



SITE PROTECTION AND MONITORING PROGRAMME/PLAN FOR SPTS Technologies

July 2019

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Introduction

This document represents an updated version of the Site Protection and Monitoring Programme (SPMP) for SPTS which was originally submitted to the Environment Agency (now Natural Resources Wales) in pursuance of Condition 2.10.9 of the Permit No. EPR/HP3131KU (the "Permit") authorising the operation of SPTS Technologies Ltd (SPTS) (the "installation").

Site Location

The installation remains located at Ringland Way, Newport, South Wales, NP18 2TA. The centre of the site is at National Grid Reference *ST362895*. The site covers an area of 0.927 Ha and can be seen in Figure 1 of Appendix A.

1.0 Monitoring Programme

1.1 Objectives of the Monitoring Programme

- To ensure (as far as is practicable) that pollution prevention measures are sufficient to prevent the emission of pollutants to land, air or water. Additionally, to ensure the safety of all individuals at the site or surrounding areas.
- To demonstrate and maintain the effectiveness of the pollution prevention measures at the site throughout the life of the installation.
- To ensure adequate maintenance, inspection and testing of infrastructure to demonstrate its effectiveness throughout the life of the installation.
- To monitor and record the results of the above to demonstrate the land at the installation is in a satisfactory state for the purposes of surrendering a permit.

1.2 Supporting Information

It should be noted that small amounts of inert, flammable and toxic gases are used on-site, as well as some corrosive liquid substances, for R&D purposes and for the demonstration of SPTS tools. The manufacturing areas use only inert gases in their assembly and build operations. The quantities of substances used throughout the site are considered small thereby presenting minimal risk to the environment and giving rise to a low impact permit.

Some fluorinated gases are used during demonstration processes. However thermal conditioning systems and gas reactor columns (GRCs) are used to break down process gases and by-products in order to mitigate any possible risk of pollution. These systems are interlocked with the tools ensuring that should there be any issues with the GRCs conditioning systems the machine tool will automatically shut down, preventing any escape of gas.

Robust operational and maintenance procedures are in place as well as effective monitoring and recording activities, and these will continue throughout the life span of the installation.

All procedures are subject to internal audit as well as external audit programmes by BSI in relation to our ISO:14001, OHSAS:18001 and ISO:9001 certifications.

1.3 Employee Competence & Training

Employees responsible for the inspection, testing and maintenance of the pollution prevention infrastructure are trained to ensure effective compliance with the programme. Further competent persons are also appointed by the company with responsibility for managing the Environmental Management System.

Training requirements are reviewed on an annual basis, or whenever there is a change in roles and responsibilities, a change in process or technology, or following an incident.

Training records are held with the HR department and competence matrices are held with the Department Manager.

2 Prevention, Protection and Monitoring

The Environmental Management System is based around the international standard ISO:14001(2015) and is regularly monitored and reviewed to encourage and allow for continual improvement of the system.

The Company's Environmental Policy, endorsed by the Company President and the Senior team, commits SPTS to ensuring prevention of pollution, waste prevention and minimisation and efficient use of energy and resources.

An Environmental Aspects Register, Environmental Manual, Emergency Response and Spillage Procedure, COSHH management system, Legal Compliance Register, as well as other operational and maintenance procedures, all support our pollution prevention policy.

2.1 Maintenance and Monitoring Procedure

Procedures are in place to ensure the effective maintenance and test requirements of the toxic and inert gas ring main system with both internal and external inspections.

All in-use main gas lines are pressure- and leak-checked regularly to confirm integrity of the lines with a full annual "health check" for all lines at the end of the year.

All gas panels have their cylinder pressures read and recorded twice daily in order to detect any abnormalities in usage and to assist in detection and response.

A comprehensive electronic maintenance recording system is in place which allows data to be recorded and instantly linked to the SPTS master database and Building Management System (BMS). Again, this assists in the highlighting and investigating of anomalies ensuring corrective actions are implemented in a timely manner.

2.1.1 Gas System Maintenance

A weekly visual inspection of the main gas systems take place in order to ensure there are no obvious signs of corrosion, leaks or mechanical damage.

A visual inspection of the gas panels and enclosures also takes place in order to check for physical degradation and other indicators of issues.

The pigtails are checked for signs corrosion or cracking.

The regulators are checked for suitability, signs of corrosion or damage as well as pressure checks.

The in-use gas hut is checked to ensure it is free from debris, oil or combustible material. Work in the gas hut is always carried out with suitable ventilation and gas bottle changes and certain maintenance activities are defined as a two-man job with BA or respirator where required.

Modifications to gas lines and so forth are carried out in accordance with BCGA Regulations.

2.1.2 Drager Gas Detection

A Drager gas detection system is in place in order to alert SPTS of any unintended gas releases. Detection levels are set at 'safe' levels below the corresponding Workplace Exposure Limit so that immediate investigatory work can be undertaken before any serious situation occurs.

The Drager gas detection system monitors the extract systems, R&D/development clean rooms (including under the floor of these areas) as well as the service chase areas. This system is maintained annually by Drager Gas Systems Ltd. Additionally, the main Drager panel and Drager detection heads are checked on a daily basis by the Facilities Technicians as part of their preventative maintenance schedule.

It should be re-iterated that the relatively small quantities of materials used at the site, combined with the early detection systems and intrinsic interlinking of these, should all combine to negate any chances of serious environmental incident.

2.1.3 Extract Systems

The 'Toxic' extract systems remove all waste process gases after they have been processed by the GRCs. Duct pressures of the systems are checked and recorded on a daily basis and constantly monitored via the Building Management System (BMS). The extracts systems also have regular physical checks for condition and effectiveness.

The 'General' extract systems are used on the main module gas boxes of SPTS' machines. They have flow sensors built into them which are configured to shut down the gases to the machine should the flow drop below a certain level. The systems are also monitored for the duct pressure using the Building Management System. Again, these pressures are checked and recorded on a daily basis and the extracts physically checked to ensure correct operation.

2.1.4 Gas Line Intervention

An on-line KNET system (internal to SPTS) forms part of our gas line intervention log and notifies users of the gas system status. This provides for a safer working environment and an effective mode of communication among parties that could be involved or affected by a gas line intervention.

A gas line intervention procedure and checklist is in place in order to provide for employee safety as well as leak prevention.

2.1.5 Chemicals

All chemicals that are used at the installation are recorded and reviewed. COSHH assessments and Safety Data Sheets are held on a central company document system and are also being migrated to a new on-line COSHH management system developed as part of our continual improvement process.

This new on-line COSHH system is accessible to any employee (that has access to the internal internet system) anywhere and at any time. This facilitates easier access to relevant safety and environmental data with respect to chemicals that they may come across and also enables better central management of the data to ensure that all information is current and up to date.

All new substances to be used on site have a formal approval process. Often specific internal actions/checks are also required before introduction is approved.

The Hazardous Waste Disposal Procedure covers the removal and the disposal of any waste or redundant chemicals on site. A Waste Disposal form must be completed before substances are placed in the chemical waste compound (which is a locked and bunded area). As and when required, a full list of waste substances is sent to the external hazardous waste contractor who arranges for appropriate disposal of the substances (this is always completed in line with safety and environmental regulations). SPTS also employs a waste operative who organises the handling of all forms of hazardous and non-hazardous waste. This operative also oversees the day to day running of the yard and recycling activities.

It should be noted that all staff carrying out gas system maintenance or working with any hazardous substances are appropriately trained. The engineers are also made aware of any specific dangers that may occur to the environment, themselves or others. Emergency spill kits and Personal Protective Equipment (PPE) are provided throughout the service chase areas, cleanrooms and plant rooms.

The only significant quantities of oil stored on site are used for the emergency back-up generator. Oil supplies are kept in a double bunded area in their original 25-litre plastic containers, with a maximum of 100 litres being stored at any one time.

The canteen staff use cooking oil for catering purposes and have a system in place for waste oil to be removed each time a new 25 litre can is delivered.

We also currently hold 25 litre drums of petrol for use within a snow blower on site during inclement weather. The maximum stored quantity at any time does not exceed 50 litres. This is stored in a locked flammable cupboard and kept separate from all other materials.

3 Recording and Reporting Procedure

Any data collected within the above procedures, used for summary or reporting activities is saved within the local document management system, the SPTS networked drives or KNET (knowledge network), as appropriate. Any anomalies are acted on as soon as reasonably practicable by qualified staff.

Site evacuations are managed by representatives of the senior team (trained Incident Controllers) and feedback is provided to employees and managers as appropriate. All such incidents are investigated and recorded with preventative and corrective measures put in place as required.

All hazards/risks associated with site substances are recorded, controlled and monitored.

All environmental issues are controlled via the Environmental Management System and associated procedures.

Annual Compliance Reports are sent to Natural Resources Wales each year in accordance with the requirements of the Permit.

SPTS fully understands its obligations to inform NRW of any changes to processes undertaken at the installation as well as reporting any spill or release likely to impact the environment.

NOTE: Under the current Permit it has been assessed that there is only “Low” risk of any environmental contamination as the quantities of all substances kept on site are small. This denotes that should a requirement to surrender the Permit arise, there should be no conditions which would give rise to an environmental contamination condition.

A site closure plan is in place and held with NRW as well as SPTS Management.

APPENDIX A (figure 1)

LOCATION MAP & SITE PLAN



Appendix A (figure 2)

