No. P5 Audit Ref. ■ No **IEC Joint Inspection Weather Conditions** ☐ Hazy Overcast Rain Wind Calm ☐ Strong Wind 25 °C **Temperature**

Medium

High

	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?				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?				
1.6	Any record of prosecution / complaint?				
1.7	Waste Management Plan?	$\boxtimes$			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?				
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?	$\boxtimes$			



	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?			$\boxtimes$	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?			$\boxtimes$	
	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 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.			$\boxtimes$	
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 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 $\Box$ $\boxtimes$ 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 wastes were 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

 Materials that are not classified as chemical waste (TV, CD player etc.) were found inside the chemical waste storage area. Since Section 4.2 of the "Code of Practice on the Packaging, labelling and Storage of Chemical Wastes" states that "the storage area should be used for chemical waste storage only", the Tenant should remove non-chemical waste materials from the chemical waste store accordingly. 30 Apr 2011



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

No. Follow-up from Previous Audit Dated 29 March 2011

**Status** 

1. NIL N/A

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

The Tenant should remove materials that are not classified as chemical waste from the chemical waste storage area and place them at other appropriate locations.

	ET	IEC*	Tenant	Operator
Organisation	SMEC Asia Ltd	Atkins China Ltd	St. James	Serco Guardian JV
Signed By	Antony WONG	Sharifah OR	MAK Fung Chi	Morgan CHIU
Role	ET Leader	IEC	Assistant Manager	Park Manager
Signature	The truy	Grafab	李	3



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General EcoPark Checklists for the Reporting Quarter



#### **Audit Details**

Date & Time	Date 22 Febr	uary 2011	Time 9:30am to	12:45pm
Weather Conditions	Fine		Overcast	Rain
Wind	Calm		Strong Wind	
Temperature	<u>15 °C</u>			
Humidity	⊠ Low	Medium	High	
<b>`</b>				

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

#### ID **ET Findings / Recommendations**

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

Hong Kong Telford Envirotech Group Ltd. Large amount of plastics was stored in the lot. 1. No critical issues were observed.

NIL



#### Cosmos Star Holdings Co.

2. 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.

 Debris and refuse were still found inside the surface channels.



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

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

 Same as last month's observation, no secondary containment was provided to chemical drums, and some chemical drums were uncovered.



The tenant should provide cover and secondary containment (drip tray, etc) underneath all chemical drums. (Outstanding)

 Large number of oil stains was still found near the machines.



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



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

#### **ID ET Findings / Recommendations**

 Uncovered oil buckets and diesel odour were again noted.



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

The tenant should provide appropriate containers with cover so as to eliminate the emission of diesel odours and prevent potential oil spillage causing land contamination.

(Outstanding)

#### Cosmos Star Holdings Co.

 Stagnant water inside a drip tray for placing chemical drums was observed and mosquito problem might be caused.



The tenant should clear the stagnant water inside the drip tray as soon as possible. (Outstanding)

#### **Other Areas**

6. No muddy trail was found outside the lot of P9.

NIL (Closed)

### **Observations and Sign-off**

Several observations were still found at the lots. The tenants 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



#### **Audit Details**

Date & Time	Date 29 Mar	ch 2011	Time 9:30am to	12:30pm
Weather Conditions		☐ Hazy	Overcast	Rain
Wind	Calm		☐ Strong Wind	
Temperature	21 °C			
Humidity		Medium	High	

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

#### ID **ET Findings / Recommendations**

# **Hong Kong Telford Envirotech Group Ltd.**Oil stains was found near the chemical drums.

1.



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

The tenant should clear the oil stains and oilcontaminated soil by absorbent and dispose of them properly. The tenant should provide secondary containment (drip tray, etc) underneath all chemical drums to prevent this sort of problem.

#### Cosmos Star Holdings Co.

The lot was locked and construction works were 2. 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.

 Debris and refuse were still found inside the surface channels.



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

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

 Same as last month's observation, no secondary containment was provided to chemical drums, and some chemical drums were uncovered.



The tenant should provide cover and secondary containment (drip tray, etc) underneath all chemical drums. (Outstanding)

 Large number 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)

4. Uncovered oil buckets were no longer found, and less diesel odour was noticed.

NIL (Closed)



# **Follow-up from Previous Audits**

ID ET Findings / Recommendations

#### **Cosmos Star Holdings Co.**

5. No drip tray was observed inside the lot.



**Operator / Tenant Follow-up Action** 

NIL (Closed)

**Other Areas** 

6. 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	Zonon		13



#### **Audit Details**

Date & Time	Date 20 April	2011	Time 9:30am to	12:30pm
<b>Weather Conditions</b>		☐ Hazy	Overcast	Rain
Wind	Calm	□ Light Breeze	☐ Strong Wind	
Temperature	25 °C			
Humidity		Medium	High	
\				

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

#### ID **ET Findings / Recommendations**

Hong Kong Telford Envirotech Group Ltd. Large amount of plastics was stored in the lot. 1. No critical issues were observed except the outstanding issues identified in the previous audits.



**Operator / Tenant Follow-up Action** 

Cosmos Star Holdings Co.

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



NIL

NIL

**Other Areas** 

3. No new observations. 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.



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

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

 Same as last month's observation, no secondary containment was provided to chemical drums, and some chemical drums / oil buckets were uncovered.



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	Antony WONG	Sharifah OR	Morgan CHIU
Role	ET Leader	IEC	Park Manager
Signature	A though	Grafal	3



# **APPENDIX 8**

Incident Report – Champway's Odour Issue



#### **Summary**

001 Report No. **Previous Related Reports NA Tenant Concerned** Champway Technology Ltd. EP07-03 Lot No. Type of Incident **Odour Complaint** unknown **Incident Occurred** Date unknown Time **Complaint Received Date** 29 April 2011 Time 11:26am ET Advised on **Date** 4 May 2011 **ET Action on Date** 5 May 2011

#### **Details**

#### Incident

The Regional Office (West) of EPD (RO/EPD) received a complaint from a Mr HO about an odour nuisance with rotten, decayed and/or sour smell (酸餿氣味) from Champway. The IEC and ET Leader were notified about the complaint by Mr Allan LEUNG of RO/EPD via email on 4 May 2011. The ET Leader then notified RO/EPD, SGJV (the Management Office of EcoPark) and the IEC that the complaint was noted and a site investigation would be arranged at ~9:30am on 5 May 2011 to find out the cause of odour *via* email on 4 May 2011. The ET Leader's email on 4 May 2011 is enclosed for reference.

#### Investigation

A site investigation to the odour complaint was conducted by Ms Noel AU of SGJV and Mr Antony WONG/Ms Carman CHUNG of the ET between 9:30am and 11:30am on 5 May 2011. Interviews with Mr Teddy CHOI/Mr HO Chi Cheong of Champway and Mr Kwok Hin SO of Li Tong Group (Li Tong) which is the nearest air sensitive receiver to Champway were made by SGJV and the ET. The findings of the site investigation are summarised below:

- 1. Two new tanks are constructed for storing Lipofit Grade B (*the recovered oil and fat fraction from grease trap waste*) (~45 to 90% oil and grease content as per EPD's website) delivered from the Grease Trap Waste Treatment Facility (GTWTF) of West Kowloon Refuse Transfer Station. After treating the oil/water mixture, the unwanted water with dregs is then pumped into another new storage tank next to the two oil/water storage tanks. The wastewater will be collected by tankers and delivered back to GTWTF. The tanks are shown in *Photo 1*.
- 2. As advised by Champway, air from the two oil/water storage tanks was collected and treated by activated carbon but the two oil/water storage tanks were not previously provided with complete enclosures. Also, the air from the tanks was collected by PVC pipes to the activated carbon for filtering and the PVC pipes were damaged due to high temperature. In order to abate odour nuisance, Champway further improved the system by providing more complete enclosures and replace the PVC pipes by galvanized steel pipes, and the improvement works have just been completed on 3 May 2011.
- Since the improvement works of the air collection system was being constructed in April, the odour nuisance is believed to occur before completion of the improvement works.
- 4. As further advised by Li Tong, unpleasant odour was firstly noted after Lunar New Year in February 2011 but then the odour issue had been improved. No significant odour, however, was noted by Li Tong in the last week of April 2011.



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

# Investigation (continued)

- 5. The ET inspected the oil/water mixture pumping process at ~11:15am Champway (*Photo 2* refers). No odour was noted during the transference of Lipofit. However, the vent pipe of the tanker was blocked after transference and purging was required. While some odour was noted at ~1 to 2m from the tanker during the purging process, no odour was noted at marine frontage and at Li Tong's lot as confirmed with Li Tong afterwards.
- 6. The two oil /water storage tanks were found to be enclosed and the air was collected to the activated carbon filter for treatment (*Photo 3* refers). The storage tank for the unwanted water with dregs was open but no odour was noted even at ~1m away from the opening of the tank (*Photo 4* refers).

# Actions Taken / To Be Taken

In order to further abate odour, Champway advised that they would enclose the unwanted water storage tank and connect the air to the activated carbon filter. In addition, the vent pipe of a tanker will be connected with a flexible pipe and the air from the tanker will be further treated by the activated carbon filter. It is expected that odour should be further minimised.

The performance of the odour abatement system provided by Champway will be monitored by the ET in subsequent monthly site audits.

#### **Remarks**

Li Tong advised that the situation had continually improved between February and the date of site investigation, and Li Tong were satisfied with the implemented odour mitigation measures.

#### **Photo Record**

#### Photo 1 The Recently Installed Storage Tanks



Lipofit/Water Mixture Storage Tanks

Unwanted Water with Dregs Storage Tank

Photo 2 Transference of Oil/Water Mixture from Tanker to Oil/Water Mixture Storage Tanks





# **Photo Record (continued)**

# Photo 3 Control Valves of the Air Extraction System Installed at the Oil/Water Storage Tanks



Photo 4 Top View of the Storage Tank for Unwanted Water With Dregs



# Sign-off

	ET	IEC
Organisation	SMEC Asia Ltd	Atkins China Ltd
Signed By	Antony WONG	Sharifah OR
Role	ET Leader	IEC
Signature	St. May	Guarfal
Date	6 May 2011	11 May 2011
<u> </u>		



# Appendix 1 ET Leader's Email to RO/EPD on 4 May 2011

From: Wong, Antony

**Sent:** Wednesday, May 04, 2011 12:45 PM

To: 'dennisleung@epd.gov.hk'

**Cc:** Chung, Carman; Bhanja, Alexi; Sharifah Or (Atkins); Keith Chau (Atkins); Morgan Chiu (SGJV); Noel Au (SGJV); May Wu (SGJV); Michael Chan (SGJV); 'samuel\_hk\_chui@epd.gov.hk'; 'slleung@epd.gov.hk'

Subject: J494A: Odour nuisance complaint for Champway

Dear Dennis,

As spoken, the complaint was received at ~11:26am on 29 Apr 2011 (last Friday) about odour with rotten, decayed and/or sour smell (酸餿氣味) from Champway. Actually we had inspected Champway on 20 April 2011 and we will further inspect Champway tomorrow (5 May 2011) morning at ~9:30am to discuss with Champway's representative to find out the cause of the odour.

Please feel free to contact me on 3995 8120 should there be any queries.

Kind regards,

Antony Wong | Principal Environmental Consultant

SMEC Asia Limited 27/F Ford Glory Plaza, 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

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#### **SMEC SNOWY MOUNTAINS ENGINEERING CORPORATION**

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----Original Message-----

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

Sent: Wednesday, May 04, 2011 11:18 AM To: Wong, Antony; sharifah.or@atkinsglobal.com

Cc: samuel\_hk\_chui@epd.gov.hk; dennisleung@epd.gov.hk

Subject: Odour nuisance complaint

Dear Mr. Antony WONG, Environmental Team Leader & Ms. Sharifah OR, Independent Environmental Checker

EPD received a complaint from Mr. HO against odour nuisance caused by Champway Technology Ltd. While appropriate action is being taken by EPD, I refer this case to you for investigation and follow-up action.

Should you require further information, you can contact our Mr. Dennis Leung at tel. no. 2417 6063.

Regards

Mr. Allan S.L. Leung
Environmental Protection Department
Environmental Compliance Division, Regional Office (West)
7/F., Tsuen Wan Government Offices,38 Sai Lau Kok Road,Tsuen Wan,N.T.
Tel No. 2417 6138

E-mail: slleung@epd.gov.hk