

Attachment A.1 – Non-Technical Summary

Facility description

Sterile Technologies Ireland Limited (STI) currently operates a healthcare waste treatment plant at 430 Beech Road, Western Industrial Estate, Dublin 12. STI propose to extend the boundary of its operation to encompass the adjacent industrial unit located at 420 Beech Road, Western Industrial Estate, Naas Road, Dublin 12 (National Grid Reference: Easting 231398 Northing 309143) to provide facilities for the storage and transfer of healthcare waste. STI proposes to modify its existing operations to permit the operation of a second treatment line within the existing building at 430 Beech Road and extend the range of waste types treated to include blood products. A drawing showing the location of the existing and proposed facility is attached as drawing A.1 F1.

It is planned to install a recovery/recycling facility in the 420 Beech Road premises to enable the extrusion of plastics and textiles from the treated healthcare waste.

STI have obtained suitable planning permission to carry out these activities at the 420 Beech Road premises.

Activities undertaken

The principal activity carried out on the extended site is specified in the Third Schedule of the Waste Management Act 1996 – 2003 as follows;

"7. Physico-chemical treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 8 to 10 of this Schedule (including evaporation, drying and calcination)".

Other relevant activities under the Third Schedule of the Waste Management Act, 1996 – 2003 include;

"12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

"13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.",

Relevant activities to be carried out on the site as specified in the Fourth Schedule of the Waste Management Act, 1996-2003 as follows:

- "2 Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes"
- "3. Recycling or reclamation of metal and metal compounds"
- "4. Recycling or reclamation of other inorganic materials"
- "9. Use of any waste principally as a fuel or other means to generate energy"
- 13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced".

Quantity and types of waste to be treated

The existing healthcare waste treatment plant is currently licensed to process up to 7,500 tonnes per annum. The proposed extension will increase the annual treatment capacity of the combined site to 15,000 tonnes per annum. The wastes to be treated will broadly remain unchanged and will include wastes from hospitals and animal treatment (such as infectious wastes, discharged syringes and dressings, etc) except that it is intended to extend the range of wastes treated to include blood products. Wastes that will be accepted by the site for transfer (but not treatment) will include expired and returned medicinal products, wastes used in the treatment of cancer (cytotoxic drugs), recognisable anatomical waste and infectious wastes which would normally be autoclaved prior to dispatch from the hospital. The annual throughput of the transfer station would not be more than 2,000 tonnes per annum.

Treated waste will be conveyed to the recovery unit located at the 420 Beech Road premises by means of conveyor and an additional 1,000 tonnes of non-hazardous waste could be outsourced as blending material with this waste.

Hours of Operation

The facility currently operates 24 hours a day Monday to Saturday, with notification to the agency regarding Sunday. We would propose to operate the facility 24 hours a day, 7 days a week, as required.

Raw materials, energy and wastes

The raw materials and fuels utilised by the extended site are unchanged from that described in the original application. These are water (used to produce steam for disinfection of the waste), electricity and natural gas (used for heating the water) and disinfectants and detergents (used for cleaning and disinfection of wheeled bins). The wastes produced by the extended site are primarily flock (shredded and disinfected healthcare waste) and miscellaneous wastes resulting from the maintenance of equipment on site (mainly limited quantities of oils and greases).

Process description

The Agency has agreed to the installation of a second independent treatment line, which is currently being installed. The new system is the latest version of the STI Model 2000 process and differs from the original in that significant improvements in the areas of temperature control and electronic parametric monitoring have been made. This system is being installed alongside the current system in the 430 Beech Road premises.

The process is designed to disinfect and render unrecognisable all forms of healthcare waste not specifically requiring incineration. Waste in wheeled bins is discharged into the treatment unit where it is shredded. Shredding renders the waste unrecognisable and aids the disinfection process by increasing the surface area of the waste. After shredding, the waste is transferred by an auger (an inclined screw) through a heated chamber where steam is injected and mixes with the waste. This has the effect of raising the temperature of the waste to a level at which the pathogens, which make the waste infectious, cannot survive. After treatment, the waste is placed into Flexible Intermediate Bulk Containers (FIBC) for disposal at licensed landfill site.

The proposed transfer station will allow the healthcare waste fraction that cannot be processed in the existing treatment plant to be consolidated and over-packed in preparation for shipment to an appropriately licensed treatment/disposal facility. The non-treatable waste fraction will continue to be collected from hospitals at the same time as the treatable fraction as is currently the case. However, instead of being delivered to a third party it will be delivered to the proposed transfer station. At the transfer station, the anatomical and other putrescent wastes will be separated from the load and placed into freezers. The remaining material will be staged and palletised. As each pallet is completed, it will be shrink-wrapped in preparation for shipment. The anatomical waste is treated in a similar manner – being palletised immediately prior to shipment. It is anticipated that waste would be dispatched from site on a fortnightly basis.

Emissions from the facility

Emissions for the existing facility are regularly measured in line with the requirements of the existing waste licence and as such are well characterised. The extension of the facility will not result in the release of any new substances to air, land or water, though the release rate is expected to increase when the second treatment line is operational. The operation of the additional second treatment line is not expected to significantly increase the noise level emanating from the facility.

Impact of emissions on environment

There is no discernable impact on the environment as a result of this process. This has been demonstrated over the last four years of operation and documented in the Annual Environmental Report submitted to the Agency

Monitoring and sampling points

Monitoring and sampling points are largely unchanged from the existing facility, as the second treatment line will utilise some of the existing release points. Sampling will be undertaken in accordance with the existing arrangement specified in the waste licence and will include: bi-annual monitoring of the steam exhaust (A2-2) and HEPA exhaust (A2-1; A2-3) for VOC and indicator micro-organisms; monthly sampling and analysis of effluent released to sewer for BOD, COD, suspended solids and micro-organisms. Given that all Noise Surveys to date indicate that the major noise source in the region is the traffic noise emanating from the nearby Naas Road, it is proposed not to conduct noise surveys in the future.

Off site disposal/treatment of wastes and process residues

It is the intention of STI to develop a facility to recover plastics, metal, and glass from the treated healthcare waste stream. Until such a process can be developed residues from the treatment process will be sent to licensed landfill for disposal. Those healthcare wastes that cannot be treated on site will continue to be transferred to another licensed facility, currently an EU country for disposal by incineration.

Measures to prevent unauthorised releases

STI operates a Quality Management System (QMS) accredited to ISO 9001:2000 and is working towards accreditation to ISO 14001. The system describes and controls all operations on the existing facility and will be extended to include all operations undertaken in the extended facility. By operating to these procedures, which are regularly audited and inspected by an independent third party auditor, STI will be able to minimise the likelihood of any unauthorised releases occurring. In the unlikely event that an incident, such as a spillage of waste does occur, emergency procedures developed as

part of the existing operation will be employed to minimise the extent of the spillage and prevent harm to human health or the environment.

Proposed measures for site closure

Future decommissioning of the extended site following closure is not expected to take more than 6-8 weeks. It is likely to include the processing of any untreated wastes on the site or the transfer of such wastes to other facilities for processing, removal of all treated residues and waste containers, and the dismantling, disinfection and removal of the treatment plant. The building would then be decontaminated if required. Because of the nature of the proposed facility more extensive or long term aftercare is not expected to be required to allow the future reuse of the facility for other industrial or commercial activities.

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