Permitting Decisions- Environment Agency Initiated Variation

We have decided to issue an Environment Agency initiated variation for Knowsley Healthcare Waste Treatment and Transfer site operated by SRCL Limited following a review of the permit in accordance with Environmental Permitting (England and Wales) Regulations 2016, regulation 34(1).

The variation number is EPR/KP3436NL/V005

Permit Review

This Environment Agency has a duty, under the Environmental Permitting (England and Wales) Regulations 2016 (EPR), regulation 34(1), to periodically review permits. Article 21(3) of the Industrial Emissions Directive (IED) also requires the Environment Agency to review conditions in permits to ensure that they deliver compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions.

We have reviewed the permit for this regulated facility and varied the permit to make a number of changes to reflect relevant standards and best practice. These changes principally relate to the implementation of our technical guidance Healthcare waste: appropriate measures for permitted facilities and the relevant requirements of the BAT Conclusions for Waste Treatment, which have been incorporated into our guidance.

In this decision document, we set out the reasoning for the variation notice that we have issued.

It explains how we have reviewed and considered the techniques used by the operator in the operation and control of the plant and activities of the installation (operating techniques) against our technical guidance.

As well as considering the review of the operating techniques used by the Operator for the operation of the plant and activities of the installation, the consolidated variation notice takes into account and brings together in a single document all previous variations that relate to the original permit issue. Where this has not already been done, it also modernises the entire permit to reflect the conditions contained in our current generic permit template.

Purpose of this document

This decision document provides a record of the decision making process. It:

- explains how the Environment Agency initiated variation has been determined;
- summarises the decision making process in the decision considerations section to show how the main relevant factors have been taken into account;
- highlights key issues in the determination.

Read the permitting decisions in conjunction with the environmental permit and the variation notice.

Key issues of the decision

Environment Agency led variation – permit review

We have carried out an Environment Agency initiated variation to the permit following a permit review as required by legislation to ensure that permit conditions deliver compliance with relevant legislative requirements and appropriate standards to protect the environment and human health.

The Industrial Emissions Directive (IED) came into force on 7 January 2014 with the requirement to implement all relevant Best Available Techniques (BAT) Conclusions as described in the Commission Implementing Decision. Article 21(3) of the IED requires the Environment Agency to review conditions in permits that it has issued and to ensure that the permit delivers compliance with relevant standards, within four years of the publication of updated decisions on Best Available Techniques (BAT) Conclusions.

The BAT Conclusions for Waste Treatment (the BREF) was published on 17 August 2018 following a European Union wide review of BAT, implementing decision (EU) 2018/1147 of 10 August 2018. Relevant existing facilities must be in compliance with the BAT Conclusions within 4 years (i.e. by August 2022).

On 13 July 2020, Healthcare waste: appropriate measures for permitted facilities guidance was published on gov.uk. This technical guidance explains the standards that are relevant to regulated facilities with an environmental permit to treat or transfer healthcare waste, providing relevant standards (appropriate measures) for those sites and incorporating the relevant requirements of the BAT Conclusions.

We issued a notice under regulation 61(1) of the Environmental Permitting (England and Wales) Regulations 2016 (a Regulation 61 Notice) on 26/11/2020

requiring the operator to provide information to confirm that the operation of their facility currently meets, or how it will subsequently meet, the standards (appropriate measures) described in our technical guidance.

The notice required that where the revised standards are not currently met, the operator should provide information that:

- Describes the techniques that will be implemented to ensure operations meet the relevant standards and by when, or
- Explains why they are not applicable to the facility in question, or
- Justifies why an alternative technique is appropriate and will achieve an equivalent level of environmental protection to the standards described in our guidance

The standards described in our technical guidance are split into 7 chapters:

- General management appropriate measures
- Waste pre-acceptance, acceptance and tracking appropriate measures
- Waste storage, segregation and handling appropriate measures
- Waste treatment appropriate measures
- Emissions control appropriate measures
- Emissions monitoring and limits appropriate measures
- Process efficiency appropriate measures

We have set emission limit values (ELVs) and monitoring requirements for relevant substances in line with our technical guidance, unless a tighter, i.e. more stringent, limit was previously imposed and these limits have been carried forward.

The Regulation 61 notice required the operator to confirm whether they could comply the standards described in each of these chapters. Table 1 below provides a summary of the response received and our assessment of it. The overall status of compliance with the standards (appropriate measures) is indicated in the table as:

NA – Not Applicable

CC – Currently Compliant

FC – Compliant in the future (through improvement conditions set in permit)

NC – Not Compliant

In accordance with Article 22(2) of the Industrial Emissions Directive, the Regulation 61 notice asked the operator to provide a soil and groundwater risk assessment, along with a baseline report or summary report confirming the current state of soil and groundwater contamination, where listed activities are undertaken that involve the use, production of release of relevant hazardous substances.

The Regulation 61 notice also asked the operator to confirm whether they operate a medium combustion plant or specified generator (as per Schedule 25A or 25B of EPR 2016) and whether they had considered how their operations could be affected by climate changes (e.g. through a climate change adaptation plan).

Our assessment of the responses received from the operator regarding soil and groundwater risk assessment, medium combustion plant and specified generators, and consideration of climate change are also summarised in Table 1.

The Regulation 61 notice response from the Operator was received on 12/03/2021.

We considered that the response did not contain sufficient information for us to commence determination of the permit review. We therefore issued a further information request to the operator. Suitable further information was provided by the operator on 11/06/2021.

Although we were able to consider the Regulation 61 notice response generally satisfactory at receipt, we needed more information in order to complete our permit review assessment. We requested this by email and the operator provided further information on healthcare storage in vehicle trailers, appropriate measures 21 and 22 for waste acceptance, and appropriate measure 6 for waste tracking on 14/09/21, 05/11/21 and 23/08/22. A further email concerning storage in trailers was received on 01/06/22. We made a copy of this information available on our public register.

Appropriate measures	Compliance status	Assessment of the installation's compliance with relevant standards (appropriate measures) and any alternative techniques proposed by the operator
General management appropriate measures	FC	The operator confirmed that the facility is not currently compliant with appropriate measures 4,5,6 & 8. This relates to the prevention of accidental emissions, an assessment of the containment requirements for emergency firefighting waste, storm water flows and associated buffer storage has not been conducted. The Operator has confirmed they intend to be in full compliance with these measures within 3 years. The proposal is to conduct the assessments to determine if any infrastructure upgrades are required with a view to completing any works within 3 years. Improvement condition IC1 has been included in table S1.3 of the varied permit to address this, the timescales reflect the operators plans to have the infrastructure review and assessment complete at the end of 2021 and implementation by 2022/2023.
Waste pre-acceptance, acceptance and tracking appropriate measures	CC	The operator originally confirmed that the facility was not compliant with appropriate measures 21 & 22 (waste acceptance) and 6 (waste tracking) & proposed alternative measures. The facility does not mark or label every individual waste package that is either collected individually or removed from a cart and for each individual package to recorded in the tracking system. Although the operator does require the producer of the waste to label or mark the primary packages. The operator proposes the following alternative measures: • *Waste producers must label or tag each primary package to ensure that it can be traced to source. This is already a best practice requirement that is checked during pre-acceptance audits.* • *When primary packages are collected individually from a producer they are placed into bulk containers (usually carts but also pallets for rigid containers) and the bulk container is tagged with a barcoded tag which is scanned into the tracking system). The barcoded tags can then be used to identify the bulk container in the tracking system and the route that the waste in the cart was received on.* • *The primary packages within the cart are therefore traceable in the tracking system to the waste producers on that route, and each individual package can then be traced to the specific source using the tag, label or marking applied by the producer.* • *When primary packages are removed from a cart for bulk transportation, the barcoded tags on those carts are assigned to a 'trailer subload' in the tracking system. The subload record can then be used to identify the carts that were emptied into the trailer, and therefore the individual producers or routes that the waste in those carts came from.*

		• *The primary packages within the trailer are therefore traceable in the tracking system to this group of waste producers, and each individual package can then be traced to the specific source using the tag, label or marking applied by the producer.* We have reviewed the alternative measures proposed and appropriate measures 21 appears to be satisfied now the guidance has been amended (8 December 2021) making it no longer the operator's responsibility to mark or label individual waste packaging. The appropriate measure now requires that waste packages are labelled or marked with a unique identifier but does not specify it needs to be the operator. In this case the operator requires the producer to label/mark individual packages. We have incorporated 22 (waste acceptance) and 6 (waste tracking) as alternative measures in the Operational techniques table S1.2, although by labelling and tracking at the cart/pallet level with individual primary packages being labelled/marked by the producers we consider the operator is complying with the appropriate measures. The alternative measures (as clarified by email 23/08/22) are:- • *When receiving loose loads (for example a small quantity route with 20-30 stops at different GP surgeries, dentists, tattooists etc), each bin will contain a single waste type but this may be from multiple producers on that route. Each tag from the vehicle (containing one route) is scanned onto a subload which acts as a unique identifier for the delivery. The subload is tracible back to the route/vehicle this waste was collected on and the date it was receipted into the site. The same is applicable when third parties deliver loose waste into Stericycle. Primary packages are tracible from the unique identifier added by the producer. It is the producers responsibility to mark each individual waste package for traceability.* • *When splitting or palletising a bulk load (i.e. removing loose waste from a trailer into carts/pallets or loading carts/pallets into a loose loaded trailer), Stericycle create a subload which acts as a unique identifier for the bulk load. The subload is a record of tags from every cart/pallet loaded onto/from the trailer. Primary packages are tracible from the unique identifier added by the producer. It is the producers responsibility to mark each individual waste package for traceability.*

Waste storage, segregation and handling appropriate measures	FC	The operator confirmed that the facility is not compliant with appropriate measures 4, 13,19 & 20 (waste storage, segregation and handling points) and 4, compaction of healthcare wastes. Appropriate measures 4 and 19 relate to the storage and handling of containers on pallets to ensure stability and containment with shrink wrap. Stacking of containers stored on site must be within racking systems. The Operator has confirmed that units packed into pallet boxes for onward transfer/transfrontier shipment (TFS)are stored and handled in the following ways:- *Pallet boxes are lined with a leak proof liner and vermiculite is added to the bottom of the box before waste is packed. Rigid units are then stacked upright within the pallet boxes prior to being sealed and over labelled with its contents. This method ensures that any damaged containers, leaks or spillages are contained within the pallet box and the over label cleared displays the contents. To facilitate transfrontier shipment, these boxes are stacked two high and strapped together. Once stacked the pallets are no more than 2.2m high, thus compliant with appropriate measure point 3 however point 19 is not feasible as pallets need to be stacked and strapped in advance of dispatch. The double containment above ensures there are no leaks from the stacked pallets. All pallet boxes are being prepared for onward disposal and Stericycle do not store waste in this manner. Due to prenotification timescales on transfrontier shipments, it is not possible to prepare these pallet boxes within 24 hours of dispatch. This activity is always completed inside of a building .* We have reviewed the alternative measure proposed and are satisfied that the TFS pallet boxes are suitable for stacking (2 high as in transit) and that the strapping is a suitable alternative to shrink wrap. We have included this alternative measure in the Operational techniques table S1.2 Appropriate measure 13 relates to the storing of wastes in vehicle trailers at the site. The operator intends to comply by 31st December 2023 (email 01/06/22), We have included IC2 in table S1.3 of the variation notice to address this measure. Appropriate measure 20 relating to waste storage timescales. The operator has confirmed that in some abnormal situations, timescales may extend beyond the those provided in the guidance. The operator intends to achieve storage time compliance within 12 months. We have included the storage timescales stated in the guidance within the variation notice. The current permit allows compaction of offensive waste. We have therefore include this activity and the

		appropriate codes D14 and R12. The Operator has confirmed that for the Waste Storage, segregation and handling appropriate measures – compaction of healthcare waste point 4 they intend to be in compliance within 12 months. We have included an IC3 in table S1.3 requiring the operator to provide procedures to contain/minimise and monitor emissions, timescales to demonstrate the procedures and associated measures are effective within 3 months of issue.
Waste treatment appropriate measures	CC	The operator has confirmed that the facility is not compliant with the waste treatment appropriate measures 9 and 10. This relates to the requirement of containment measures to prevent microbial emissions from pre-shredded waste before its disinfection. In addition 9 prohibits shredding of untreated infectious waste before the disinfection step except where the plant used is designed and built to provide full bioaerosol containment. The operator has confirmed that the plant shreds infectious waste before it passes though the steam auger for heat treatment. The system has an inspection hopper at ground level where each cart is tipped and inspected before being transferred via a lifting system into a shredder hopper. The inspection hooper tips the waste into a shredder hooper before moving back down the lift to repeat the process. The lift and tip system are enclosed to the point of which the carts are loaded into the inspection hooper. This section of the enclosure is open with a tunnel enclosure to the shredder above completely enclosed on all sides. This enclosure operates under negative pressure with the extractor duct being located over the shredder hooper and at the top of the enclosure. This ensures a continuous extract draft from over the hopper and within the lift and tip enclosure creating a suction trap and therefore preventing any fugitive emissions release through the inspection hopper opening. The shredder operates continuously via the automated SCADA control panel and self-adjusts according to the waste density and volume in the shredder at any one time. The system is fitted with an interlock which isolates the shredder and prevents further bins being loaded should the extract system fail to operate effectively, thus removing the risk of accidental fugitive emission. The extract air passes through a HEPA filter. Designed to provide full containment of bioaerosols, demonstrated by emissions testing. The systems doesn't have doors but we are satisfied it is adequately enclosed. We have incorporated 9 and 10 (waste treatment) and 12 (emission control) as alternative measures in the Operational techniques table S1.2
Emissions control appropriate measures	CC	The operator has confirmed that the facility does not comply with the appropriate measure 12 which requires fully enclosed and contained pre-post treatment shredder plant to prevent emissions. The

		plant should be designed and operated using appropriate process interlocks that cannot be operate unless it is enclosed and contained. Dust and microbial emissions from the shredder plant must be contained and extracted to an appropriate abatements system for example HEPA air filtration. See response to the Waste treatment appropriate measures above and the fugitive emissions monitoring is appropriate.
Emissions monitoring and limits appropriate measures	CC	The operator has confirmed that they comply with all the emission monitoring and limits. The installation has two emission points to air, one from the treatment plant activities and one the steam raising boiler. The waste types and the pre-acceptance measures will ensure that the emission will not contain any chemicals or pharmaceuticals for treatment. The steam raising boiler has a thermal input of 0.8 MW which is below the threshold requiring further assessment. There is one emission to foul sewer
Process efficiency appropriate measures	CC	The operator has confirmed that they comply with all the process efficiency appropriate measures
Reg 61 requirement	**Assessment of response received**	
Soil and groundwater risk assessment	The Operator provided a site condition report (28th May 2013) this provides an environmental setting for the site along with details of pollution history. In addition they have provided a site condition report phase 1 and 2 Intrusive environmental assessment dated August 2004. Baseline conditions have therefore been established.	
Medium combustion plant and specified generators	The boiler used to generate steam has a thermal input capacity of 0.8 MW and is below the threshold for Medium combustion plant.	
Climate change	The Operator has confirmed that the site has not entered into a climate change levy agreement and there are currently no proposals for an agreement to be entered into. A climate change risk screening has been carried out which indicates that a climate change risk assessment is not required.	
Summary of other changes made to the permit as a result of our assessment of the Reg 61 response		
Change	**Reason for change**	
Table S1.1 - Activities	**Activity AR1** we have increased the maximum storage of floc from 24 tonnes to 48 tonnes as the treatment capacity of the site is 48 tonnes per day and this capacity provides for a days treatment. **Activity AR3** - we have increased the maximum storage capacity for hazardous and non-hazardous waste from 320 tonnes to 410 tonnes. We have also increased the storage capacity of hazardous waste from 210 tonnes to 260 tonnes. These changes in storage capacity relate to changes that need to happen at the site to meet the appropriate	

	measures for Healthcare waste, particularly Waste storage, segregation and handling appropriate measures 13 relating to the cessation of storage of waste in trailers. **Activity AR6** -We have included a raw materials Directly Associated Activity to be consistent , it will cover any raw materials used for maintenance and also for cleaning agents etc. **Activity AR10** – we have increased the maximum storage capacity for hazardous and non-hazardous waste from 320 tonnes to 410 tonnes.
Table S1.3 Improvement programme requirements	**IC4 –** the emission inventory and H1 assessment submitted in response to the Regulation 61 notice, was not complete, it did not include any emissions to water or any assessment of dust, so an improvement condition has been included. **IC 5** -The site does not have an approved Odour Management Plan (OMP) which is a requirement for all Healthcare sites treating waste, therefore we have included an improvement condition IC5 which request the submission of an OMP for written approval.
Table S1.4 Pre-operational measures for future development - amended Pre-operational measures	**PO1-** included a pre-op to require the justification for the treatment of offensive waste at the request of the area officer, as this has not been provided previously. **PO2-** The current measures refer to section 3.2 of EPR 5.07, which is no longer relevant, it has been rewritten to include reference to the Healthcare waste: appropriate measures for permitted facilities, waste storage and handling.
Table S2.3 Permitted waste types and quantities for repackaging and storage	**Waste code 15 01 10*** we have replaced with 15 01 04 as we believe this is the most appropriate description of lead foils from dental care. **Waste code 07 05 13* and 07 05 14** (hazardous and non-hazardous medicines), the operator asked for these waste codes to be included in the permit as they are commonly collected commercial pharmaceuticals which are off specification or contaminated medicines. These wastes are not needed as waste medicinal products from manufacture or supply should be classified under the medicine codes in chapter 18(18 01 08/09) – note 'c' in WM3 says' *waste medicinal products from manufacture or supply should be classified under the medicine codes in chapter 18'*

Table 1 – Summary of our assessment of the operator's Reg 61 response