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Annual Review of Environmental Issues 2014 – Summary

In 2014 six top level objectives were identified as drivers for the Integrated Management System (IMS) covering Quality, Environmental and Health and Safety objectives. These were:

- **Accreditation to OHSAS18001 Health and Safety Standard by May 2015**
- **Scrap and Waste Reduction**
- **Reduction in lead in blood**
- **Reduction in accidents/incidents**
- **Reduction in gas and energy consumption**
- **Design/Technical Objective – Replace wirtz detergent on concast with rocol ultraclean**

These six objectives are fed by ten targets with individual metrics that have been monitored on a monthly basis over the year. This is done visually using a scorecard – See section 8.

1. Accreditation to OHSAS18001 (H&S Standard) by May 2015
2. Scrap reduction <2.8% cost of production
3. 5% reduction in general waste by December 2014 in comparison with 2013 average
4. Maintenance of the hazardous waste reduction achieved in 2013 – only 2.5kg of hazardous waste per production tonne of batteries manufactured
5. No more than 2% of employees with lead in blood>27ug/dl by December
6. Reduce lost time accident rate to 5 by December 2014
7. Quality complaints running at <2500ppm
8. No environmental breaches
9. 5% reduction in electricity and gas use by December in comparison with 2013 average
10. Design/Technical Objective – Replace concast wirtz detergent with rocol ultraclean.

The majority of the targets (6) have been met. As one environmental breach occurred in 2014 this target was missed and the energy consumption target was met for 7 out of 12 months. These areas will be focussed on in 2015. Environmental permit emissions summary for 2014 is:

- **Air Emissions**
  The annual ambient lead in air for the downstream monitor of the site over 2014 was 0.21ug/m3 – so within the AQS of 0.25ug/m3. The upstream monitor measured an average of 0.09ug/m3 over 2014.

  One breach occurred in November from stack A3 (Mill 3) due to a failure in a row of filter socks. These were replaced and the emissions brought back under control. See Page 6 for more detail.

- **Emissions to Sewer(S1) and Controlled Waters (W1)**
  There were no emissions to either sewer or controlled waters (reen) that were above the consent limits. It is understood that sewer discharges will be monitored by Dwr Cymru in future.

- **Groundwater and Soil Testing**
  Elevated hydrocarbons were identified in two new boreholes at the site boundaries. Elevated lead was found in one borehole. Testing will continue annually in April as requested by NRW. Soil sampling will need to be completed in 2016 as part of Industrial Emission Directive (IED) requirements.

The full review of environmental performance is covered on the following pages.

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1. Environment, Health & Safety Department Resources and Headcount

There are currently 5 people working in the EHS Department; EHS Manager, Environmental Officer (0.75), Health and Safety Officer, Graduate EHS Officer and Occupational Health Advisor. A doctor is also present on site once a week. Roland Atkins, EHS Officer left the Company in Jan. 2014.

On December 31st there were 506 EnerSys employees between the Stephenson Street & Nashmead sites. The Nashmead site works a three shift pattern whilst the main Stephenson Street site works a variety of patterns over 24/7 with continuous security at the site gates.

2. Training

Environmental training has taken places at a number of different levels throughout 2014:

- Spill training was completed by Chemtech for 112 employees on site during the Spring.
- Leading with Sustainability Training was completed in October by Senior Managers with the aim of encouraging a 'cradle to grave' approach when making business decisions.
- The Environmental Officer attended an MCERTS course on effluent discharge and flow.
- New starters receive environmental training as part of their induction. This is delivered via a VOCAM Environmental Awareness DVD and is followed by a question and answer session.
- Local environmental rules are outlined to new starters at their area induction covering topics such as waste segregation, energy consumption and dealing with spills.

3. Communication and Complaints from External Parties

No complaints have been received about the site from any external parties and we have made no complaints to any neighbours regarding their working practices in the last year.

An initial meeting has been held between our EHS Dept and that of Tradebe - who are the waste management company located next door – in order to establish a working relationship between the two sites in case any issues should arise. Tradebe are our closest neighbour.

4. Emergency Preparedness and Response

An improvement project has been running for a couple of years regarding Emergency Response Improvement. The scope has included moving the system from a roll call to a sweeper for each area and has been very successful. This is covered in more detail in the H&S summary report.

An EHS project has been completed to improve the spill response with additional equipment placed on FLTs and in areas of high risk.

5. Changing Circumstances

Permit Variation Changes

During 2014 discussions were held with our Natural Resources Wales Inspector Dave Griffiths regarding a permit variation to roll up recent changes into one paperwork exercise. The changes to be included are: Introduction of an extraction system in the Cell 2 toolroom and potentially another in the main toolroom, battery washer process commenced in Cell 3, two additional ovens in Cell 2 building with possibly another 4 in Summer 2015. The use of the grey oxide blower with the old and new systems both in operation also needs to be assessed as part of the variation – this is necessary to sufficiently feed the additional paste mixer and ovens.

Further changes have been made to our extraction systems in order to improve their efficiency – A6 extraction now only covers the strip mill whilst A8 is used to extract the cominco and concast. This

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change was made in October 2014 and both are wet scrubber systems. The A7 stack has been made redundant with A13 now used to extract the paste mixers & pasting lines. Previous breaches had been associated with A7, which was an old wet scrubber. This change was made in May 2014 resulting in one less stack on the permit.

The permit variation work is being completed with the assistance of Environmental Compliance Ltd. The aim is to submit the H1 assessment and all associated paperwork early in 2015 hoping for the variation to be permitted by the Summer.

Effluent Treatment Plant
A visit was made in 2014 by Tom Weaver, a Consultant used by EnerSys in the US, to assess our effluent treatment plant performance and whether this could be improved. The Company have provided some basic proposals and costs to Engineering but this is still in the early stages.

Site Neighbours and Location
Residential building is coming closer to the site, but we still are surrounded by industrial and commercial premises in the immediate vicinity.

6. Legislation Changes

In May 2014 we employed an external consultant from EEF to complete a legislative review alongside the Environmental Officer. This gave many useful pointers for improving our EMS and the actions have been implemented throughout 2014. This review will be completed again in May 2015 and will be done annually going forward. Also during the same visit the Consultant will be asked to review our compliance against the new version of the ISO14001 standard. This will give us a head start to address any shortcomings before being audited by NSAi against the improved standard especially with regard to design, communication and supply chain.

Four significant non conformances were raised with regard to legislation:

- Update of the site condition report – this has been completed and submitted to NRW
- Manage a plan for runoff water when the fire service extinguishers a fire
- Develop a flood risk plan – costs for basic assessment are being sourced
- Ensure an air conditioning inspection is undertaken every 15 years if cooling capacity exceeds 12 kW – this has been completed.

An additional four minor actions were:

- Site to review BAT&BREF industry best practice when updated guidance is issued
- Review waste procedure quarterly to ensure all details of waste contractors & licenses are correct
- Review European Waste Catalogue codes

- Changes to the Seveso Directive in June 2015 and the effect this will have on making site potentially a COMAH Tier 1 was also highlighted. This is dependent upon the volume of lead oxide on site. Consultants have provided costs to complete a gap analysis against the COMAH requirements. The Seveso Directive changes will affect all the plants in Europe.

Climate Change Levy (CCL)
Exemption from CCL for 100% for metallurgical processes from April 2014. Therefore we no longer have to submit quarterly reports against CCL targets. New Supplier engaged from November 2014 for gas – Dong Energy. Paperwork for receiving 100% CCL gas exemption has been completed.

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Energy reduction projects continue, driven by Engineering and in conjunction with RUMM, an energy management Company. ESOS energy auditing will commence in 2015 with our baseline report needing to be submitted by December. RUMM are to provide costs for carrying out our ESOS audit.

7. EHS Sub Committee Performance

Plant EHS Committee has met on ten occasions in 2014. The eight sub committees have also met prior to each Plant meeting. An EHS Department representative also attends these meetings to assist with any queries. The sub committees also complete their own fortnightly walkaround using the new auditing sheet. A single template is now used so that all audits whether in department or High level are focussing on the same issues and marking using the same scoring approach. The results of the audits are reviewed in the Plant monthly meeting with less than 90% being of concern.

8. NSAi Audit Actions

NSAi audit completed in September 2014 covering both Quality and Environment. Findings are classified as below:

Category 1 is the absence or failure to implement a fundamental management system element.
Category 2 is a less significant failure to comply with the requirements of the system.
Category 3 is a comment – an opportunity for improvement.

Four improvement actions were raised during the quality and environmental audit (Category 3) and one Category 2 corrective action. The actions were:

07/14E	01/10/2014	J. Goodchild	Env	Env	Poor bund integrity	Across site	End Feb 2015	Paul Herbert
08/14E	01/10/2014	J. Goodchild	Env	Env	Training for use of new equipment & machinery	Across Site	End Mar 2015	HVJ (Training)
09/14E	01/10/2014	J. Goodchild	Env	Env	Clean up of mezzanine floor	Eng	End Mar 2015	A. Bentley
10/14E	01/10/2014	J. Goodchild	Env	Env	Use of raw data for environmental monitoring (OBS Cat 3)	EHS	End Feb 2015	Paula Terrett
11/14E	01/10/2014	J. Goodchild	Env	Env	Testing of araldite work station EV (OBS Cat 3)	Cell 3/EHS	End Feb 2015	Paula Terrett

The category 2 related to poor bund integrity. All actions will be addressed in 2014/2015.

An additional action relating to the environment came out of the Quality audit. This was a category 3 observation and related to the inclusion of maintenance contractors activities within the supplier procedures – Project No. 174 has been raised to deal with this improvement.

9. Natural Resources Wales (NRW) driven Actions

Dave Griffiths from NRW visited site in August 2014 to discuss the proposed permit variation. The visit was short but went well and no formal report has been received detailing any corrective actions. Dave looked at our new borehole locations and requested we continue monitoring on an annual basis due to the elevated hydrocarbons in the two at the site periphery and the elevated lead in the borehole situated behind Pasting. This is next due in April 2015. Soil testing will need to be done in April 2016 as it is a requirement of the new Industrial Emissions Directive.

All quarterly, annual and other reports required by the Environment Agency were submitted on time.

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10. Internal Audit and Corrective Actions

Seven internal audits were completed on environmental procedures in 2014.

Five additional corrective actions were raised in 2014 for a range of environmental issues outside the NSAi audit actions. These are from operational issues on site.

02/14E	20/02/14	P. Terrett	Env	Breach	V-Notch pH too high	Cell 1B	DH Smith / A Bateman / D Roden	Closed 13/03/14
03/14E	04/04/14	P. Terrett	Env	Env	Resin spill on roadway	Stores	N. Baker	Closed 09/06/14
12/14E	21/10/2014	J. Goodchild	Env	Env	Mill 3 PCME Graph showing increase in trend investigation	Cell 1B	Paula Terrett	Closed 10/11/14
15/14E	18/11/14	J. Goodchild	Env	EHS	Mill 3 Lead stack emissions breach- Nov 2014	Cell 1 B	Paul Herbert	Closed 12/12/14
16/14E	31/12/2014	J. Goodchild	Env	EHS	Firing of Oxide within Mill 2	Cell 1 B	Paul Herbert/Martin Hughes	**Open March 2015 Closure**

11. Improvement Projects

Fifteen new environmental improvement projects were raised in 2014. These were:

PROJECT TITLES	RS632 Prog. No.	Status (Ongoing/ Completed)	Programme Leader
Supplier IMS System Improvements - Questionnaire & Audits	174	NEW (awaiting paperwork)	Paula Terrett
Introduction of Racking Inspections	173	Complete	Peter Dunn
Implementation of 18001 – H&S Standard	172	Ongoing	G Thomas
COSHH Datasheets and Procedure Update	171	Ongoing	P Dunn & G Thomas
Legionella Risk Assessment Action Plan	170	Ongoing	Paula Terrett
Fire Evacuation Procedure and Fire Alarm Improvements	169	Ongoing	P Dunn & G Thomas
Reduction of smoke ingress to stores from Cell 1A and improve housekeeping	168	Ongoing	Neil Baker (Jayne Gibbon)
Replace Wirtz detergent on the Concast with Rocol Ultraclean degreaser	167	Ongoing	Raju Kurian
Lead Waste to Envirowales	166	Complete	J Gibbon / N Baker / M Holmes / P Evans
Dig out Redundant Pasting Pit	165	Complete	P Herbert / J Simpson / M Holmes
Changing the acid fill vacuum pumps to a closed loop system	163	Ongoing	Andrew Bentley
Moving aircraft product from specialised red lead over to commercial grade	161	Ongoing (awaiting signed scan)	Raju Kurian
Cladding of Tank Roof	160	Complete	Paul Herbert (Maintenance)
Spill Response Training and Kit Purchase	159	Complete	Paula Terrett
Energy Saving Lighting in Stores	158	Complete	Andrew Bentley (Eng)

Project meetings are held every six weeks with Senior Management to progress projects.

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12. Specific Environmental Issues

Stack A3 (Mill 3) Breach

In November 2014, stack A3 breached with a result of 1.88 mg/m^3 (limit for spot and annual emissions is 1.0 mg/m^3). Following maintenance investigation, the root cause was established as one row of filter bags becoming porous which allowed oxide to pass through this row and the absolutes. All filter bags & absolute filters were changed and the absolutes were double sealed into position. Retests on Mill 3 from December onwards show the results to be well below the consent limit. For the year, average emissions from stack A3 were 0.23 mg/m^3.

Waste Management

Biffa have taken over from Veolia for managing our general waste and this is now going to their energy from waste plant at Avonmouth instead of landfill. This means that in 2015 none of our waste will be routinely sent to landfill for the first time. Lead waste streams continue to be taken to Envirowales for smelting whilst Cardiff Arms Waste Management (CAWM) have continued to manage the majority of our other waste streams on site

A banding chopper has also been introduced at our despatch site in Nashmead – the chopper is used to cut up all plastic banding therefore reducing the general waste volumes. The chopped banding is then sold. Over 1000 rubber bands that are reusable have also been purchased to reduce the amounts of banding used at the Stephenson Street site.

13. Major Environmental Points for 2015

- Supplier and Contractor EHS Performance – system and assessment improvements
- Ensuring ambient and stack air emissions are all within consent limits
- Reduction in energy consumption over 2015
- COMAH Assessment for Newport - Tier 1?
- Inclusion of sustainable, cradle to grave approach in business decisions – new ISO14001 standard requirements, especially relating to design, supply chain and communication

14. Senior Management Environment and Sustainability Objectives for 2015

Who?	Objective
Gavin	Promoting environmental performance internally
Tahir	Communicating benefits and vision
Tahir	Supplier audits and IMS - sustainability - driving environmental best practice and improvements in supply chain
Andrew	Capital business case to include environmental
Andrew	Use of energy efficient motors and equipment
Andrew	Carbon savings and carbon footprint
Raju	R&D how can we increase product life to reduce frequency of recycling
Raju	Communicate the environmental benefits of the products to employees
Huw	Mission statement and one year plant strategy to include environmental aims and requirements
Huw	Follow up on the concept of leasing batteries - tank
Jayne	Set environmental objectives for all the buyers
Mick	Discuss with Marketing how environmental benefits are used in promotion
Rod	Review NPI process - how are environmental effects and sustainability considered and included?

Paula Terrett
February 18th 2014 Paula S. Terrett