

Project details	Environmental Permit Variation Application – EPR XP3493VP Sharpsmart Limited – Clinical Waste Facility Stoke on Trent
Applicant details	Sharpsmart Limited 9 Longport Enterprise Centre Scott Lidgett Road Stoke on Trent ST6 4NQ
Report details	EP Variation Application – Appendix H: Environmental Risk Assessment Document reference: SHSMT_2018.01/05 v1
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1 Introduction

Sharpsmart Ltd (the ‘applicant’) has requested that Reva Environmental Ltd (the ‘agent’) prepares an Environmental Permit (EP) variation application, for its clinical waste facility at 9 Longport Enterprise Centre, Scott Lidgett Road, Stoke on Trent, ST6 4NQ.

The applicant supplies re-usable sharps containers to the healthcare sector and provides a collection service to its customers whereby the used containers are taken to an applicant transfer facility, emptied and cleaned and sent back to the customer. The contents are transferred to an appropriately permitted facility for treatment. In addition to the sharps containers, a proportion of the incoming waste is bagged and in bulk containers. This waste stream is simply stored pending transfer to another treatment or disposal facility.

The objective of the variation application is to obtain a varied EP (EPR/XP3493VP/V006) which enables the applicant to carry out a waste treatment activity at the facility as a standalone, but supporting, activity to the existing transfer operations. The proposed treatment plant is an autoclave which will have the capacity to process more than 10 tonnes per day; it is therefore a ‘listed activity’ and the EP will be an Installation EP as a result of its inclusion. The plant includes a standalone pre-treatment shredder unit and a standalone post-treatment compaction unit.

Question 6 of EA application form Part C2 requires the provision of an environmental risk assessment. A qualitative risk assessment has been generated for the facility to reflect the installation of the treatment plant. The risk assessment methodology has been taken from that used by the EA for its standard rules permits for clinical waste, and follows a source-pathway-receptor model.

The risk assessment is presented in Table 1 and has been updated in this version to include the closest ecological receptor, Westport Lake Local Nature Reserve (LNR) which lies at 415 m to the northwest of the Site.

Table 1: Risk Assessment

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
Releases of particulate matter (dusts)	Local human population/presence, the Trent & Mersey Canal, the closest residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Westport Lake LNR 415 m to the north of the site	Nuisance - dust on cars, clothing etc.	Transportation through air then inhalation or deposition	Very Low	High	Low	Permitted wastes are not dusty, and all waste arrives in UN containers (sealed). Air extraction via LEV is in place around treatment processes and is subject to filtering. No raw materials used are dusty	Wastes are delivered in sealed containers. Containers are subject to visual inspection. Air extraction operates at all times and extract filtered for particulates. Filters subject to regular maintenance and service and replaced regularly. Doors to the building remain closed outside of loading/offloading times.	Very Low
		Harm to human health - respiratory irritation and illness; harm to ecological features through toxic contamination or smothering		Low	Low	Low			Very Low
Releases of infectious micro-organisms (bioaerosols) from waste containers	Workers and visitors within the building, local human population/presence	Harm to human health - respiratory irritation and illness	Transportation through air then inhalation	Low	High	Medium	Whilst waste is infectious it is all contained within the UN approved containers in which it is collected	Waste is only accepted in bags or containers. Reusable containers are disinfected before leaving site. Housekeeping procedures include regular disinfection. Treatment is within the building and under LEV which is filtered prior to release via exhaust	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
								stack. Waste treatment achieves STAATT Level III.	
Fire from storage and/or processing of waste	Local human population/presence, the Trent & Mersey Canal, the closest residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Westport Lake LNR 415 m to the north of the site	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists / vandals. Pollution of water or land from run-off of contaminated fire water. Harm to ecological features through toxic contamination or smothering	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface water drains and ditches	Low	High	Medium	The impact of a fire on the immediate local area can be significant, and the pollution requiring short to medium term remediation	Wastes are delivered in sealed containers. Containers are subject to visual inspection. The waste is not hugely combustible. Waste turnaround is high (<2 weeks), storage is all within the building. Regular inspections and maintenance of key process plant and equipment (following planned preventative maintenance programme). Thermal cut outs on applicable equipment (e.g. electrical drives and inverters). All reasonable precautions will be taken to prevent the outbreak of fire. In the first instance Site staff will extinguish the fire where possible, if required the fire brigade	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
								will be contacted. Pollution control measures including impermeable hardstanding and surface water management infrastructure provides protection in terms of providing storage capacity for fire water. Water will be tested prior to discharge following fire to identify if it can be discharged.	
Litter	Local human population/presence, the Trent & Mersey Canal, the closest residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Westport	Nuisance, loss of amenity and harm to wildlife (disturbance)	Air transport then deposition	Low	Medium	Medium	It is acknowledged that local residents and habitat receptors are often sensitive to litter emissions however permitted wastes are not litter-generating. Waste that could generate litter will be limited to office and welfare facilities so small scale and	Wastes are delivered in sealed containers. Containers are subject to visual inspection. Doors to the building remain closed outside of loading/offloading times.	Low

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	Lake LNR 415 m to the north of the site						managed in standard bins.		
Waste and mud on local roads	Local human population/presence, the closest residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate. Site access is off Scott Lidgett Road which joins the A5271 at approximately 80 m from the estate entrance	Nuisance, loss of amenity, road traffic accidents	Vehicles entering and leaving the site	Low	Medium	Medium	Road safety, local residents often sensitive to mud on roads.	During wet weather, daily inspection will identify if there are any areas of build-up of mud on internal and local roads and any issues will be cleared as soon as practicable; the facility and site roads are constructed of concrete; all vehicles entering and leaving the site are fully enclosed; any complaints will be recorded and an investigation will be undertaken and findings acted upon.	Low
Odour	Local human population/presence, the Trent & Mersey Canal, the closest residential receptors are some 70 m to the southeast of the site; the closest	Nuisance, loss of amenity	Air transport then inhalation	Medium	Medium	Medium	Local residents and public area users are often sensitive to odour, permitted waste types are potentially odorous	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All vehicles entering and leaving the site are fully enclosed. Doors to the building remain closed	Low

Hazard	Receptor	Harm	Pathway	Likelihood of Exposure	Consequence	Magnitude of Risk	Justification of Magnitude	Control Measures	Residual Risk
	commercial receptor are the other units on the estate						but the raw materials are not	outside of loading/offloading times. Air extraction operates at all times and extract filtered for VOCs.	
Noise and vibration	Local human population/presence, the Trent & Mersey Canal, the closest residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate. Ecological sites – the closest is Westport Lake LNR 415 m to the north of the site	Nuisance, loss of amenity; harm to ecological features through disturbance	Noise through the air and vibration through the ground	Medium	Medium	Medium	Local residents often sensitive to noise and vibration, closest residents are only 70 m from the site, but the site is within an existing 24/7 operational industrial area.	The noise design specification for the plant is such that employees are protected; plant does not exceed 80 dBA at 1 m from the noise source. Operations are within a fully enclosed building. Any complaints will be recorded, and an investigation will be undertaken and finding acted upon. Audible high-level alarms on process plant are within the confines of the building.	Low
Scavenging animals (e.g. rats) and	Local human population/presence, the Trent & Mersey Canal, the closest residential receptors are some 70 m to the	Harm to human health - from waste carried off site and faeces. Nuisance and	Air and over land	Low	Medium	Medium	Permitted wastes and raw materials are unlikely to attract scavenging animals and birds	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All vehicles entering and leaving the site are fully	Low

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scavenging birds	southeast of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Westport Lake LNR 415 m to the north of the site	loss of amenity. Harm to ecological features through predation						enclosed. Doors to the building remain closed outside of loading/offloading times. Pest control measures are in place.	
Pests (e.g. flies)	Local human population/presence, the Trent & Mersey Canal, the closest residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate; ecological sites – the closest is Westport Lake LNR 415 m to the north of the site	Harm to human health, nuisance and loss of amenity; Harm to ecological features through predation	Air and over land	Low	Medium	Medium	Permitted wastes and raw materials are unlikely to attract pests	Wastes are delivered in sealed containers. Containers are subject to visual inspection. All vehicles entering and leaving the site are fully enclosed. Doors to the building remain closed outside of loading/offloading times. Pest control measures are in place.	Low
Spillage of liquids	Local human population/presence, the closest	Harm to human health	Via drains	Low	Medium	Medium	Permitted wastes do not include liquids however	Storage of liquid effluent is restricted to 30 IBCs, visual inspection of	Low

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	residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate	and animal health					liquid effluent is collected and stored in IBCs prior to transfer off site for recovery	integrity, in a bunded area, moved only by trained forklift operators, any spillage would be contained within the building.	
Flooding of site	Local human population/presence, the closest residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate	Waste and/or raw materials washed off site may contaminate downstream receptors	Flood waters flowing over land and soaking into the ground	Medium	Medium	Medium	Permitted waste types are hazardous and the canal is adjacent to the site and at a higher topographical elevation, the site is not however within a flood plain	A flood risk assessment has not been required for the proposed plant as part of the planning application process as it was screened out.	Low
Arson and / or vandalism causing the release of polluting materials to air (smoke or	Local human population/presence, the closest residential receptors are some 70 m to the southeast of the site; the closest commercial receptor are the other units on the estate;	Respiratory irritation, illness and nuisance to local population. Injury to staff, fire fighters or arsonists/vandals. Pollution of	Air transport of smoke. Spillages and contaminated firewater by direct run-off from site and via surface	Medium	High	High	The impact of a fire on the immediate local area can be significant, and the pollution requiring short to medium term remediation	Site is secure by palisade fencing and lockable gates approximately 2.4 m high at the estate entrance, there is a fire alarm and CCTV. During operational hours access is only granted to authorised vehicles and visitors; pollution control	Low

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fumes), water or land.	ecological sites – the closest is Westport Lake LNR 415 m to the north of the site	water or land. Harm to ecological features through toxic contamination or smothering	water drains and ditches.					measures including impermeable hardstanding and surface water management infrastructure provide protection in terms of providing storage capacity for fire water. Water will be tested prior to discharge following fire to identify if it can be discharged.	

2 Conclusion

Further details on the control measures are provided in the BAT Assessment completed for the variation application (Appendix I of the variation application, ref. SHSMT_2018.01/06_v1). These include details on:

- Waste pre-acceptance
- Waste acceptance
- Waste storage, handling and dispatch
- Use of raw materials (chemicals, water, plastic)
- Treatment validation
- Emissions monitoring

On the basis of this and the assessment above, which follows the H1 approach for risk assessment, it is considered that the control measures that are either already in place at the Site for the current permitted activities or are proposed to be implemented for the new treatment activity are appropriate.

The ERA is a live document and will be subject to regular review throughout the life of the permitted operations. It will also be amended, if required, following any significant change to operations, an incident resulting in an environmental impact, and/or any substantiated complaints.