Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

OFFICE OF LICENSING & GUIDANCE

INSPECTOR'S REPORT ON A LICENCE REVIEW APPLICATION

To:	SUB-BOARD	
From:	CIARA MAXWELL	**- LICENSING UNIT**
Date:	21st NOVEMBER 2005	
RE:	APPLICATION FOR A REVIEW OF WASTE LICENCE FROM STERILE TECHNOLOGIES IRELAND LIMITED, LICENCE REGISTER 55-2.	

Application Details	
Type of facility:	Hazardous healthcare waste treatment plant incorporating a non-hazardous materials recovery facility and also a hazardous waste transfer station.
Classes of Activity (**P** = principal activity):	3rd Schedule: 7 (P), 12 & 13 4th Schedule: 2, 3, 4, 9 & 13
Quantity of waste managed per annum:	Currently: 7,500 tonnes per annum Proposed: 18,000 tonnes per annum
Classes of Waste:	Healthcare risk waste for treatment on-site, healthcare risk waste unsuitable for treatment on-site (i.e. for waste transfer station) & commercial waste (i.e. plastic waste for blending in the recovery process).
Location of facility:	Units 420 & 430 Beech Road, Western Industrial Estate, Naas Road, Dublin 12.
Licence application received:	25/02/2004
Third Party submissions:	None
EIS Required:	No
Article 14 Notices sent:	09/03/2004
Article 14 Information received:	08/03/2005, 20/06/2005
Article 14 Compliance date:	20/06/2005
Section 52 Notice sent:	04/05/2005
Section 52 Consent received:	21/11/2005
Site Visits:	15/09/2004, 24/03/2005 (Site notice check) and 24/06/2005

1 Introduction

Sterile Technologies Ireland Limited, (hereafter referred to as STI Ltd.), submitted an initial application for a review of their licence in February 2004. The Agency made a request for further information under Article 14(2)(b)(ii) of the Waste Management (Licensing) Regulations in March 2004. The latter was not responded to until March 2005. In the intervening period, the company's plans for expansion and diversification had altered to such a degree that it was felt prudent, by the company, to submit a completely revised Application Form in response to the Article 14(2)(b)(ii) notice. Therefore, it is the Article 14(2)(b)(ii) response, received by the Agency on 8th March 2005, that was assessed by the inspector.

1.1 Facility

STI Ltd., secured a ten-year all-Ireland contract for the collection, transportation, treatment and disposal of healthcare risk waste in December 2003. The contracting authority is the Joint Waste Management Board, set up by the Department of Health and Children, Dublin and the Department of Health and Social Services, Belfast. The licensee is currently licensed to accept and treat Healthcare Risk Waste at their facility at Unit 430 Beech Road, Western Industrial Estate, (Waste Licence Reg. No. 55-1, granted 14/12/1999).

The sterilisation process involves unloading wheeled bins from collection vehicles and mechanically lifting bins to a raised hopper. From the hopper, the waste is forced downwards through a shredder. The shredded waste travels upwards along an inclined chamber wherein the combination of heat and moisture from injected steam reduces by 99.9999% the microbial population of the waste. The treated waste is subsequently bagged and sent for disposal to landfill.

The licensee currently operates in unit 430, Beech Road, and proposes to extend the existing operation into the adjoining warehousing unit (420). The total site occupies approx. 0.41 hectares. The company employs 29 people, including 6 drivers.

The principal amendments proposed by the licensee to the existing licence are:-

(i) to increase waste tonnage acceptance at the facility from 7,500 tonnes per annum (tpa) to 18,000 tpa, of which 15,000 tpa will be treated on-site;

(ii) to extend the boundary of the current facility and operate a transfer station, (maximum intake of 2,000 tpa hazardous healthcare waste), within the adjacent industrial premises, Unit 420, Beech Road;

(iii) to operate a second treatment line within the existing Unit 430 premises and to increase the rate of processing to 2.5 tonnes per hour (from the current licensed rate of 1 tonne per hour), thereby facilitating the increased throughput, and to amend a number of waste handling conditions;

(iv) to treat additional waste types in the treatment units; and

(v) to install a recovery/recycling facility in the Unit 420 premises to enable the recovery of paper, plastics, glass, textiles and metals following treatment.

Planning permission for the change of use of Unit 420, Beech Road was granted by South Dublin County Council, 6/05/2004, (ref. SD03A/0981).

The facility is currently licensed to accept and process waste on a 24-hour basis, Monday to Saturday. Notification to the Agency of any operation on a Sunday is required by 10.00 a.m. of the following working day (Condition 5.4 of Reg. 55-1). The licensee proposes to increase this to 24 hours a day, Monday to Sunday. Weekend shifts will normally be avoided. However, due to infrequent mid-week maintenance requirements, Sunday operation may be necessary. Due to the location of the facility

in an industrial estate and the absence of any residential areas nearby, it is proposed to agree to the operating time extension.

1.2 Classes of Activity

The classes of activities for which the licensee has applied are indicated overleaf. The principal activity is indicated by (P).

Waste Management Acts 1996 to 2005			
THIRD SCHEDULE Waste Disposal Activities		**FOURTH SCHEDULE Waste Recovery Activities**	
1. Deposit on, in or under land (including landfill).	-	1. Solvent reclamation or regeneration.	-
2. Land treatment, including biodegradation of liquid or sludge discards in soils.	-	2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).	X
3. Deep injection of the soil, including injection of pumpable discards into wells, salt domes or naturally occurring repositories.	-	3. Recycling or reclamation of metals and metal compounds.	X
4. Surface impoundment, including placement of liquid or sludge discards into pits, ponds or lagoons.	-	4. Recycling or reclamation of other inorganic materials.	X
5. Specially engineered landfill, including placement into lined discrete cells which are capped and isolated from one another and the environment.	-	5. Regeneration of acids or bases.	-
6. Biological 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 10. of this Schedule.	-	6. Recovery of components used for pollution abatement.	-
7. Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination) which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1. to 10. of this Schedule (including evaporation, drying and calcination).	P	7. Recovery of components from catalysts.	-
8. Incineration on land or at sea.	-	8. Oil re-refining or other re-uses of oil.	-
9. Permanent storage, including emplacement of containers in a mine.	-	9. Use of any waste principally as a fuel or other means to generate energy.	X
10. Release of waste into a water body (including a seabed insertion).		10. The treatment of any waste on land with a consequential benefit for an agricultural activity or ecological system.	-
11. Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.	-	11. Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.	-
12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.	X	12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.	-
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.	X	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.	X

2 Operational Description

The activities proposed at the facility can be broken described under three categories:

1. Waste Treatment
2. Materials Recovery
3. Waste Transfer

The treatment process is designed to sterilise healthcare waste that does not specifically require disposal by means of incineration. Treatment involves shredding and subsequent injection of low-pressure steam, within a heated chamber for an

extended period of time. Following treatment, and subject to the demonstration that the required microbiological kill rate has been achieved (i.e. a 6 $\log_{10}$ reduction of *Bacillus [Geobacillus] stearothermophilus* or *Bacillus subtilis)*, the waste is no longer deemed a hazardous waste. The licensee currently demonstrates microbial inactivation on a daily basis using challenge testing with 1 x 10^6 *Bacillus atrophaeus* (formerly classified *Bacillus subtilis* var *niger*) spores. Challenge testing involves introducing treated spore strips into the waste prior to processing. The indicator strip is retrieved post-treatment and cultured. If no growth occurs this demonstrates a 6 $\log_{10}$ reduction (i.e. STAATT level IV inactivation[2]) in the microbial population. *[Note that this level of micobiological inactivation is one hundred times the level III inactivation, or 4 $\log_{10}$ reduction, recommended by the STAATT reports of 1994[2] and 1998[3]].* The treated waste is placed in Flexible Intermediate Bulk Containers (FIBC's) for disposal to a licensed landfill, currently KTK Landfill Ltd., Reg. 81-2. The Recommended Decision (RD) accommodates the requested increase of healthcare waste treatment from 7,500 tpa to 15,000 tpa, following the installation of a second treatment line, similar to the existing line.

The 2003 Tender Contract from the Joint Waste Management Board specifies that the licensee recycles/recovers at least 25% by weight of the waste collected by the third year of the contract (*cf.,* further information submitted by the licensee, 20/06/2005). The licensee plans to commence recovery of items (paper, plastics, glass, textiles & metals) from the waste 'flock', post-treatment. The RD facilitates the introduction of waste recovery at the facility, subject to conditions.

The operation of a transfer station will enable the healthcare fraction that is unsuitable for processing, (e.g. anatomical waste, cytotoxic waste, etc.), to be stored on-site for a maximum period of three months, as per Condition 8.12.4 of the RD. Handling operations for these wastes will include repackaging, freezing, placing on pallets, etc.

3 Proposed Licence Amendments

Currently, the facility treats approximately, 5,800 tpa of healthcare risk waste. It is licensed to treat up to 7,500 tpa. The licensee requests that the maximum tonnage limit be increased to 15,000 tpa for the treatment of healthcare risk waste, with provision for an additional 2,000 tpa of hazardous healthcare waste for transfer off-site for disposal/recovery and 1,000 tpa for the importation of commercially derived plastic, to provide an additional feed for the recovery process. Therefore, the total waste acceptance requested at the facility is 18,000 tpa, (i.e. 15,000 tpa healthcare risk waste 2,000 tpa hazardous healthcare waste and 1,000 tpa non-hazardous waste).

3.1 Proposal to operate a second treatment line within the existing Unit 430 premises and to increase the rate of processing to 2.5 tonnes per hour (from the current licensed rate of 1 tonne per hour) and to amend a number of waste handling conditions

The licensee has installed a second treatment line and the Agency has approved the commissioning tests carried out on this line subject to the licensed throughput limit of 1 tonne per hour (*cf.* Agency correspondence AK05AS, dated 23/05/2005). The licensee proposes to operate both lines simultaneously. The licensee foresees the ability of the "new" line to operate with efficacy at a rate of 1.5 tonnes per hour. Thus, increasing the facility's throughput to 2.5 tonnes per hour. The RD provides for the increased throughput subject to approval of further commissioning tests that prove efficacy at that throughput, (Condition 8.14.2).

The licensee has requested the amendment of a number of conditions in the existing licence that deal with waste handling. The licensee's proposals are dealt with hereunder.

3.1.1 Proposal to store waste (i.e. healthcare risk waste for transfer) for a maximum period of two weeks in refrigerated containers

This request by the licensee arises in relation to a condition in the existing licence, (Reg. 55-1, Condition 5.7), whereby storage of unprocessed waste was limited to 36 hours. This limitation will not apply following the introduction of necessary infrastructure for the proposed Transfer Station. Condition 8.12.4 stipulates that no waste shall be stored in the Transfer Station for longer than three months.

3.1.2 Proposal to increase the storage time for unprocessed waste (i.e. healthcare risk waste for treatment on-site) to 72 hours

Currently, unprocessed waste may be stored for a maximum of 36 hours under the provisions of licence Reg. 55-1. The licensee requests that an additional 36 hours storage be allowed to enable for storage over bank holiday weekends and holiday periods. The RD extends the limit to 60 hours (Condition 8.14.6).

3.1.3 Proposal to reduce the frequency of microbiological testing with verification based on continuous parametric monitoring

Currently, the licensee has daily microbial inactivation tests using spores of *Bacillus atrophaeus,* performed both in-house and by an external independent laboratory. The licensee requests that this stringent monitoring regime be relaxed on the basis that the process has consistently achieved sterilisation, to the required level of spore inactivation, over five years of operation. The licensee argues that parametric monitoring could be used to verify the process, rather than conducting expensive, external laboratory analysis. The RD makes provision for a reduction in microbiological testing, subject to agreement with the Agency of a procedure in relation to parametric monitoring, (Schedule C.4), and following complete commissioning of the second line.

3.1.4 Proposal to eliminate the requirement for twice weekly analysis of grab samples of treated waste

The licensee argues that the requirement to test samples of treated waste, which could be deemed to be satisfactorily treated on the basis of parametric monitoring and spore testing, is unnecessary. The STAATT II[3] document agrees that "treated" waste need not be monitored for microorganisms. The treatment system should achieve a consistent reduction in the concentration of viable microorganisms. The low levels of microorganisms found are not likely to constitute a danger to public health and safety. Furthermore, the treated waste is disposed of in a landfill where conditions may not be conducive to the growth of most human pathogens. For these reasons, it is proposed to reduce the frequency of treated waste monitoring but to maintain a degree of monitoring due to the potential for banned waste, such as cytotoxic waste, being inadvertently accepted at the facility. In any case, a suitable level of testing should be maintained since material is to be directed for recovery. Schedule C.4 of the RD requires that treated waste be analysed on a monthly basis.

3.1.5 Proposal to eliminate the requirement for annual process efficacy testing

The licensee argues that this test, which is more or less a repeat of the commissioning test, is unnecessary on the basis of routine testing carried out (see 3.1.3 & 3.1.4 above). Condition 11.12 of the RD places a requirement on the licensee to produce a Process Verification Report annually, as part of the AER.

Rather than requiring the licensee to repeat commissioning testing, the report shall include:

(a) a description of the monitoring programme as carried out;

(b) the results of *all* analytical testing carried out;

(c) a concise interpretation of those results;

(d) *all* parametric monitoring records; highlighting any automatic shut-downs that occurred, the reason why they occurred and the corrective action taken;

(e) evidence of the adequacy, suitability and competency of both external and in-house laboratories to undertake efficacy testing, including details of the quality system operated by the laboratories and the training of staff. This may require an audit of the testing laboratories; and

(f) any other information which may be required by the Agency.

3.1.6 Proposal to eliminate the requirement for measuring waste exit temperature from the processing unit

The licensee points out that the exit temperature varies depending on ambient conditions and does not provide any useful information in terms of process monitoring since there is no correlation between temperatures measured internally and that measured at the exit point. The parametric monitoring to be undertaken is outlined in Condition 6.8 of the RD; exit temperature monitoring is not specified. The criteria which parametric monitoring equipment shall satisfy are specified in Condition 3.21.4.

3.2 Proposal to treat additional waste types

The licensee has proposed to accept the following waste types for treatment or transfer, as indicated.

	Currently accepted for treatment under Reg. 55-1 (Condition 5.2)	**Proposed Healthcare Risk Waste for treatment**	**Proposed Healthcare Risk Waste for transfer**
European Waste Catalogue & Hazardous Waste List Codes [Note 1] **Note:** Any waste marked with an asterisk (*) is considered as a hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive, unless Article 1(5) of that Directive applies.	180101, 180102, 180103*, 180104	180101, 180102, 180103*, 180104, 180107, 180201, 180202*, 180203, 180206	180102, 180103*, 180106*, 180108*, 180109, 180202*, 180205*, 180207*, 180208

Note 1 *See relevant extract from EWC & Hazardous Waste List attached in Appendix 1*

The Department of Health and Children (DOH&C) guidance document entitled 'Segregation, Packaging and Storage Guidelines for Healthcare Risk Waste[1] lists the following materials as unsuitable for treatment by non-incineration disinfection technology:

> *"materials such as chemically hazardous waste, recognisable large anatomical waste or body parts, cytotoxic materials, blood or blood*

components assessed as likely to contain transmissible spongiform encephalopathy agents, and large metallic objects, such as prosthetic joints".

The RD excludes the acceptance of EWC code 180107 (*chemicals other than those mentioned in 180106*) and 180206 *(chemicals other than those mentioned in 180205)* wastes for treatment as it is considered that the proposed treatment is unsuitable for the disposal of chemicals used in human or animal healthcare. The Dept. of Health and Children 2004 guidance document[1] recommends the disposal by incineration of pharmaceutical preparations or medicines that are left over after administration to patients.

The RD limits the acceptance of EWC code 180102 *(body parts and organs including blood bags and blood preserves [except 180103])* for treatment as follows:

- Condition 1.7(i) stipulates that the following wastes are specifically excluded from treatment at the facility without the prior agreement of the Agency:
  (a) processed blood products;
  (b) infectious Brucellosis-type waste;
  (c) waste loads with fluid content greater than 30% by weight, and
  (d) laboratory waste containing genetically modified organisms.

- Condition 1.7(ii) states that the following wastes cannot be treated on-site and may only be accepted for transfer operations, (i.e. storage and repackaging), prior to onward shipment for appropriate disposal:
  (a) anatomical waste (animal & human), and
  (b) cytotoxic / pharmaceutical waste.

The RD's Glossary of Terms defines what is meant by the term Anatomical Waste. The definition specifies organs, which includes placenta waste (*cf.* Non-compliance issued during Audit of 31/03/2005, *ref. (55-1) 05AR03AS*). However, it does not include, for example, human tissue waste on soiled bandages, blood on gowns, etc. It is noted that a letter was received from the licensee (*Miscellaneous, 4/07/2005*), which specifically requests that the acceptance of placenta waste for treatment be included in this licence review. Nonetheless, it is considered that incineration is the most appropriate disposal option for this waste stream. Condition 8.15 outlines the requirements to be fulfilled prior to authorisation from the Agency to treat any of the waste types listed, other than those listed in Condition 1.7(ii).

3.3 Proposal to install a recovery/recycling facility in the Unit 420 premises to enable the recovery of paper, plastics, glass, textiles and metals.

The licensee has outlined the proposed recovery process, though the details are yet to be finalised (see Figure D.2 F6 *Waste Recovery Process Flow Sheet*, Attachment D). The recovery process will use up to 1,000 tpa of imported commercially derived plastic waste as feed. This will be blended with the treated healthcare risk waste 'flock'. A hot water float tank will be used to separate the floating plastic. Paper, textiles, metal and glass will sink to the bottom and will be carried underflow to the belt press. A magnetic separator will remove the metal components. The waste will then pass through a hot air dryer/classifier, which separates light (paper & plastic film) from heavy (paper, textiles & glass) constituents. The lighter fractions will then be separated from the air stream in a cyclone. The segregated wastes will be bagged or collected in skips, as appropriate. Water will be recovered from the hot water float tank, the belt press and the plastics area to a water treatment tank where it will be filtered for suspended solids and dosed with sodium hypochlorite to prevent bacterial growth. The water will then be re-circulated to the hot water float tank.

Prior to the commencement of any materials recovery operations the licensee will have to submit design specifications for the recovery facility. Specified Engineering Works for the installation of the materials recovery process infrastructure are to be agreed with the Agency in accordance with Condition 3.22. The ultimate recovery facility for materials recovered from this process must be agreed in advance with the Agency, in accordance with Condition 8.8.

4. Use of Resources

4.1 Fuel

A number of small drums (approx. 200 litres) of diesel fuel are stored on mobile bunds throughout the site. Approximately 2,000 litres of diesel are used annually as fuel for forklifts. It is the intention of the company to look at on-site fuel storage in the future but no details have been submitted for consideration during this review.

Approximately 250 litres of lubricating oil are stored on-site at any one time for the Shredder gearbox. Approx. 800 litres are used annually. The existing electric-powered steam boiler will be replaced by a gas-fired boiler. This will utilise *c.*510, 000m^3 of natural gas per annum.

The RD requires storage of all fuels within bunded areas (Condition 3.10.2).

4.2 Electricity

Annual electricity consumption is *c.*1.523m kWh. Electric use is primarily for the operation of plant.

4.3 Water

The main use of water is the on-site bin washer. Each bin is washed following emptying, before being returned to the hospitals. Water will also be used for the materials recovery process. However, the quantity will be small as much of the water will be recycled.

5 Emissions

5.1 Emissions to Air

There are three principal emissions to air (see Figure E.1 F1 *Site plan showing location of emissions points to air*, Article 14(2)(b)(ii) response, received 8/03/2005):

- one from each of the waste shredders – A2-1 & A2-3
- one from the steam exhaust – A2-2

The waste treatment system is enclosed and operates under negative pressure. An interlock prevents the introduction of waste to the shredders unless the negative pressure has been established. Air from each shredder is drawn through a HEPA filter prior to exhaust to atmosphere. The HEPA filter is designed to remove particles of 0.3µm, at 99.95% efficiency. Emission points from the shredders are A2-1 and A2-3.

The steam exhaust from both treatment process lines will be vented to atmosphere via the existing abatement system. The abatement consists of a single pass condenser, a coalescing vessel and a carbon filter. The use of both condenser and coalescing unit reduces the potential for odour by capturing waste droplets. The carbon filtration system absorbs the volatile organic compounds (VOC's) released as a result of heating the waste. VOC's (and potential odours) are reduced to less than 50mg/Nm^3. The emission point from the two treatment lines is A2-2.

Currently, the total VOC mass flow from emission points A2-1 and A2-2 is small, generally much less than 0.1 kgVOC/hour. Condition 5.7 of the RD requires annual characterisation of the VOC's contained in the emissions from A2-1, A2-2 and A2-3; to determine what (if any) proportion of the total VOC emission is made up of the components, trichloromethane and 1,2-dichloroethane. The results shall be assessed in relation to the Danish C-value for these components (trichloromethane @ 20µg/m^3 and 1,2-dichloroethane @ 0.2µg/m^3). Depending on the significance of these emissions, the requirement for annual characterisation of VOC's may be amended upon agreement with the Agency. The RD limits each VOC emission to 0.1 kg/hour (Schedule B.1).

The emissions from the natural gas fired packaged steam boiler at emission point A2-4 will not be significant. No abatement is proposed. However, the RD requires that boiler efficiency be tested annually (Condition 5.8).

The emissions from the bin washer consist of steam with low concentrations of bacteria, fungi and VOC's. The system utilises a disinfectant detergent and hot water to ensure decontamination of bins. The low volume of steam produced is exhausted outside the building at emission point A2-5. The RD requires that this emission point be monitored for microbiological contamination (Schedule C.1.2)

The only air emissions from the recovery process will be from the rotary drier. Emissions will pass through a cyclone which removes large particulate matter and dust. The gas stream will then pass through a reverse jet pulse filter. The latter removes fine particles and dust from the air stream before it is vented to atmosphere via an exhaust fan. The location of this emission point A2-6 will be agreed with the Agency prior to commencement of the recovery process (Condition 5.4). The abatement equipment will be the subject of a test programme as outlined in Condition 6.13.

5.2 Emissions to Sewer

There are two points of emission to sewer: the existing point, SE1, at the rear of Unit 430 and the proposed, SE2, at the rear of Unit 420. These will each discharge a maximum of 20m^3/day to the foul sewer.

The discharge to SE1 is composed mainly of condensate water from the treatment process and bin-wash water. The latter will contain biodegradable detergent, which is used to disinfect the bins (wheeled carts). The bin washer is fitted with a solids sieve to reduce the solids content prior to discharge.

Discharge from the recovery process in Unit 420 will arise from a purge stream from the water treatment tank via a solids sieve. As the recovery process has not been fully designed, the frequency of this discharge is unclear.

Consent for the discharge has been obtained from the Sanitary Authority. Monitoring requirements and emissions limit values, as per the Sanitary Authority's discharge consent, are set out in Schedules C & B, respectively.

5.3 Emissions to Surface Waters

The only discharge to surface water sewer from the site is uncontaminated rainwater run-off from roof, car parking and vehicle movement areas. However, the Office of Environmental Enforcement, in a site inspection report, dated 23/09/2004 [*ref. (55-1) 04SI14AS*] issued a non-compliance for the inappropriate storage of processed material. In a recent audit, undertaken 31/03/2005 (*ref. (55-1) 05AR03AS)*,

inspectors observed the poor sate of repair of the bagging yard area and the fact that run-off from this area is directed to surface water sewer. The RD requires that all run-off from processed material storage areas be directed for appropriate disposal (Condition 3.10.5).

5.4 Emissions to ground/groundwater

There shall be no emissions to ground or groundwater.

5.5 Waste

The facility does not generate significant quantities of waste, other than the wastes processed on-site. Currently all processed material is sent to licensed landfill.
Following the development of a materials recovery process, segregated wastes may be sent for recovery, subject to Agency approval. Waste accepted at the Transfer Station will be sent off-site for incineration.

5.6 Noise

According to the licensee, annual noise monitoring at the facility since 2000 has consistently shown that road traffic noise from the Naas Road (located approx. 200m from the site) is significant. The licensee included the 2003 results of monitoring at two locations - front & rear of Unit 430 - on the site boundary. These results show evidence of a tonal component, in both day and night-time results, emanating from the facility. The factors that give rise to the tonal quality include whether doors are left open and also the operation of the treatment unit. Condition 4.5 stipulates that there should be no clearly audible tonal or impulsive component in the noise emissions from the facility at the facility boundary. Schedule C.5 requires the monitoring of noise within twelve months of the date of grant of licence - while operating at maximum throughput - and thereafter as requested by the Agency. Monitoring will be undertaken at four locations; at front and rear of Units 420 & 430.

5.7 Nuisance

Litter will be controlled by using an industrial wet/dry vacuum cleaner and by carrying out litter patrols. Any litter collected will be passed though the waste treatment system (Condition 5.13). Access by birds to treated waste will be prevented by using covered skips and conveyors and by securely tying FIBC's.

A daily 'Sniff Test' to check for odours is a requirement of the existing licence, (Reg. 55-1), and is undertaken at the front of the Unit 430 building. This test will be replicated for the Unit 420 building. Condition 5.11 of the RD requires that the licensee ensure that vermin, birds, flies, mud, dust, litter and odours do not give rise to nuisance at the facility or in the immediate area of the facility.

5. 8 Decommissioning, Closure, Restoration and Aftercare

The licensee has submitted a Residuals Management Plan. Decommissioning would involve the decontamination and dismantling of all machinery and would take approximately six weeks upon cessation of the operation. The RD requires that the Residuals Management Plan be updated to include the extended facility. Condition 10 of the RD deals with decommissioning and aftercare.

6. Cultural Heritage, Habitats & Protected Species

There are no environmentally designated areas on, or in the vicinity of, the site.

7. Waste Management, Air Quality and Water Quality Management Plans

Pre-treatment of hazardous waste prior to disposal to landfill is in keeping with the long term priority for the National Hazardous Waste Management Plan, i.e., for Ireland to achieve self-sufficiency in hazardous waste management.

The provision of technology to recover waste is in line with the Dublin Waste Management Plan and is also a requirement of the Joint Waste Management Board's contract.

8. Compliance with Directives/Regulations

This facility falls within the scope of category 5.1, *[Installations for the disposal or recovery of hazardous waste as defined in the list referred to in Article 1(4) of Directive 91/689/EEC, as defined in Annexes II A and II B (operations R1, R5, R6, R8 and R9) to Directive75/442/EEC and in Council Directive 75/439/EEC on 16 June 1975 on the disposal of waste oils, with a capacity exceeding 10 tonnes per day]*, of Annex I of Council Directive 96/61/EC concerning Integrated Pollution Prevention and Control (IPPC). The RD as drafted takes account of the requirements of the Directive**.**

9. Compliance Record

The compliance history of this facility has been reasonably satisfactory to date. Few non-compliances have been noted since it was first licensed in 1999. The Agency has undertaken site visits and audits at the facility since grant of the existing licence, (Reg. 55-1). No complaints about the facility have been registered. The licensee has been prompt in its notification of, and response to, incidents.

10. Fit & Proper Person Assessment

The licensee has provided financial statements for the years 2001 to 2003. The licensee's experience, technical expertise, financial standing and licence compliance fulfil the necessary criteria for Fit and Proper Person.

11. Submissions

There were no submissions made in relation to this application.

12. Charges

The 2005 charge for the facility, operating under licence Reg. 55-1 is €18,380.
The RD recommends an annual charge of €9,614. The reduced charge better reflects the enforcement and monitoring effort required for the facility.

13. Recommendation

I have considered all the documentation submitted in relation to this application and recommend that the Agency grant a licence subject to the conditions set out in the attached RD and for the reasons as drafted.

Signed

Ciara Maxwell
Licensing Inspector

References

1. **Segregation, Packaging and Storage Guidelines for Healthcare Risk Waste.** Department of Health and Children. 3rd Edition, 2004.

2. **STAATT I. Technical Assistance Manual: State Regulatory Oversight of Medical Waste Treatment Technologies.** State and Territorial Association on Alternative Treatment Technologies, April 1994.

3. **STAATT II. Technical Assistance Manual: State Regulatory Oversight of Medical Waste Treatment Technologies: A Report of the State and Territorial Association on Alternative Treatment Technologies.** EPRI Report TR-112222. (EPRI, Palo Alto, CA, 1998.)

Procedural Note

In the event that no objections are received to the Proposed Decision on the application, a licence will be granted in accordance with Section 43(1) of the Waste Management Acts 1996-2005.

APPENDIX 1

Extract from **'European Waste Catalogue and Hazardous Waste List – Valid from 1 January 2002'. © EPA, 2002.**

18	**WASTES FROM HUMAN OR ANIMAL HEALTH CARE AND/OR RELATED RESEARCH (except kitchen and restaurant wastes not arising from immediate health care)**
18 01	**wastes from natal care, diagnosis, treatment or prevention of disease in humans**
18 01 01	sharps (except 18 01 03)
18 01 02	body parts and organs including blood bags and blood preserves (except 18 01 03)
18 01 03*	wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 01 04	wastes whose collection and disposal is not subject to special requirements in order to prevent infection (for example dressings, plaster casts, linen, disposable clothing, diapers)
18 01 06*	chemicals consisting of or containing dangerous substances
18 01 07	chemicals other than those mentioned in 18 01 06
18 01 08*	cytotoxic and cytostatic medicines
18 01 09	medicines other than those mentioned in 18 01 08
18 01 10*	amalgam waste from dental care
18 02	**wastes from research, diagnosis, treatment or prevention of disease involving animals**
18 02 01	sharps except (18 02 02)
18 02 02*	wastes whose collection and disposal is subject to special requirements in order to prevent infection
18 02 03	wastes whose collection and disposal is not subject to special requirements in order to prevent infection
18 02 05*	chemicals consisting of or containing dangerous substances
18 02 06	chemicals other than those mentioned in 18 02 05
18 02 07*	cytotoxic and cytostatic medicines
18 02 08	medicines other than those mentioned in 18 02 07

Note: *Any waste marked with an asterisk (*) is considered as a hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of that Directive applies.*