

*Waste licence Application – Atlas Ireland*

**Attachment I 1**

Environmental Management Programme

For inspection purposes only.  
Consent of copyright owner required for any other use.

*Attachment II*

### 3.2 Environmental Management Programme.

#### 3.2.1 Project Title:

Protection of Soil and Groundwater

#### Aim:

To prevent the contamination of soil and groundwater by activities carried out at the Portlaoise Facility.

#### Progress to Date:

1. The integrity of the old tank farm was suspected to be insufficient in the event of a major spillage. The floor of the bund was constructed of mass concrete however there were a number of redundant underground ducts present and some joints in the concrete had the sealant worn away. In addition the walls of the bund were block built and rendered. This type of construction is not ideal for liquid retention over prolonged periods.

To improve the liquid retention capacity of the old tank farm bund the entire area was re-floored with a minimum of 100mm, C35 concrete and sealed around the base of tank plinths with oil resistant sealant. The walls were also re shuttered and a new mass concrete wall constructed on the inner face of the bund wall. The wall between the old and new tank farms was demolished and the area resealed with mass concrete.

2. The main store which is used to store small quantities of liquids (degreasing agents, water treatment chemicals, detergents etc) was internally banded through the construction of a dwarf wall (joint sealed) around the perimeter of the store. Internal drains were filled in with concrete and floored over. In addition ramped access to the store was also installed on all entry/exit points to provide liquid retention.
3. A drainage survey was carried out (CCTV) to identify areas of drainage that lack integrity. No broken or areas of significant damage were reported. Although a number of redundant lines were identified.
4. A groundwater assessment was carried out involving the installation of 4 monitoring wells at different locations around the facility. The investigation did find the presence of PAH's (in relatively small concentrations). The possibility of an off site source is to be investigated particularly in the light of neighbouring processes (Sleeper yard adjacent to eastern boundary).

#### Planned Improvements

1. A new Underground Storage Tank was installed to provide for storage of petrol and mixed fuels. The tank will be a three compartment double skin unit with interstitial monitoring (alarms if a breach of integrity on either skin).
2. The existing process room currently housing the main filtering processes is to be extended and completely refurbished. The refurbishment will include a more robust system for collection of drainage from the area.

3. The off loading sump is to be replaced with an over-ground unit located within the main bund. The old sump was located in the ground and although it was cleaned out and inspected every 2 years there was the potential for un-noticed breach on integrity and subsequent contamination of soil and/or groundwater. On removal the excavation will be inspected for evidence of contamination and if identified removed for treatment/disposal.
4. A number of redundant lines were identified in the CCTV survey (e.g. those draining the store) and are now planned to be permanently blocked. In addition a manhole survey is planned to identify if any improvements are required within the surface water drainage manholes
5. Recent changes at the facility included the removal of the mound bordering the eastern boundary of the site, this led to a significant increase in useable facility space but was unsealed ground. It is intended to concrete this additional area in conjunction to the installation of 3 new off-loading bays with localised drainage.
6. The existing SCADA system is being expanded and will involve the addition of high level alarms on all process tanks, these will link to a pump shut down in order to prevent overfilling of tanks.

For inspection purposes only.  
Consent of copyright owner required for any other use.

### 3.2.2 Title: Conservation of energy

**Aim:**

To assess the use of energy sources on site and where possible to improve overall efficiency of operations

**Progress to date:**

Operations were reviewed to determine the critical areas where improvements in activity efficiency could be made. The following steps were taken to help increase energy efficiency on site.

1. An initial energy survey was carried out by Irish Energy Management Limited in February 2001. It was found that the existing system was limiting to operations and would in the long term be problematic. Therefore a complete reworking of the heating system would be beneficial for the efficiency of operations. As a result of these findings a new steam boiler was commissioned and the unit was installed in December 2001. In conjunction with this, old steam lines were replaced and lagged and proper maintenance of steam traps was implemented.
2. The development of the Atlas site has led to the expanding of the existing offices. In the construction of these a number of environmentally friendly aspects were incorporated into the building which include
  - The use of 20% extra insulation to reduce heating required
  - Utilisation of heat from process and therefore reducing demand on fuel for heating.
  - Re-use of rainwater for sanitary purposes.

**Planned Improvements:**

In order to further increase efficiency, it is hoped to install individual steam modulation on all process tanks to improve the transfer of steam and reduce condensate return thereby decreasing the demand on energy for the process. It is hoped that the installation of these will be completed by mid-2003.

### 3.2.3 Title: Waste reduction

**Aim:** To identify and minimise waste generation on site.

**Progress to date:**

The following programmes were put in place to reduce the amount of waste being generated on site and to encourage where possible the recovery of waste rather than the disposal of waste.

1. It was identified that the volume of waste paper generated from everyday administration activities was considerable, therefore a recycling system was set up. All waste paper generated on site is collected and sent off site for recycling.
2. In accordance with best environmental practise all toner cartridges used on site are collected and recycling
3. All spent fluorescent tubes are collected in a designated container and sent off site for recovery.
4. All used batteries are collected and sent for recovery.
5. It was found that a significant volume of waste was being generated for the canteen. The use of plastic cups and water bottles has been eliminated therefore reducing the quantity of plastic being disposed of.
6. Garage services collections were leading to an increase in packaging waste. In order to reduce this waste a drum compactor has been installed.

### Planned improvements

The installation of compactor will allow Atlas to compact packaging waste generated on site, which in turn will be sent for recycling. In conjunction with this a full assessment of packaging waste is to be carried to assess the volume of packaging waste directly generated by Atlas Ireland. Atlas will endeavour to identify areas within operations where waste can be reduced and where possible re-use or recycle rather than dispose.



### 3.2.4 Title: Waste Effluent trials

**Aim:** To identify the best available treatment technology for on site treatment of the effluent.

**Progress to date:**

The following trial programmes were put in place to reduce the COD of waste effluent

1. A continuous flotation plant was installed. The effluent treated with the flotation plant initially produced good results with the first 4 batches of 1000 litres of effluent less than 1500mg/l COD from a typical 5000mg/l COD
2. With the daily use of the pilot plant, the effluent produced became significantly poorer quality.
3. Upon consultation with the manufacturer's of the pilot plant the next phase was to implement lab trials with different flocculants
4. It was proven from the lab trials that the flocculants used was the best one's for the application
5. The trials were continued with the flotation plant but the dosing powder rotar disconnected and this caused damage to a flotation pump and the membrane filter.
6. The membrane and the dosing powder rotar were replaced and the flotation pump was bypassed
7. The trail was continued, but the membrane was of narrower bore, which caused the production of more concentrate than effluent.
8. The trials were stopped due to resource constraints.

### Planned trials

The lack of success with the initial trials led to a review of the effluent treatment investigations being carried out. It was found that the approach taken for the reduction of effluent COD, heavy metals etc, was not efficient and other methods were investigated.

As a result of this review a new treatment option is to be trialed over the coming months. This treatment option involves the use of a waste water treatment product called *Custom-WP*, which is tailored to augment existing bacteria to reduce BOD, COD, T.S.S., T.P.H., and sludge if it is not running optimally. This treatment option is a biological approach to the treatment of the wastewater generated on site rather than the previous physico chemical approach. Trials have just been initiated therefore neither success nor failure in this approach can be determined as of yet. If the trials prove to be successful a programme will be implemented to increase the scale of the treatment plant. If the trials are not proving successful a review of treatment options will be carried out.

### 3.2.5 Title: Firewater retention investigations

**Aim:** To implement firewater retention recommendations

**Progress to date:** A firewater retention study was carried out by URS Dames & Moore to assess the need for a firewater retention study. From this study it was found that there was sufficient firewater retention available on site however a number of recommendations were made to make use of this retention area.

#### **Planned improvements**

The improvements to be made to increase retention area are the following

- Provision of a fire water run off diversion from around the warehouse and outside the tank farm bund part of which has been completed by the construction of a bund around warehouse (May 03)
- Ensuring fire fighting services are aware of the site emergency plan prior to an incident happening. (Dec.02)
- Assess the ability of on site provisions to fight fire including fire water storage tanks and available foam supply. (Dec 02)
- Consideration of introduction of appropriate shut down of key pumps on site during a fire situation will be carried out upon complete installation and operation of Scada system. (May 03)
- Installation of firewater pumps in the 58 tonne interceptor to facilitate the return of contaminated fire water to the tank farm bund. (May 03)

For inspection purposes only  
Consent of copyright owner required for any other use.

Waste Licence Application – Atlas Ireland  
Atlas Objectives and Targets

Objective	Target	Target Date	Responsibility	Related Aspect	Comment
1	Provide environmental awareness for all personnel.	02/01	RPS/JG	Legislative requirement via EMS	
	Provide seminars in the following areas: 1. Outline of important environmental legislation; 2. Use of C1 forms 3. Give a good understanding of Bunds, interceptors, sewage treatment tanks etc 4. Atlas Processes;	Sales staff – 12/02 Operational staff 010/02	MH MH RT DC		
	Provide specialist training for individual staff	08/01	MH/MK	Legislative requirement via EMS	
	Maintain high standard of housekeeping throughout site.	ongoing	Internal auditors & J.G.	All aspects relating to yard operations	
Improve integrity of old tank farm bunding	Re-floor and re-wall bund to provide adequate integrity	04/02	GK		
Provide secondary containment for detergent storage	Block surface water drains and Install bunding & access ramps in Store	08/02	GK/DC		
Inspect drainage system for integrity	Carry out CCTV survey	06/02	GK		
3	Optimise vehicle fuel consumption.	Carry out improvements identified as necessary from CCTV survey	02/02	GK/MK	
		Conduct manhole integrity survey	12/02	GK/MK	
		Carry out repairs to ensure integrity of manholes	06/03	GK/MK	
		Establish baseline of fuel consumption per vehicle.	07/01	J.G.	ASP 5
		Ensure all vehicles are properly maintained	01/01	MK	ASP 2 ; ASP 3
		Trial use of fuel consumption improver on 1 truck to assess potential improvement	08/02	MN/MK	
4	Reduce mains water & detergent usage:	Install improver fleet wide (commercial) if fuel consumption is improved by more than 10%	06/03	MK	
		Install wastewater recycle unit at truck wash.	08/01	G.K.	ASP 7
		Use biodegradable detergents	03/01	G.K.	ASP 8
		Extend system to provide stock of recycled water for cleaning	07/02	GK	ASP-37
	Assess practicalities of abstraction well installation to reduce mains water usage	08/02	GK/MK	Asp 37	Not Practical – other options now being considered
Approved by:	Install abstraction well if assessment proves viability	03/03	GK		
	<b>Section: SOP3</b>	<b>Version No: 5</b>	<b>Issued: Mar 02</b>		



Waste Licence Application – Atlas Ireland

	09/01	MH/GK	Inconclusive results so far.
5	Carry out pilot scale treatment feasibility testing		
	Continue pilot scale trials on possible effluent treatment		
	Reduce the organic loading on the STP.	M.H.	ASP 14
6	Examine the feasibility of using recycled paper for all printed matter.	M.S.	ASP 9
	Reassess usage as technology improves	DM	ASP 9
7	Set up recycling system for toner wastes.	E.M. V.G.	ASP 31
	Recycle 50% of purchased toner cartridges.	E.M.	
	Recycle 100% of purchased toner cartridges		
	Recycle 50% of replaced tubes.	J.G.	ASP 31
	Recycle 100% of replaced tubes.	J.G.	
	Recycle 50%.	J.G.	ASP 31
	Recycle 100%.	J.G.	
8	Eliminate 100% of plastic cups and water bottles in canteen.	M.S. D.C. J.G.	ASP 32
	Encourage the reuse of one sided printed paper where feasible		ASP 9
	Set up a recycling system for B&W printed paper.		ASP 9
9	Reduce packaging used in export of wastes for reprocessing.	G.K. D.C.	Waste minimisation / process efficiency
	Trial use of drum compactor to minimise the use of drums used for residual waste storage.		
	Permanent installation if successful	GK, DC	
10	Establish a baseline for potential energy improvement.	G.K.	Waste minimisation / process efficiency
	Include recommendations in new office redevelopment		Energy efficiency
	Use 20% extra insulation in walls	GK	
	Use low E windows, wooden frames from managed forests;		
	Utilise waste heat from process to heat offices		
	Reuse rainwater for sanitary flushing		
	Use Organic paints in decoration of offices		
11	Reduce fuel consumption per tonne of 11LS produced by 5%	MK	Waste minimisation / process efficiency
	Replace old steam lines		Waste minimisation / process efficiency
	Lag all steam lines to reduce heat loss	MK	Waste minimisation / process efficiency
	Ensure all steam traps are properly maintained	MK	Waste minimisation / process efficiency
	Replace boiler with new more efficient unit	MK/GK	Process efficiency
	Install individual steam modulation on all process tanks	MK/GK	Process efficiency
12	Reduce contamination of rainwater going to local interceptor.	G.K.	Waste minimisation / process efficiency
	<b>Approved by:</b>	<b>Version No: 5</b>	<b>Issued: Mar 02</b>
	<b>Section: SOP3</b>		

**Atlas Objectives and Targets Continued**

13	Increase efficiency of surface water drainage system.	Improve maintenance procedures for SW-1 Install coalescence filter Install containment baffle in SW-2	04/01 08/01 ½	MK GK MK	IPC requirement Process efficiency	
14	Establish baseline for use of List 1 and 2 substances.	Install gully boxes in road gullies to ease cleaning Reduce use of list 1 and 2 substances to a minimum.	12/02 03/04	GK BB	Process efficiency ASP 37	
15	Eliminate use of CFC's on site.	Re-assess usage annually Replace any CFC appliances with non CFC appliances.	03/03 03/04	BB M.K. M.H.	Asp 37 ASP 33	
16	Reduce potential for tank overfills during transfer	Install interlocking system on water treatment system.	02/01	M.K. G.K.	Waste minimisation / process efficiency & IPC requirement	
	Reduce potential for spillages	Install high level alarms with interlock on process tanks Install high level alarms with interlock on oil storage tanks	08/02 08/03	MK/GK MK/GK		
	17	Improve separation of oil from water during transfer	01/01	MK/GK	ASP 29	
	18	Implement monitoring & maintenance programme to ensure efficiency of system	08.02	MK	Asp 29	
		Carry out repairs on existing concrete surface. Extend existing concrete yard to unsealed areas	02/03 07/02	M.K. GK	ASP 28	Delayed to coincide with sump replacement
19	Protect integrity of production process.	Install sealed manhole covers in areas with the potential for contamination of surface water discharge. Provide standby pumps at process critical points.	05/02 02/03	GK M.K. G.K.	IPC requirement	
20	Improve packaging waste management.	Segregate cardboard for recycling Install waste baler for cardboard and paper.	04/02 09/02	AP/DC M.K. G.K.	ASP 9	
		Re-assess volume of packaging waste handled	12/02	DD/DC		
21	Reduce water content in final product and waste material.	Provide weather protection on loading /offloading gantry. Cover skip storage areas	03/02	M.K. G.K.	Waste minimisation / process efficiency	
22	Increase weight per unit volume of scrap metal for recycling.	Install Drum Crusher	12/02 03/01	MK/GK MK/GK	Waste minimisation / process efficiency	

**Approved by:** \_\_\_\_\_ **Section: SOP3** **Version No: 5** **Issued: Mar 02**