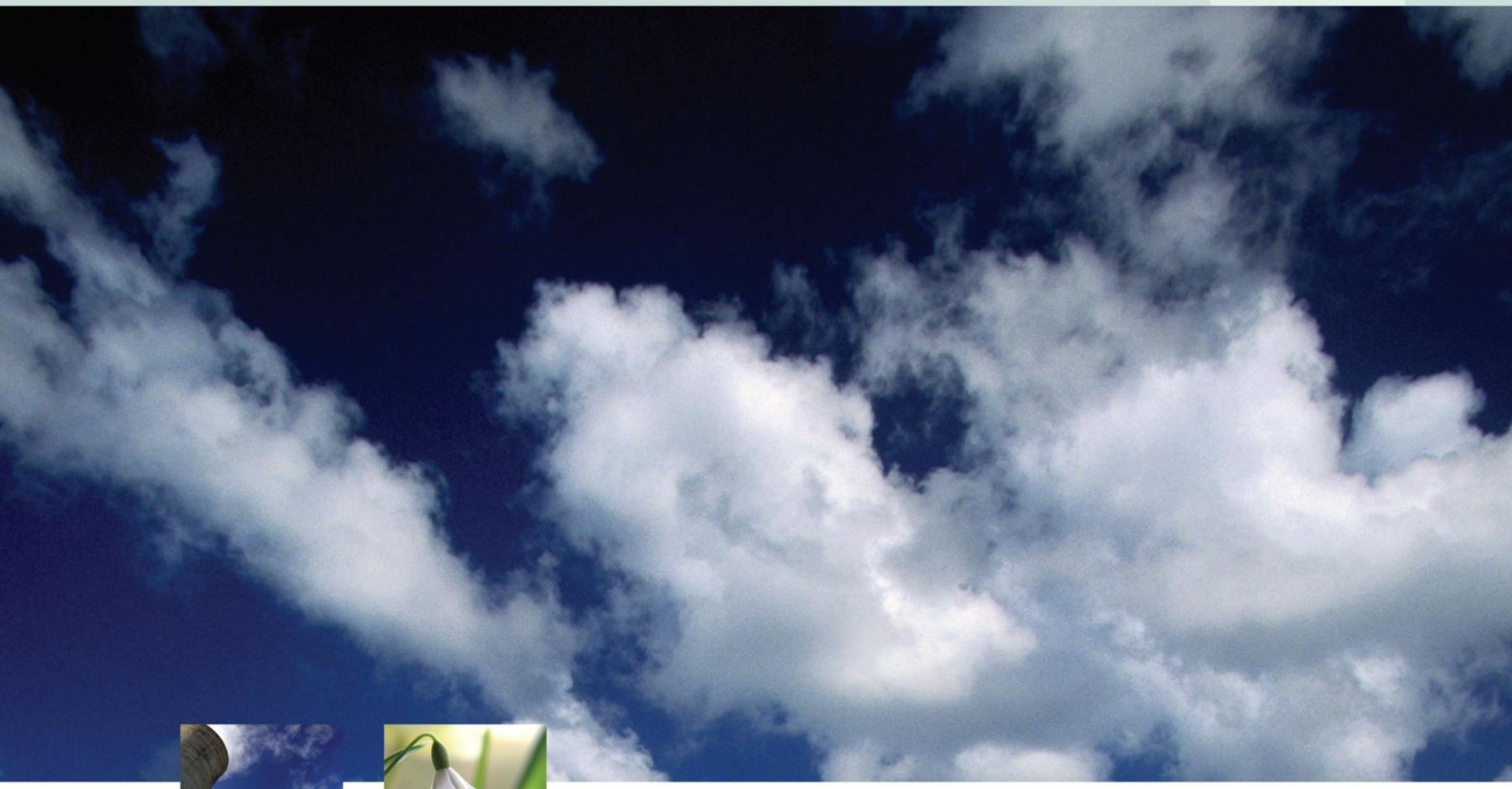

ENVIRONMENTAL RISK ASSESSMENT

Timet UK Limited

EPR/BX9846ID/V004

Prepared by:
Sol Environment Ltd

Date:
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Project Issue Number:
SOL_21_P019_TIM

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1. INTRODUCTION

As part of an application for an environmental permit Operators must assess the risk to the environment and human health from the activities they seek to permit. This Environmental Risk Assessment has been undertaken in accordance with the online Environment Agency Guidance (which Natural Resources Wales follows) for undertaking environmental risk assessments. Environmental risks relevant to the site activities are:

- Emissions to Air;
- Emissions to Water;
- Emissions to Land;
- Noise;
- Fugitive Emissions (air);
- Vandalism; and
- Fire;

For each of the above environmental criteria the approach to the assessment has followed the following six stage process:

- Identify the risks;
- Identify the receptors:
- Identify the possible pathways from the sources of the risks to the receptors:
- Assess the risks (assuming those control measures proposed are in place);
- Choose appropriate further measures to control these (if required); and
- Present the assessment.

In completing the assessment prevention and control measures proposed by Timet UK Ltd are assumed to be in place. Where relevant details of these measures are identified within the assessment.

2. Sensitive Receptors

Human Receptors

Primarily for airborne emissions, specific receptors have been identified where people are likely to be regularly exposed for prolonged periods of time (e.g., residential areas or places of work). The location of the discrete sensitive receptors within 1km of the site (from centre) is presented in Table 1.1 below.

Table 1.1: Sensitive Human Receptor Locations		
Receptor	Distance (m)	Direction
Playing Field	377	SE
Dobes Acres	580	SE
Waunarlwydd properties south of railtrack nearest of which are at: Oak Drive	613	SW
Pen-y-fodau-fawr	743	NW
Pen-y-waun	745	NW
Properties on Roseland Road	760	SE
Ystrad Fach Farm	839	SE
Keeper's Lodge Farm	863	E
Glasfryn Terrace	866	NE
Playing Fields	874	SE
Properties on Ystrad Road	922	SE
Waunarlwydd Primary School (Birthwen Road)	937	SW
Login Fach Farm	937	SE

Habitat Sites

The Environment Agency's 'Risk assessments for specific activities: environmental permits' guidance and 'Air emissions risk assessment for your environmental permit' guidance (which Natural Resources Wales H1 guidance links to) state that the impact of emissions to air on vegetation and ecosystems should be assessed for the following habitat sites within 10 km of the source:

- Special Areas of Conservation (SACs) and candidate SACs (cSACs) designated under the EC Habitats Directive[1];
- Special Protection Areas (SPAs) and potential SPAs designated under the EC Birds Directive[2]; and
- Ramsar Sites designated under the Convention on Wetlands of International Importance[3].

Within 2km of the source:

- Sites of Special Scientific Interest (SSSI) established by the 1981 Wildlife and Countryside Act;
- National Nature Reserves (NNR);
- Local Nature Reserves (LNR);

1 Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

2 Council Directive 79/409/EEC on the conservation of wild birds

3 Ramsar (1971), The Convention of Wetlands of International Importance especially as Waterfowl Habitat.

- Local wildlife sites (Sites of Interest for Nature Conservation (SINC) and Sites of Local Interest for Nature Conservation (SLINC)); and
- Ancient woodland*.

*There are no air emissions from the changes proposed in this variation and therefore for Ancient Woodland, for which there are numerous sites within 2km, the screening distance has been reduced to 1km. Habitat receptor designations and locations relevant to the assessment are presented in Table 1.2.

The Afon Llan (river) is approximately 140m north east of the site. There is a drainage culvert approximately 25 m to the east of the site. A dry ditch is located approximately 20m north of the site (centre), which clean uncontaminated surface water from the new building roof will drain into.

Table 1.2: Sensitive Habitat Receptors

Receptor	Primary Sensitive Habitat	Approx. Location (Relative to Centre of Site)
10km radius sites[4]		
Crymlyn Bog and Pant Y Sais	RAMSAR, National Nature Reserve, SAC	8528m SE
Burry Inlet	RAMSAR, SPA	2637m NW
Gower Ash Woods	SAC	7564m SW
Limestone Coast of South West Wales	SAC	9943m SW
Gower Commons	SAC	3528m SW
Carmarthen Bay and Estuaries	SAC	4081m NW
2km radius sites[5]		
Mynydd Bach y Glo	LWS	727m SE
Cwmllwyd Woods	LWS / Local Nature Reserve	1663m SE
Shaw's Woodland	LWS	1916m W
Stafford Common	LWS	1225m NW
Golden Grove	LWS	1450m NW
Mynydd Garn Goch	LWS	1642m NE
1km radius sites (Ancient Woodland)[6]		
Unnamed Wood Lle ref 2768	Ancient Semi Natural Woodland	342m NW
Unnamed Wood Lle ref 2783	Restored Ancient woodland	365m NE
Unnamed Wood Lle ref 2762	Ancient Semi Natural Woodland	378m NE

[4] Magic Map Application (defra.gov.uk)

[5] Swansea Green Spaces Map | Open Green Map

[6] Lle - Map (gov.wales)

Unnamed Wood Lle ref 2767	Ancient Semi Natural Woodland	425m NE
Unnamed Wood Lle ref 2780	Restored Ancient woodland	469m NE
Unnamed Wood Lle ref 2781	Restored Ancient woodland	665m NE
Unnamed Wood Lle ref 2782	Restored Ancient woodland	806m NE
Unnamed Wood Lle ref 2763	Ancient Semi Natural Woodland	942m NE
Unnamed Wood Lle ref 2773	Ancient Semi Natural Woodland	982m NW
Unnamed Wood Lle ref 2778	Ancient Semi Natural Woodland	1885m NW

Environmental Risk Assessment						
Hazard	Receptor	Pathway	Risk Management Techniques	Probability of Exposure	Consequence	Overall Risk (following Mitigation)
Point Source \ Releases to Air	Atmosphere	Airborne	• This permit variation does not introduce any point source emissions to air and as such does not increase the environmental risk of this aspect.	Low: offsite receptor impacts	Air Pollution	VERY LOW due to the proposed processes on site
Emissions to Water	Groundwater / Geology / Surface Water	Waterborne	• There are no process emissions to controlled waters. • All operational areas of the site within the permitted area are concreted. • The site surface water drainage system will be monitored at least once a week. • There will be minimal changes to the process drainage arrangements on site resulting from this permit variation, constituting a new short section of pipe to connect to existing process drain (flowing to existing effluent treatment plant) (existing discharge S1 to sewer). • New surface water drainage will be added in the new swarf storage area to capture clean, uncontaminated run-off from the roof of the new building and surrounding area and will drain through new silt trap, rainwater garden, attenuation tank and flow control prior to outfall to existing ditch • Swarf waste previously stored externally will now be stored in a purpose built building with concrete internal bund (with fall to sump) with concrete hardstanding access, sealed drainage, and new sump, thereby preventing risk of	Low: all runoff is controlled on site, therefore the probability of exposure is low.	Contamination	VERY LOW due to the proposed management techniques and drainage arrangements

			rainwater ingress and potential run-off from this waste stream together with minimising pollution risk from leaks and spills during handling and storage of swarf waste. • Sealed drainage of process effluent will discharge via new sump to existing process drain network (acid drain) and will be treated through existing effluent treatment plant prior to discharge to sewer (under existing Trade Effluent Consent). • The new control measures described above to be put in place as part of this variation, in conjunction with the existing, will further minimise the risk to water from the site activities.			
Emissions to Land	Groundwater / Geology	Spills / Leaks	• All operational areas of the site are concreted. • There are no emissions to land arising from the facilities nor as a result of this permit variation. Only clean, uncontaminated surface water will drain to ditch. • The site has a sealed drainage system discharging to sewer. • Spill kits are strategically located around site. • Minor spills to be cleaned up immediately, using spill kits. Resultant materials to be placed in container for off-site disposal to appropriate facility, if necessary. • Immediate action to be taken in event of any major spills. Spillage to be cleared immediately and placed in containers for offsite disposal. NRW to be informed. • Although the risk from potentially polluting leaks and spillages at the site is considered to	Low: spills / leaks could potentially contaminate the ground / groundwater underneath the site.	Contamination	**VERY LOW** due to the proposed risk management techniques

			be low, in the event of a spillage immediate measures will be taken to contain and manage it in accordance with the above procedures. • There will be changes to the surface water drainage arrangements on site resulting from this permit variation. New surface water drainage will be added to capture clean, uncontaminated run-off from the roof of the new building and surrounding area and will drain through new silt trap, rainwater garden, attenuation tank and flow control prior to outfall to existing ditch			
Noise	Local Residents	Airborne	• No new plant or equipment will be introduced to site as a result of this permit variation other than a new pump to pump process drainage from the new sump to existing drain. • Vehicle collections of swarf will only take place during daytime. • Where possible, vehicles will be fitted with 'white noise' reversing alarms. • All vehicles and equipment will be switched off when not in use. • Appropriate preventative maintenance is provided for the various elements of the installation. This will ensure no deterioration of plant or equipment that would give rise to increases in noise. • All equipment has been designed to ensure that any internal noise does not present an issue to the employees at the site under the Control of Noise at Work Regulations, and also to ensure that noise breakout does not lead to	Low: due to the nature of the activities, noise emissions from the plant are possible and could cause offsite receptor impacts	Nuisance	**VERY LOW** due to the proposed risk management techniques

			noise nuisance at the identified sensitive receptors. • The facility will not give rise to reasonable cause for annoyance. In the unlikely event that complaints are received, full investigation and mitigation will be commenced.			
Fugitive Emissions to Air	Local Residents	Airborne	• Swarf waste previously stored externally will now be stored in a purpose built building, thereby preventing dust and any potential VOC emissions from this waste stream during handling and storage. • Swarf will be stored in IBCs within the building and oily residues will drain to sealed drainage. • All loaded incoming and exporting vehicles will be covered. • Any complaints will be actioned in accordance with the site complaints procedure and recorded in the site diary.	Medium: the occurrence of dust / VOCs during waste storage and handling is likely	Nuisance	LOW due to the proposed risk management techniques
Vandalism	Operator	The site could be subject to intentional vandalism and damage by intruders / trespassers who could cause damage or harm to the site or cause fires.	• This permit variation does not increase the risk of this hazard at the site. • The site is accessed through a manned gatehouse with security barrier • Security card access is required at point of entry into the main plant • Site is secure. • Unauthorised access is prohibited onsite. • Security guards are present on site during the day, 7 days a week and they carry out rigorous checks of high risk areas as part of their daily duties • All visitors to the site are required to register in the visitor's book at gatehouse and sign out	Low: the occurrence of vandalism taking place on site is highly unlikely.	Nuisance, Damage or Fire	VERY LOW due to the proposed risk management techniques

			again on exit, thereby minimising the risk of unauthorised visitors on the site.			
Fire on site	Operator / Residential Properties	Windborne	• This permit variation does not affect the fire risk onsite and existing management techniques will remain in place. • Arson by intruders is controlled via gatehouse entry / main security gates, security guard presence. • The site has a regular inspection and maintenance programme which identifies any electrical or mechanical machinery faults which could result in a machinery fire. • The site is well lit and secured. • Machinery is regularly cleaned to remove any dust, etc; • All relevant equipment on site is equipped with dedicated fire suppression. • A number of fire extinguishers are placed at strategic locations around the plant. • The potential for sparks is regularly monitored by site staff. • The risk of damaged or exposed electrical cables is controlled via the regular inspection and maintenance programme. • Staff and visitors are only permitted to smoke within the designated smoking area. • There is no smoking permitted within the operational area of the site.	Low: the occurrence of a fire taking place on site is highly unlikely	Fire	VERY LOW due to the proposed risk management techniques