

Permitting decisions

Bespoke permit

The permit number is EPR/WP3231SX/V004.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision making process. It summarises the decision making process in the decision checklist to show how all relevant factors have been taken in to account.

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

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision checklist](#) to show how all relevant factors have been taken into account
- shows how we have considered the [consultation responses](#).

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit. The introductory note summarises what the permit covers.

Key issues of the decision

The variation is for the addition of a HAZPAK 6000 processor for aerosol crushing (this replaces the existing Hazpak 1500 processor), bottle crusher and wire granulator. However further listed activities have been added as part of the variation as part of updating the permit to meet the requirements of the Industrial Emissions Directive.

1. The listed activities, directly associated activities (DAAs) and waste operations in the permit with descriptions as to their origin are detailed below:

Please note that the A references relate to the activity reference number in table S1.1 of the variation notice.

Listed activities

Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment:

A1* - S5.3A(1)a(ii) Small depacking machine (existing activity - waste throughput reduced from 75 t/day to 19.9 t/day hazardous waste);

A2 - S5.3A(1)a(ii) Shredder (existing activity - waste throughput reduced from 100 t/day to 19.9 t/day hazardous waste);

A3 – S5.3A(1)a(ii) Large depacking machine (existing activity - waste throughput reduced from 75 t/day to 19.9 t/day hazardous waste)

A4 – S5.3A(1)a(ii) Bottle crusher (new activity 60 t/d hazardous waste) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment

A5 - S5.3A(1)a(iii) Bottle crusher (new activity 40 t/d hazardous waste) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving blending or mixing prior to submission to any of the other activities listed in this Section or in Section 5.1;

A6 - S5.3A(1)a(ii) Hazpak 6000 processor (existing activity but upgrade to new plant– waste throughput reduced from 19.90 t/day to 16 t/day hazardous waste)

A7-S5.3A(1)a(iii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving blending or mixing - Mixing and blending of hazardous waste as part of hazardous waste transfer station activities. Existing activity - Limit changed to 300 tonnes per day.

A8 - S5.3A(1)a(iv) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving repackaging - Repackaging hazardous waste as part of the transfer station activities. Existing activity - Limit changed to 100 tonnes per day.

A9 – S5.6 Part A(1) Temporary storage of hazardous waste. Existing activity - Limit changed to a maximum of 1,500 tonnes. A10 - S5.3A(1)a(ii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment – Separation of oil and water mixtures. Existing activity - waste throughput reduced from 55 t/day to 30 t/day hazardous waste.

A11 - 5.4 Part A(1)a(ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment– Small depacking machine. Existing activity - waste throughput reduced from 75 t/day to 55 t/day non-hazardous waste.

A13 - 5.4 Part A(1)a(ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment – Large depacking machine. Existing activity - waste throughput reduced from 75 t/day to 55 t/day non-hazardous waste.

A13 - 5.4 Part A(1)a(ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment– Bottle crusher (new activity 55 t/d non-hazardous waste).

A14- 5.4 Part A(1)a(ii) Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment –Drum shredder (existing activity - waste throughput reduced from 100 t/day to 55 t/day non-hazardous waste);

A15 - 5.4 Part A(1)b(iv) - shredder. Additional activity due to EPR descriptions update. Throughput 76 t/day non-hazardous waste.

A16 - 5.4 Part A(1)b(iv) – Wire granulator. Additional activity due to EPR descriptions update. Throughput 76t/day non-hazardous waste.

Directly associated activities

A17 – Storage and transfer of non-hazardous waste. Existing activity. Limit increased from 50 to 750 tonnes maximum storage capacity which is also combined with the A21 activity (A17 and A21 =750 tonnes).

A18 - Collection of contaminated site runoff and disposal off site.

A19 - Regenerative Thermal Oxidiser (which forms part of the abatement system of the Hazpak 6000 [A6] activity).

A20 - Drying shed (further treatment process for the VOC emissions from the waste bricks from the Hazpak 6000 [A6] activity)

Waste operations

A21 –Storage and transfer of non-hazardous waste existing activity due to the superseded permit EAWML 86112 but this was not listed in the previous permit in error. A22 De-packaging of non-hazardous waste by removing the contents of packaged waste for recovery (R3, R4 and R5)

A23 De-packaging of non-hazardous waste by removing the contents of packaged waste for recovery (R3, R4 and R5)

A24 Crushing and removing the contents of non-hazardous bottled waste by removing the contents for recovery

A25 Physico-chemical treatment of non hazardous waste for recovery – shredder.

Proposed activities included in the application which are no longer required

The applicant applied for the operation of a gas engine as a directly associated activity (DAA). The engine is planned to be fuelled by the recovered LPG from activity A6 – the Hazpak 6000 to produce electricity to power the site and to export to the national grid. However not enough information was provided with the application in relation to the size of the engine – also air quality emissions data in the form of air quality modelling would also be required. This part of the application has been withdrawn by the operator.

The operator originally applied for the following activities for the biological treatment of waste (C2/Tab1/Act):

A12 - 5.4 Part A(1)b(i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day- Small depacking machine. Additional activity due to EPR descriptions update. Throughput 76 t/day non-hazardous waste.

A14 - 5.4 Part A(1)b(i) Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day- Large depacking machine. Additional activity due to EPR descriptions update. Throughput 76 t/day non-hazardous waste.

A16 - 5.4 Part A(1)b(i) - Bottle crusher (new activity 76 t/d non -hazardous waste).

However there is no biological treatment of waste associated with these activities on site so these were included in error and have been removed.

The operator also applied for the following:

A18 -5.4 Part A(1)b(ii) Physico-chemical treatment of waste for incineration or co-incineration for recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day – non-hazardous shredder. Throughput 76 t/day non-hazardous waste.

However the waste is transferred to a separate site for baling prior to being sent off-site for recovery or disposal at an EFW facility. So there is no need for this activity and so it has also been removed.

Additional waste operations

The applicant wants to carry out physico-chemical treatment of non-hazardous waste for recovery for the small and large depacking machines, the bottle crusher and the shredder. This is not a section 5.4 listed activity so four waste operations were added to replace the activities above which are no longer required. These are A22 replaces A12 for the small depacking machine; A23 replaces A14 for the large depacking machine, A24 replaces A16 for the bottle crusher and A25 replaces A18 for the non-hazardous waste shredder.

The applicant also applied for permit EAWML 86112 to be consolidated with EPR/WP3231SX as part of this variation as the current permit states that this permit was partially superseded when the PPC permit was issued on 14/09/07. However this is considered to be a type error as the billing form completed when the permit was issued states that EAWML 86112 was fully superseded at the time of the PPC permit issue and there are no waste activities which are no already covered by the current permit. Therefore there is no need for further consolidation. However the waste activities have been correctly listed in the permit under activity A21.

2. The new listed activities added as part of this variation

2.1 Hazpak 6000 Waste Recovery Plant, drying enclosure and abatement system which includes an activated carbon filter, followed by a regenerative thermal oxidiser (RTO)

Activity ref. A6 (table S1.1) - S5.3A(1)A(ii) Hazpak 6000 processor (existing activity but upgrade to new plant– waste throughput reduced from 19.90 t/day to 16 t/day hazardous waste).

The Hazpak 6000 processor is a larger, enhanced derivation of the facilities previous aerosol processor - the EKO Hazpak 1500. The Hazpak 6000 processor will provide an increased maximum throughput of 19.90 tonnes/day (from 16 tonnes per day with the EKO Hazpak 1500). The processor is for the recovery of waste

material from waste aerosols, LPG gas cylinders, paint tins and oil filters. The wastes are loaded into the bin lift prior to being discharged into the plant's hopper (the hopper is purged with nitrogen prior to the loading process). The unit closes to form an air tight seal. A compressor draws off all the nitrogen inside the system to create a vacuum. The waste is then compacted to release the products which includes aerosol propellants. During this process waste solvents can be introduced to aid the flow of more viscous products. The process produces a high density metal brick. The bricks are discharged into the integral brick receiving chamber, which once filled is emptied into 800 litre collection containers.

When processing aerosols - both the products and the propellants are pumped to a separator tank, from where the gaseous butane and propane (LPG) are drawn off and transferred to a buffer tank. The liquid products are pumped from the separator tanks to IBCs.

When processing waste paint - the liquid products and any wash solvents are pumped directly to IBCs.

When processing oil filters - the waste oils are pumped directly to IBCs.

Once full the IBCs are stored prior to being sent offsite for recovery.

The LPG is transferred and compressed into large cylinders and is used as support fuel in the Grondon clinical waste incinerator (which is regulated by a separate permit (ref: EPR/BT28661G).

The HAZPAK 6000 is fitted with an air extraction and scrubbing system which minimises fugitive emissions. The system is ATEX certified. Air extraction points include: around the hopper, the filter baskets, the waste liquid IBCs, within the metal brick drying enclosure, at various points within the building and connected to pressure relief valves.

All extracted air is scrubbed by a large activated carbon filter, followed by a regenerative thermal oxidiser (RTO), prior to discharge to atmosphere via a stack.

There is no operational procedure for the RTO as this is not yet operational, however improvement condition IC9 requires that the environmental management system (EMS) is updated following commissioning of the Hazpak 6000 and abatement system which includes the RTO.

The metal brick drying enclosure stores the 800 litre containers of metal bricks that are contaminated with substances which are likely to give rise to fugitive emissions of VOCs. This enclosure is heated using a proportion of waste heat from the RTO.

The drying enclosure is operated in accordance with procedure ref: SO/TD/EWE/070 entitled, 'Operation of Drying Shed'. The operator stated that when the metal bricks are ejected from the plant, there's the potential for them to have a low level surface contamination of both the products contained within the aerosols and the flush solvent used to clean the bricks. It was considered best practice to capture any VOCs that would be emitted when the bricks are drying. The contamination constitutes a range of volatile solvents.

Regarding the structure of the building, two plans have been provided entitled, 'Calculations for drying shed' and Drawing number 160196-2. Working under negative pressure, the building has been designed to maximise the capture of VOCs emitted from the bricks. The temperature within the building is increased above ambient using a proportion of the waste heat gases from the RTO. These enter close to the bottom of the building. Using the RTO ID fan and an in-line diverter valve, up to 2000 m³ per hour of air can then be drawn from the top of the building directly back to the RTO. A small ventilation gap has been left at the bottom of the building, ensuring sufficient outside air can be drawn in, thus preventing the build-up of too great a negative pressure. The building is of steel clad construction, fitted with both ATEX lighting and ATEX valves.

The operation of the building is in accordance with waste treatment BAT conclusion 14d, published in August 2018. See section 6.0 on BAT conclusions for further information.

The contaminated bricks are stored and treated in this drying enclosure in excess of 24 hours - there is no limit on the length of time the bricks are stored within the drying shed. They will only be withdrawn when they are no longer emitting VOCs.

After the bricks have been stored within the drying enclosure, they are visually inspected or wiped with a dry clean cloth to see if there are any liquid residues present. The container is then tested using a calibrated

MiniRAE 2000 to analyse the quantity of VOCs present. The bricks must be dry to touch and have VOCs <50ppm at the top of the container before they can be removed from the drying enclosure.

When the bricks are produced by the plant, there is the potential for surface contamination of the bricks with VOCs, therefore the metal bricks have the potential to be classified as a hazardous waste. The process of drying the bricks aims to remove the hazardous properties to leave a non-hazardous waste.

2.1.1 Emissions to air from the RTO stack

The emissions from the stack have been screened using our H1 screening tool. The emissions data used in previous H1 assessments (24/07/19) was based on the manufacturers operating information as follows:

TOCs <50mg/Nm³

CO <100mg/Nm³

NO_x <100mg/Nm³

An updated H1 assessment was received (21/10/19) with updated emissions data as follows:

VOCs <50 mg/m³

NO₂ - 1mg/m³ (Long term) and 0.5mg/m³ (short term)

CO – 100mg/m³

NO₂ ecological daily mean – 1mg/m³

The very low concentrations for nitrogen dioxide were queried and the operator confirmed that the information was provided by the manufacturers of the RTO (BROFIND) using their extensive knowledge of the system along with real data from existing plants (coupled with monitoring of the current gas levels / concentrations), the operator considers that the Nitrogen Dioxide levels are achievable. Although there is currently no actual monitoring data for the emissions from the RTO at this site as it is pre-operational – real data can be obtained when the plant starts operating upon issue of the variation. The operator also provided further manufacturers data (19/11/19) to show the levels of emissions which can be achieved at similar BROFIND RTO plants handling a mixture of VOCs, as follows:

VOCs – 31.3 mg/m³

NO_x – 0.32 mg/m³

CO – 0.39mg/m³

Efflux velocity 11.3m/s

Total flow – 11471m³/hr

We used the latest operators proposed emissions data included in the H1 (21/10/19) along with an efflux velocity of 13.4m/s and total flow of 10909m³/hr - to assess the likely impact from the RTO against the long term and short term environmental assessment levels (EALs) as follows (with the exception of Nitrogen Dioxide and Carbon monoxide – the remaining substances are VOCs):

Substance	Long term impacts			Short term impacts				
	Long term EAL µg/m ³	Short term EAL µg/m ³	Process Contribution (PC) µg/m ³	%PC of EAL	>1% EAL	PC µg/m ³	%PC of EAL	>10% EAL
Butane	14500	181,000	22.5	0.155	No	591	0.327	No
Nitrogen Dioxide	40	200	0.449	1.13	Yes	5.91	2.96	No
Carbon	-	10,000	44.9	-	No	1,182	11.9	Yes

Monoxide								
Acetone	18100	362,000	22.5	0.124	No	591	0.164	No
Diethyl ether	12300	154,000	22.5	0.183	No	591	0.384	No
Propan-1-ol	5000	62,500	22.5	0.449	No	591	0.946	No
Propan-2-ol	9990	125,000	22.5	0.225	No	591	0.473	No
Tetrahydrofuran	3000	59,900	22.5	0.748	No	591	0.987	No
Toluene	1910	8000	22.5	1.18	Yes	591	7.390	No
Xylene	4410	66,200	14.8	0.509	No	591	0.893	No
Methanol	2660	33,300	14.8	0.844	No	591	1.78	No
Nitrogen Dioxide (Ecological Daily Mean)	30	75	0.472	1.500	Yes	11.9	15.8	Yes

Process contributions are considered Insignificant if:

- the long-term process contribution is less than 1% of the relevant EQS; and
- the short-term process contribution is less than 10% of the relevant EQS.

The long term 1% process contribution insignificance threshold is based on the judgements that:

- It is unlikely that an emission at this level will make a significant contribution to air quality;
- The threshold provides a substantial safety margin to protect health and the environment.

The short term 10% process contribution insignificance threshold is based on the judgements that:

- spatial and temporal conditions mean that short term process contributions are transient and limited in comparison with long term process contributions;
- the threshold provides a substantial safety margin to protect health and the environment.

Where an emission is screened out in this way, we would normally consider that the Applicant's proposals for the prevention and control of the emission to be BAT. That is because if the impact of the emission is already insignificant, it follows that any further reduction in this emission will also be insignificant.

However, where an emission cannot be screened out as insignificant, it does not mean it will necessarily be significant.

All emissions screen out as insignificant with the exception of Nitrogen Dioxide (long term), Carbon Monoxide (short term), Toluene (long term) and Nitrogen Dioxide [Ecological Daily Mean](short and long term).

Where the PC is greater than these thresholds, the assessment must continue to determine the impact by considering the predicted environmental concentration (PEC). The PEC is the combination of the PC substance to air and the background concentration of the substance which is already present in the environment.

In the second stage of screening you don't need to do any further assessment of that substance if you meet both of the following requirements.

- the short-term PC is less than 20% of the short-term environmental standards minus twice the long-term background concentration
- the long-term PEC is less than 70% of the long-term environmental standards

The results for Nitrogen Dioxide, Carbon Monoxide, Toluene and Nitrogen Dioxide (Ecological Daily Mean) are as follows:

Long term							Short term		
Substance	Air Background conc mg/m ³	PC	%PC of headroom (EAL-Background)	PEC	%PEC of EAL	%PEC of EAL >= 70	PC	PC of headroom (EAL-Background)	%PC of headroom >=20
Nitrogen Dioxide	9.922066	0.449	1.50	10.4	26.0	No	5.91	3.28	No
Carbon Monoxide	-	44.9	-	0	-	-	1,182	11.9	No
Toluene	-	22.5	-	-	-	-	591	-	-
Nitrogen Dioxide (Ecological Daily Mean)	13.43214	0.449	2.71	13.9	46.3	No	11.9	24.6	Yes

The short term and long term PCs for Nitrogen Dioxide, the short term PC for carbon monoxide and the long term PC for toluene are not above the second stage screening thresholds and so require no further assessment. For Nitrogen Dioxide (Ecological Daily Mean) - as the short-term PC is greater than 20% of the short-term environmental standards minus twice the long-term background concentration at 24.6 %, the Nitrogen Dioxide (Ecological Daily Mean) does not screen out as insignificant.

So next we screened the substance using our AQMAU screening tool and Nitrogen Dioxide (Ecological Daily Mean) screens out as low environmental risk to the receptors.

An emission limit of 30 mg/Nm³ for VOCs is included in table S3.1 in accordance with the BAT AEL in section 4.3 of the BATCs (BAT conclusions for physico-chemical treatment of waste with a calorific value). LPG (propane and butane) which is transferred and compressed into large cylinders and is used as support fuel in the Grundon clinical waste incinerator (which is regulated by a separate permit ref: EPR/BT2866IG. In the future the operator is planning to install an LPG gas engine that will utilise the recovered LPG from the HazPak 6000 processing, to produce electricity to help power the operations on site during the day and export any surplus). The associated monitoring is given in BATC 8 which requires monitoring once every 6 months for TVOCs for BATC 45.

Although carbon monoxide screens out as insignificant and nitrogen dioxide screens out as low environmental risk (using the AQMAU screening tool), emission limit values were included in the permit as the H1 risk assessment is not based actual monitoring results as the plant is pre-operational. An emission limit of 1 mg/m³ is included for Nitrogen dioxide as this value screened out as insignificant in the latest H1 risk assessment and the Nitrogen Dioxide ecological daily mean was screened as low environmental risk. An emission limit of 100mg/m³ is included for carbon monoxide as this screened out as insignificant in the latest H1 risk assessment.

The emission limits for nitrogen dioxide and carbon monoxide are interim in accordance with improvement condition (IC11) until actual monitoring data is collected when the plant including the RTO becomes operational. See section 2.1.2 below for more information on improvement conditions.

An interim emission limit is also included for monitoring point S1 which is the emission point of the Hazpak 6000 prior to the emissions being treated in the RTO. When the RTO is operational this limit will no longer be required.

2.1.2. Pre-operational and improvement conditions

As the Hazpak 6000 plant is pre-operational, a pre-operational condition (PO1) and three improvement conditions have been included in the permit to: provide a report on the commissioning of the Hazpak 6000 to summarise the environmental performance of the plant as installed against the design parameters set out in the application (IC9); to notify the Environment Agency of the dates of validation testing for the first batch of each waste type treated in the Hazpak 6000 and abatement system which includes the RTO (IC10); to carry out an impact assessment of emissions to air from the emissions data obtained during the first year of operation - to compare the actual emissions with those assumed in the H1 air quality assessment submitted with the Application (IC11).

The pre-operational and improvement conditions have been included to check whether the emissions from the RTO are as expected during commissioning and operation. If the emissions are not as per those assumed in the H1 then proposals for further investigative work and for amended emission limits in table S3.1 will be required as necessary by IC11.

2.1.3 Permitted waste types for the Hazpak 6000

A number of wastes have been excluded from the waste list for the Hazpak 6000, these include chlorinated substances as these are not suitable for either energy recovery as Cemfuel or thermal oxidation in the RTO; and also halogenated solvent wastes are not acceptable in order to avoid generating and emitting PCBs and/or PCDD/Fs. All incoming wastes should be analysed to prevent halogenated solvents being burnt in unwanted quantities. The tolerable content of halogenated solvents is <1 w/w-% and this limit has been included in table S2.5 of permitted wastes for the Hazpak 6000 . The excluded wastes are as follows:

Removed as these wastes have the potential to create PCBs and/or PCDD/Fs. Although they included in the current permit for the existing activity:-

07 01 03*	organic halogenated solvents, washing liquids and mother liquors
07 02 03*	organic halogenated solvents, washing liquids and mother liquors
14 06 02*	other halogenated solvents and solvent mixtures

Removed as these wastes have the potential to create PCBs and/or PCDD/Fs:

07 03 03*	organic halogenated solvents, washing liquids and mother liquors
07 04 03*	organic halogenated solvents, washing liquids and mother liquors
07 05 03*	organic halogenated solvents, washing liquids and mother liquors
07 06 03*	organic halogenated solvents, washing liquids and mother liquors
07 07 03*	organic halogenated solvents, washing liquids and mother liquors
12 01 06*	mineral-based machining oils containing halogens (except emulsions and solutions)
12 01 08*	machining emulsions and solutions containing halogens

Removed as not suitable for energy recovery or thermal oxidation:

13 01 04*	chlorinated emulsions
13 01 09*	mineral-based chlorinated hydraulic oils
13 02 04*	mineral-based chlorinated engine, gear and lubricating oils
13 03 06*	mineral-based chlorinated insulating and heat transmission oils other than those mentioned in 13 03 01
14 06 01*	chlorofluorocarbons, HCFC, HFC
14 06 02*	other halogenated solvents and solvent mixtures

20 01 23*	discarded equipment containing chlorofluorocarbons
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Removed as waste containing asbestos is not suitable for treating:

15 01 11*	metallic packaging containing a hazardous solid porous matrix (for example asbestos), including empty pressure containers
06 13 04*	wastes from asbestos processing

Further restriction has been added to the following waste type which states that pressure containers shall not contain chlorinated compounds. This is to ensure that hazardous substances (e.g. dioxins) are not formed following the treatment of the emissions containing chlorinated compounds in the RTO. Some old aerosol cans may contain chlorinated compounds (e.g. CFCs) but these should be removed at the pre-acceptance and waste acceptance stage as part of the sites management systems.

16 05 04*	gases in pressure containers (including halons) containing hazardous substances - pressure containers shall not contain chlorinated compounds
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The activity has been compared to the new BAT standards - see section 6.0.

2.2 Bottle crusher

In the permit this is covered by the following activities:

A4 – S5.3 Part A(1)a(ii) Bottle crusher (new activity 60 t/d hazardous waste)

A5 - S5.3 Part A(1)a(iii) Bottle crusher (new activity 40 t/d hazardous waste)

A13 - 5.4 Part A(1)a(ii) – Bottle crusher (new activity 55 t/d non-hazardous waste).

A24 - physico-chemical treatment of non-hazardous waste for recovery in the bottle crusher (new activity 76 t/d non-hazardous waste).

Glass bottles, primarily containing liquid beverages are manually placed on an inclined feed conveyor, which leads to the shredder hopper. The bottles fall by gravity onto the shredder unit which break the bottles releasing the contents.

The glass and liquids fall onto a vibrating screen, fitted with a water wash system to clean the glass cullet. The waste liquids are pumped into 1000 litre IBCs, fitted with level sensors to prevent overtopping.

Once fully characterised, the liquids are bulked and transferred to a suitable recovery or treatment facility. The glass cullet is also transferred offsite for recovery.

The non-hazardous and hazardous loads are loaded into the bottle crusher separately and the equipment is cleaned when changing from hazardous to non-hazardous waste loads. Hazardous and non-hazardous wastes are separated as part of the sites waste acceptance procedures in the waste reception area, whereby the reception chemists inspect, verify and label the wastes for processing on site. Waste batches are therefore produced, ensuring that the plant will only process compatible hazardous, or non-hazardous wastes at any time.

The activity takes place external to the storage building to the south of the site (in the current installation area).

The hopper and shredder unit are covered so there are no emissions of odour or dust from the from the activity and no significant emissions of noise and vibration - see section 3.0 below

2.3 Wire granulator

A16 - 5.4 Part A(1)b(iv) – Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving treatment in shredders of metal waste. Wire granulator - throughput 76 t/day non-hazardous waste.

This is a small enclosed plant (length 3350 mm x width 1750 mm x height 3490 mm)

The wire and cable shredder complements the drum shredder by increasing the rate of recovery from a wide range of predominantly plastic coated wires and cables – producing granulated metals and plastics for recycling. The granulator is fitted with a dust extraction system and vacuum closed circuit that consists of settling cyclone and rotary valve, with filter self cleaning air –jet (rotowash) for automatic extraction of dust - so there are no emissions to atmosphere. There are no other significant emissions from the plant and no expected impact from the addition of this activity. See section 3 below in relation to noise emissions.

2.4 Further activities and waste operations added as part of the variation

2.4.1 Small depacking machine

The addition of waste operation A22 for the physico-chemical treatment of non-hazardous waste for recovery in the small depacking machine. Throughput 76 tonnes per day.

This is the same plant and equipment as activity A11 - 5.4 Part A(1)a(ii) - Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment in the small depacking machine. Existing activity where waste throughput has reduced from 75 t/day to 55t /day for non-hazardous waste.

Also this is the same plant and equipment as activity A1 - S5.3A(1)A(ii) Small depacking machine (existing activity - waste throughput reduced from 75 t/day to 19.9 t/day hazardous waste).

Therefore there is no additional impact from the A22 waste operation which is treating waste for the purpose of recovery. The reduction in throughput for the existing A1 and A11 activities allows for 75 tonne throughput for the A22 activity - therefore there is only a 1t/d increase in throughput.

2.4.2 Large depacking machine

An additional waste operation A23 has been added for the physico-chemical treatment of non-hazardous waste for recovery in the large depacking machine. Throughput 76 tonnes per day.

This is the same plant and equipment as activity A12 - 5.4 Part A(1)a(ii) - Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day involving physico-chemical treatment in the large depacking machine. Existing activity - waste throughput has reduced from 75 t/day to 55 t/day non-hazardous waste.

Also this is the same plant and equipment as activity as A3 – S5.3A(1)A(ii) Large depacking machine (existing activity - waste throughput reduced from 75 t/day to 19.9 t/day hazardous waste).

Therefore there is no additional impact from the A23 activity which uses the same plant and equipment as A3 and A12 – the waste is just being treated for recovery instead of disposal which is a benefit for the environment.

Therefore there is no additional impact from the A23 waste operation on top of the existing A3 and A12 activities. The reduction in throughput for the existing A3 and A12 activities allows for the 75 tonne throughput for the A23 activity - therefore there is no overall increase in throughput. Also the waste from the A23 operation is treated for recovery rather than disposal which is an improvement to the environment.

2.4.3 Non-hazardous waste shredder

A new listed activity has been added ref: A15 - 5.4 Part A(1)b(iv) - Recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day involving treatment in shredders of metal waste in the non-hazardous waste shredder -throughput 76t/day non-hazardous waste.

A new waste operation has also been added for the physico-chemical treatment of non-hazardous waste for recovery with a 76t/d throughput.

These activities use the same plant and equipment as the A2 (existing activity - waste throughput reduced from 100 t/day to 19.9 t/day hazardous waste) and A14 (existing activity - waste throughput reduced from 100 t/day to 55 t/day non-hazardous waste) activities except that only metal waste will be treated in activity

A15 and non-hazardous waste will be treated in A25 activities – both treated for recovery rather than disposal which is an improvement to the environment. There is considered to be no additional impact to the environment from the A15 and A25 activities as this activity was taking place previously under the A2 or A14 activities.

The reduction in throughput for the existing A2 (80.10 t/d reduction) and A14 (45 t/d reduction) activities gives a 125.10 t/d reduction which allows for part of the A15 (75 t/d) and A25 (76 t/d) throughputs. Therefore overall there is a 26 t/d increased throughput which is considered to be acceptable.

The shredder processes both plastic and metal containers up to 1m³. The empty containers from other activities on site are washed using an onsite power wash prior to shredding. The wash water is collected as part of the sealed drainage system. The metal is recycled and the plastic sent for incineration or landfill. Due to the washing of drums prior to shredding, emissions from the shredder are negligible. If other wastes are shredded which have the potential for dust emissions these will be managed using the site's existing risk management measures.

The operator also applied for -5.4 Part A(1)b(ii) Physico-chemical treatment of waste for incineration or co-incineration for recovery or a mix of recovery and disposal of non-hazardous waste with a capacity exceeding 75 tonnes per day – non-hazardous shredder. Throughput 76 t/day non-hazardous waste.

However the waste is transferred to a separate site for baling prior to being sent off-site for recovery or disposal at an EFW facility. So there is no need for this activity at the Ewelme site and so it has also been removed.

2.4.4 Storage and transfer of hazardous and non-hazardous wastes

The following activities have increased their limits to the following:

A7- S5.3A(1)a(iii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving blending or mixing - Mixing and blending of hazardous waste as part of hazardous waste transfer station activities. Existing activity - Limit changed to 300 tonnes per day.

A8 - S5.3A(1)a(iv) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving repackaging - Repackaging hazardous waste as part of the transfer station activities. Existing activity - Limit changed to 100 tonnes per day.

A9 – S5.6 Part A(1) Temporary storage of hazardous waste. Existing activity - Limit changed to a maximum of 1,500 tonnes.

A17 – Directly associated activity. Storage and transfer of non-hazardous waste. Existing activity. Limit increased from 50 t/d to 750 t/day

A21 – Waste operation. Storage and transfer of non-hazardous waste to cover the waste operations taking place on site.

There has been no change to the above activities, except for the increase in permitted storage and throughput. The operator has confirmed that the site has capacity. The potential for dust emissions will be managed using the site's existing risk management measures.

The operator applied to include an additional waste to activity A17 for the transfer station which is EWC code 20 01 99. As justification for the acceptance of this offensive waste, the operator has stated that there will be the occasional need to accept wastes bearing the EWC code 20 01 99 into the transfer station. These will predominantly originate from Council collections undertaken from households, where non-hazardous healthcare related wastes are collected. These wastes can only be stored for a maximum of 2 weeks onsite.

As all waste is segregated for storage on arrival at the transfer station, we agree to this new waste code.

In relation to the transfer station activities, the operator separates the storage and processing of hazardous and non-hazardous waste at the point of acceptance on site (in the waste reception area). The transfer station has over 30 dedicated waste storage bays in a storage building, each protected by either 2 m or 3 m high concrete firewalls with isolated drainage systems. The capacity of the bays have been given in pallets rather than a tonnage - SO/TD/EWE/019b – we agree that this is acceptable.

The facility also has a laboratory smalls storage and processing areas, with 4 containment bays and a large area for the temporary storage of imminent outbound loads.

Wastes are inspected, verified and labelled by qualified chemists in the waste reception area prior to being moved to an appropriate storage bay.

There a number of activities which are permitted to treat both hazardous and non-hazardous waste separately but using the same equipment. To ensure the hazardous and non-hazardous wastes are treated separately there is:

- batch processing of waste streams where the waste is broken down by waste type and by waste stream as necessary e.g. considering both chemical compatibility and the treatment method / acceptance criteria at disposal location.
- Labelling of the packaged wastes identifying the contents;
- Clear marking of the packaged wastes at the reception area, detailing the method of processing.

A BAT assessment for the above activities was carried out by the operator – see section 5.0.

3.0 Noise emissions for the new activities

Noise and vibration assessment was considered for the new equipment - the glass crusher, wire granulator and Hazpak 6000 aerosol processor.

Bottle crusher - An outline noise assessment was completed prior to the bottle crusher's final commissioning, with levels not exceeding 85dB(A) at 1 metre. The glass crusher is located in an area of the transfer station that borders the adjacent restored landfill, with the banking providing additional protection. The nearest sensitive receptor is located approximately 400 m from the installation.

Hazpak 6000 - a noise assessment was completed in May 2015. The results showed that at 1m the plant emitted between 82 dB and 87 dB LAeq,T. The HazPak6000 is however located within Building 8, greatly reducing the noise emitted from the plant. The building is situated next to the restored landfill, with elevated banks providing additional protection.

Wire granulator - A noise assessment was completed in October 2016. The results showed that at 1 m the plant emitted 91.6 dB(A). The wire granulator is located next to Building 1, with the open yard area on the opposing side. Beyond this is the restored landfill, with elevated banks providing additional protection. As the wire granulator is not in operation yet - the use of this equipment provides the worst case scenario. The noise levels measured translates to approximately 40 – 43 dB(A) at the nearest receptor (approximately 400 m) which is similar to the measurements from Oct 2017 with existing plant on vs off. (The higher end of the range includes 3 dB(A) for the reflecting wall. There might be an addition for tonal characteristics of the noise from the wire granulator which has not been taken into consideration. However no account has been taken of the ground between the wire granulator (source) and the receptor which in this case will probably be quite absorbing).

No noise complaints have been received in relation to this site. Therefore we are satisfied that there is unlikely to be a significant impact from noise / vibration coming from the site as a result of the new activities added as part of this variation.

4.0 Fire Prevention Plan (FPP)

A Fire Prevention Plan (FPP) was provided with the application. Where alternative measures have been agreed as part of the FPP these are detailed as follows:

Section of FPP guidance	Specific risk reduction element	Comments
7.7 Hot Exhausts	Carry out a fire watch at regular intervals during the working day	The response from the operator states that all FLT's onsite have been modified to reduce the temperature of the engine including the exhaust gas. As an

	to detect signs of a fire; and Fire watch procedures in place (minimum 1 per day/shift).	additional benefit of the thermal cameras - these detect temperatures of vehicle engines and alert when they see elevated temperatures. This is a low dust site and the exhausts are vertical. Fire watch at the start of the working day and prior to vehicle use - also with the presence of the thermal imaging cameras.
8.1 Manage storage times	You must make sure that any combustible wastes are stored for less than 6 months. If you're storing combustible wastes in the maximum pile sizes for longer than 3 months, you must show what extra measures you'll use to prevent self-combustion.	Section 5.7 - There is no baled waste or waste stored in piles onsite. Within sensitive storage areas there are thermal imaging cameras that continuously monitor and alarm at critical temperatures and time periods. All waste is stored for a maximum of 6 months.
	You must use good stock rotation for all stored materials. Your fire prevention plan must show that you have a clear method to record and manage the storage of all waste on site. You must show how you will follow the 'first in, first out' principle.	See section 5.15 of FPP. The storage time of the waste is managed on site by the daily environmental log, every week a bay is checked to ensure any waste that is on site is stored for a period of less than 6 months. Any unpackaged waste is cleared out daily. The 'first in, first out' principle has not been answered but I think the response is acceptable. Following a conversation with the operator (18/12/18) the waste stored to allow the quantity to bulk up before it is transferred offsite for disposal or further treatment – so it is unlikely to be onsite for 6 months. The site operative on their weekly checks of a bay checks the date on the container to make sure that it is not approaching the 6 month deadline. For the waste in 40 cubic yard containers for non-hazardous waste this is also bulked up and then taken offsite for reuse, treatment or disposal etc. – the site keeps track of the waste by using the daily environmental log, although it is unlikely that the skip waste is stored onsite for a long period of time.
8.2 Monitor and control temperature	Monitor sub-surface temperatures and outline the triggers you will use in relation to temperature, and actions you will take in response. Allow any heat generated during treatment to be released before you form it into piles for storage and routinely turn piles to ensure the waste remains cold.	Section 5.7 - All waste that is accepted onsite has undergone pre-acceptance checks and any temperature sensitive chemicals are placed into controlled storage within 2 hours of receipt. Within sensitive storage areas there are thermal imaging cameras that continuously monitor and alarm at critical temperature and time periods. There are no piles of waste onsite. (A trigger temperature must be stated when the site will take remedial action to cool the combustible waste down. A trigger temperature must be at or below 50°C (unless alternative scientific evidence is provided through application of thermal ignition theory and isothermal calorimetry testing) the buildings have a monitored fire detection system which consists of infrared beams, regular smoke detectors, thermal imaging cameras, flame detection systems and gas sensors. The system conforms to BS5839, ECA and NSI gold codes of practice. The system has been designed, installed and is maintained by NSI gold accredited contractors. The outputs of the system are sounders, beacons and telephone calls to key holders. The thermal cameras are set at different levels dependant on the sensitivity of area, some alarm at 150°C with the maximum of 200°C to negate the uncontrolled temperatures of road going vehicles entering the site.

		The trigger temperatures are 150°C outside working hours and 200°C within working hours however if 150°C is seen 10 times in 5 minutes this also triggers an alarm.
8.3 Waste bale storage	If storing longer than 3 months, you must outline the sampling and testing protocol you will use to make sure you assess a representative number of bales (minimum 10%) during monitoring. Representative temperature readings from the centre of the bales and from bales within the centre of a pile.	N/A the site does not store the waste in bales/piles. Thermal imaging cameras will be used for sensitive storage areas (section 5.7 of FPP).
12. Quarantine area	The quarantine area must be within the boundary of the site for which a permit applies. You must have a quarantine area which is large enough to: Hold at least 50% of the volume of the largest pile, row or block of ELV's or containers on your site. Have a separation distance of at least 6 metres around the quarantined waste.	Section 5.17 - Due to the wide range of varying waste streams there is no dedicated quarantine area on site. Please see appendix SO-TD-EWE-007 the location of the quarantine area still has to comply with HSG71 guidance. The site is operated to always have the ability to create a quarantine area.
13. Proportionate detection system	Procedures must be in place to detect a fire in its early stages. Detection systems should be proportionate to the nature and scale of waste management activities carried out and the associated risks. Detection needs to be in place for internal and external waste storage and may be automated or manual. For automated systems the design, installation and maintenance must be covered by an appropriate UKAS-accredited third party certification scheme.	The buildings have a monitored fire detection system which consists of infrared beams, regular smoke detectors, thermal imaging cameras, flame detection systems and gas sensors. The system conforms to BS5839, ECA and NSI gold codes of practice. The system has been designed, installed and is maintained by NSI gold accredited contractors. The outputs of the system are sounders, beacons and telephone calls to key holders. The thermal cameras are set at different levels dependant on the sensitivity of area, some alarm at 150°C with the maximum of 200°C to negate the uncontrolled temperatures of road going vehicles entering the site. The trigger temperatures are 150°C outside working hours and 200°C within working hours however if 150°C is seen 10 times in 5 minutes this also triggers an alarm.
14 Proportionate suppression system	Suppression systems should be proportionate to the risk on site. Suppression may be in place for external waste storage and must be in place for internal waste storage. Suppression methods can be automated or manual, ranging from fire blankets to automated systems. You must make sure the design, installation and maintenance of all your automated suppression equipment is covered by an appropriate UKAS-accredited third party certification scheme.	Section 5.17 of FPP - There is no fixed fire suppression system on site. Fire suppression would be achieved by the use of the mobile equipment to actively fight any fire on site. Staff have been trained to act in the event of an emergency All the storage buildings on site are equipped with internal sealed concrete bays that slope to the back allowing any fugitive liquid emissions to stay contained within the bays. The concrete bay walls are fire walls rated for well above the minimum of 2 hours. The firewalls have been joined together with fire resistant mastic. The nature of waste accepted at site is predominately packaged waste with the exception of the tipping bay, this is emptied daily. A specification sheet on Fire walls was submitted with the application. The site collects the rainfall from all the

		<p>roofs and diverts it all to 3 x 80,000 litres underground tanks, which are all linked. A fire system has been installed which consists of a submersible pump and pipework around the perimeter of the site with 5 stand pipes. These stand pipes have 2½ instantaneous couplings which are used within the fire service. To adjoin on to the stand pipes foam monitors have been situated at the entrance and exit gate complete with Alcohol resistant concentrate foam to suppress and extinguish any fires which may occur on site. Site personnel have attended a two day residential course at the fire training college to learn techniques of extinguishing fires and assisting the fire brigade.</p> <p>Pump Specifications:</p> <p>1 x Lowara borehole submersible pump type Z8 75 (spec. attached) rated at 18.5kW (3phase) closed valve pressure 8bar, duty flow 1,300L @ 5bar. This is enough for one branch to operate for 3 hours.</p> <p>The following fire-fighting equipment is located on site:</p> <ul style="list-style-type: none"> · 25 x 6 ltr foam extinguishers; · 19 x 6 kg powder extinguishers; · 2 x 5 kg carbon dioxide fire extinguishers; · 3 x 3 ltr foam extinguisher · 1 x 2 kg carbon dioxide extinguisher · 2 x 50 ltr foam extinguishers · 1 x mobile foam bowsers 120 litres · 2 x 1000 ltr reserve of water; · 90 metre water hose with a detachable spray nozzle capable of reaching all the storage areas. · 3 x 80,000 ltr underground tanks containing roof water <p>Site fire extinguishers are inspected annually by an external fire protection company, and visual checks performed and recorded monthly by the site manager. All fire extinguishers are placed in prominent locations in clear view and with easy access.</p> <p>The water pump is operated weekly to ensure it is availability if needed. Additionally, water may be taken from the Grundon engineered pond situated 250 metres north west from the site if the emergency services require this.</p>
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5.0 BAT assessment for the new activities

Information on waste pre-acceptance, acceptance and storage, infrastructure, summary of the treatment activities and process descriptions were provided as part of the duly made application. Further information was provided as part of the Schedule 5 notices responses dated 01/02/18 and follow up responses 17/09/18, 07/11/18 and 21/11/18.

The Hazpak 6000 which includes the drying shed also meets the requirements of BAT conclusions. BATC 45 states that in order to reduce emissions to air of organic compounds, BAT is to apply BATC 14d and to use one or a combination of the techniques given of Adsorption, Cryogenic condensation, Thermal oxidation and Wet scrubbing. The Hazpak 6000 uses thermal oxidation. BATC 14d covers the containment, collection and treatment of diffuse emissions – by storing, treating and handling waste in enclosed equipment, maintaining equipment under adequate pressure and collecting and directing equipment to an appropriate abatement system via air extraction. The HAZPAK 6000 meets this standard as it is fitted with an air extraction and scrubbing system which minimises fugitive emissions. The air extraction points include: around the hopper, the filter baskets, the waste liquid IBCs, within the metal brick drying enclosure, at various points within the

building and connected to pressure relief valves. All extracted air is scrubbed by a large activated carbon filter, followed by a regenerative thermal oxidiser (RTO), prior to discharge to atmosphere via a stack.

The BAT-AEL set in Section 4.5 of the BAT conclusions has been applied to table S3.1 of the permit. We have applied the BAT-AEL as this Hazpak 6000 and abatement system which includes the RTO is considered to be a new plant with a channelled emission.

Table 4.5 - BAT-associated emission level (BAT-AEL) for channelled emissions of total volatile organic compounds (TVOC) to air from the physico-chemical treatment of waste with calorific value. (The calorific value relates to the LPG [propane and butane] which is being taken off to use as fuel at the nearby Grudons Clinical waste incinerator) requires a BAT AEL of 5 – 30 mg/Nm³ – therefore the higher limit of 30 mg/Nm³ has been applied to table S3.1 in the permit. (Note 44 states that the BAT-AEL does not apply when the emission load is below 2 kg/h at the emission point provided that no CMR substances are identified as relevant in the waste gas stream, based on the inventory mentioned in BAT 3 – however the emission load is likely to be greater than 2 kg/hour for this activity).

The new activities of the bottle crusher and the wire granulator as well as the other existing activities onsite also meet BATC 14 for the containment, collection and treatment of diffuse emissions – this includes techniques such as:

- storing, treating and handling waste and material that may generate diffuse emissions in enclosed buildings and/or enclosed equipment (e.g. conveyor belts);
- maintaining the enclosed equipment or buildings under an adequate pressure;
- collecting and directing the emissions to an appropriate abatement system via an air extraction system and/or air suction systems close to the emission sources. The storage and transfer activities are also considered to meet the BAT requirements

The operators proposed techniques and BAT assessments are satisfactory.

The site also needs to operate in accordance with 'How to comply with your environmental permit: Additional guidance for clinical waste (EPR5.07) Version 1.1 dated January 2011.

6.0 Conservation assessment

The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.

The following sites are within the relevant screening distances:

Aston Rowant (SAC) at 9125m distance;

Little Wilenham (SAC) at 7363m distance

There is no impact on these sites due to the distance.

The sites are also within the relevant distance criteria of the following local nature reserves (LNRs), local wildlife sites (LWSs) and Ancient Woodlands:

Ewelme Watercress Beds (LNR) at 1810m distance

Ewelme Watercress Beds (LNR) at 1358m distance

Ewelme Watercress Beds proposed extension (LWS) at 1301m distance.

Ewelme Cress Beds (LWS) at 1388m distance

Unknown (Ancient woodland) at 1584m

Oakley Wood (Ancient woodland) at 925m
 Mogpits Wood (Ancient woodland) at 921m
 Unknown Wood (Ancient woodland) at 1840m.

We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process.

We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.

For the Hazpak 6000 processor, the parameter for ecological Nitrogen Dioxide screened out as low environmental risk using the AQMAU screening tool – see section 2.1.1 for further information. An improvement condition has been included in the variation notice which requires emissions monitoring data obtained during the first year of operation to be used to compare the actual emissions with those assumed in the H1 air quality assessment submitted with the Application. An assessment shall be made of the impact of each parameter against the relevant EQS/EAL. In the event that the assessment shows that an environmental standard can be exceeded, the report shall include proposals for further investigative work.

There are no further emissions from the HAZPAK 6000 as the plant and equipment is enclosed.

Regarding the impact from the new activities of the bottle crusher and wire granulator – there are no emissions as the plant and equipment is enclosed.

Regarding the increased capacity of the non-hazardous waste shredder which is an overall 26t/d increase in throughput for new activity A15 and new waste operation A25 – any emissions from the plant will be dealt with in accordance with the sites existing noise and dust management provisions.

Storage and transfer of non-hazardous waste - the existing storage and transfer activities are increasing their capacities – see section 2.4.4 for further information. The transfer station operates a contained tipping bay where a small number of bulk containers can deposit their waste for sorting, segregation and transfer. Waste is stored within a building with a with a sealed drainage system. Any emissions will be dealt with as part of the existing management systems at the site. There is no change to the transfer station infrastructure on site.

The capacity for the temporary storage of hazardous waste is also increasing. Storage takes place in buildings with a sealed drainage system.

There is likely to be no impact from the changes to the above activities on the LWS, LNR or ancient woodland – due to the distance of the site from the conservation sites and the existing risk management measures.

Decision checklist

Aspect considered	Decision
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Aspect considered	Decision
Receipt of application	
Confidential information	A claim for commercial or industrial confidentiality has not been made.
Consultation	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>The application was publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <p>Public Health England and the Director of Public Health</p> <p>South Oxfordshire District Council – Environmental Protection Department</p> <p>Health and Safety Executive</p> <p>Food Standards Agency</p> <p>The comments and our responses are summarised in the consultation section 2.</p>
Operator	
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with our guidance on legal operator for environmental permits.
The facility	
The regulated facility	<p>We considered the extent and nature of the facility at the site in accordance with RGN2 ‘Understanding the meaning of regulated facility’, Appendix 2 of RGN 2 ‘Defining the scope of the installation’, Appendix 1 of RGN 2 ‘Interpretation of Schedule 1’, guidance on waste recovery plans and permits.</p> <p>The extent of the facility defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.</p> <p>The operator also asked for the permit to be consolidated with a waste facility permit on the same site (EAWML 86112). However the waste facility permit was fully superseded by a PPC permit for the installation which came into effect on 14/09/07. Therefore there is no need for the consolidation.</p> <p>The waste activities included as part of this permit under activity A21 for the storage and transfer of non-hazardous waste. This is for the non-hazardous waste which is not directly associated with any of the other listed activities included in table S1.1 of the permit. This is an ongoing activity and should have been included on the current permit.</p> <p>Activity A17 is for the storage and transfer of non-hazardous wastes which are directly associated with a number of the listed activities included in table S1.1 of the permit.</p> <p>See section 2.0 of key issues for further information.</p>
The site	

Aspect considered	Decision
Extent of the site of the facility	The operator has provided a plans which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit.
Biodiversity, heritage, landscape and nature conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>The following sites are within the relevant screening distances:</p> <p>Aston Rowant (SAC) at 9125m distance;</p> <p>Little Wilenham (SAC) at 7363m distance</p> <p>Ewelme Watercress Beds (LNR) at 1810m distance</p> <p>Ewelme Watercress Beds (LNR) at 1358m distance</p> <p>Ewelme Watercress Beds proposed extension (LWS) at 1301m distance.</p> <p>Ewelme Cress Beds (LWS) at 1388m distance</p> <p>Unknown (Ancient woodland) at 1584m</p> <p>Oakley Wood (Ancient woodland) at 925m</p> <p>Mogpits Wood (Ancient woodland) at 921m</p> <p>Unknown Wood (Ancient woodland) at 1840m.</p> <p>We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process.</p> <p>We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified.</p> <p>We have not consulted Natural England (NE) on the application, however a HRA1 form detailing the application was sent to NE for information only. The decision was taken in accordance with our guidance.</p> <p>See section 6.0 of key issues for further information.</p>
Environmental risk assessment	
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator submitted an environmental risk assessment dated 02/08/2017 – the operators risk assessment is satisfactory.</p> <p>The operator submitted a H1 risk assessment in October 2019 for emissions to air from the RTO which is part of the Hazpak 6000 (A6) activity. We assessed the H1 risk assessment and all of the parameters screened out with the exception of 'Nitrogen Dioxide ecological mean'. However we checked the 'Nitrogen Dioxide ecological mean' using our Air Quality Management and Assessment Unit (AQMAU) screening tool and the emission screened out as low risk. For further information see section 2.1.1 of the Decision Document for further information.</p>
Operating techniques	

Aspect considered	Decision
	<p>The operating techniques meet the principles of S5.06, 'Guidance for the treatment of hazardous and non-hazardous waste', for the new waste treatment activities (Hazpak 6000, bottle crusher and wire granulator). The Hazpak 6000 was also assessed against the principles of S5.06 – 'Guidance for the storage and treatment of aerosol canisters and similar packaged waste'.</p> <p>The Hazpak 6000 was also checked against the new BAT conclusions which confirmed that air abatement in the form of thermal oxidation was required. Therefore the proposals to install a regenerative thermal oxidiser are acceptable.</p> <p>The site has an environmental management system which has been updated to cover the new activities and to ensure compliance with the principles of S5.06 and the BAT conclusions.</p> <p>See key issues for further information</p>
General operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.</p> <p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.</p>
Operating techniques for emissions that screen out as insignificant	<p>Emissions of nitrogen dioxide, carbon monoxide and VOCs from the Hazpak 6000 and abatement system which includes the RTO - have been screened out as insignificant, and so we agree that the applicant's proposed techniques is are BAT for the installation.</p> <p>Emissions of nitrogen dioxide ecological mean did not screen out as insignificant but screened out as low environmental risk to the receptors.</p> <p>We consider that the emission limits included in the installation permit reflect the BAT for the sector.</p> <p>See section 2.1.1 of key issues for further information.</p>
Fire prevention plan	<p>We have assessed the fire prevention plan and are satisfied that it meets the measures and objectives set out in the Fire Prevention Plan guidance.</p> <p>The plan sets out alternative measures that we consider meet the objectives of the Fire Prevention Plan guidance. See section 4.0 of key issues for further information.</p>
Permit conditions	
Waste types	<p>We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.</p> <p>We are satisfied that the operator can accept these wastes for the following reasons:</p> <ul style="list-style-type: none"> • they are suitable for the proposed activities • the proposed infrastructure is appropriate • the environmental risk assessment is acceptable.

Aspect considered	Decision
	<p>The permitted waste types and quantities are detailed in tables S2.1 to S2.13 which relate to different activities on site.</p> <p>We have excluded the following wastes as detailed in the tables below for the following reasons:</p> <p>Table S2.1 (activity A1) 02 03 02 and 19 08 09 - as these are non-hazardous waste listed for a hazardous waste process;</p> <p>Table S2.3 (activity A3) 19 08 09 - as this is a non-hazardous waste listed for a hazardous waste process</p> <p>Table S2.5 (activity A6) 19 02 10 – as this is a non-hazardous waste listed for a hazardous waste process and for additional wastes see section 2.1.3 of key issues for further information.</p> <p>Table S2.6 Permitted waste types and quantities for activities A7 (Blending and mixing hazardous wastes), A8 (Repackaging hazardous wastes) and A9 (temporary storage of hazardous waste). Hazardous waste transfer station activities.</p> <p>The following wastes have been removed as there should be no blending of wastes containing asbestos.</p> <p>17 06 01* insulation materials containing asbestos</p> <p>17 06 05* construction materials containing asbestos</p> <p>Table S2.7 Permitted waste types and quantities for A10 (Oil and water separator)</p> <p>The following wastes have been removed as wastes containing PCBs should not be treated but should be kept separate and destroyed.</p> <p>13 01 01* hydraulic oils, containing PCBs</p> <p>13 03 01* insulating or heat transmission oils containing PCBs</p> <p>Table S2.11 (activities A14 and A15) and table S2.12 (activity A16) – waste codes 06 08 02* and 07 02 16* have been removed as these are hazardous wastes listed for non-hazardous waste processes.</p> <p>Table S2.13 (activities A17 and A21) – waste codes 07 02 16* and 17 04 10* have been removed as these are hazardous wastes listed for non-hazardous waste processes.</p>
Pre-operational conditions	<p>Based on the information in the application, we consider that we need to impose pre-operational conditions.</p> <p>P01 requires the operator to submit a commissioning plan for approval for the Hazpak 6000 (A6) activity.</p> <p>See section 2.1.2 of key issues for further information</p>
Improvement programme	<p>Based on the information on the application, we consider that we need to impose an improvement programme.</p> <p>See section 2.1.2 of key issues for further information.</p>
Emission limits	<p>ELVs have been set for TVOCs in accordance with the BAT requirements.</p> <p>See section 2.1.1 of key issues for further information.</p>

Aspect considered	Decision
Monitoring	<p>We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified.</p> <p>These monitoring requirements have been imposed in order to monitor emissions to air from the Hazpak 6000 (S1) and the RTO emission point (S2). Process monitoring of oxygen levels in the hopper and buffer tank as required by table S3.2 are to prevent an explosive atmosphere.</p> <p>We made these decisions in accordance with BATC 8 in the BAT conclusions document for Waste Treatment for monitoring emissions of TVOCs.</p>
Reporting	<p>We have added reporting in the permit for the following parameters: TVOCs for emissions to air on an annual reporting frequency.</p>
Operator competence	
Management system	<p>There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.</p> <p>The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.</p>
Technical competence	<p>Technical competence is required for activities permitted. The operator is a member of an agreed scheme.</p> <p>We are satisfied that the operator is technically competent.</p>
Relevant convictions	<p>The Case Management System and National Enforcement Database have been checked to ensure that all relevant convictions have been declared.</p> <p>No relevant convictions were found. The operator satisfies the criteria in our guidance on operator competence.</p>
Financial competence	<p>There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.</p>
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	<p>We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”</p> <p>We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document</p>

Aspect considered	Decision
	<p>above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.</p> <p>We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.</p>

Consultation

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from
Public Health England
Brief summary of issues raised
<p>The variation is for the addition of a wire granulator and bottle crusher, neither of which represent significant emission sources to any media according to the application. It is unclear if the applicant has provided any quantified risk assessment as they state a H1 cannot be provided for the gas engine, then go on to state that a H1 has been prepared by Golder Associates but this isn't available on the web portal. It is therefore not possible to comment upon quantified public health risks. However we note that the site is remote having no nearby residential properties or other vulnerable receptors and we would therefore not anticipate significant routes of exposure from emissions to air. In addition according to the application there are no drinking water abstractions within 1 km from the site so this pathway of exposure is also unlikely to be significant.</p> <p>It is assumed by Public Health England that the site will comply in all respects with the Environmental Permitting (England and Wales) Regulations 2016. Compliance with the legislation, together with good management, should ensure that the site will present a low risk to local human receptors.</p>
Summary of actions taken or show how this has been covered
<p>The variation is also for the upgrade of the aerosol processing plant for which a H1 assessment was provided. The parameters screened out as insignificant –see section 2.1.1 for further information. Also improvement conditions have been added to summarise the environmental performance of the plant against the design parameters and to assess air impacts against relevant EQS/AEL to compare actual emissions with those assumed in the H1.</p> <p>No further action required.</p>

Response received from
South Oxfordshire District Council - Environmental Protection Team
Brief summary of issues raised
<p>Having reviewed the supporting documentation, I have extensively considered Environmental Protection matters related to noise, odour and dust which may arise from varied use of the site.</p> <p>The documentation includes technical specifications and an environmental risk assessment identifying potential issues currently being addressed by the business. No complaints have been raised regarding the site within the past 10 years, and no enforcement action has been taken by the Environmental Protection Team. I am not aware of any additional noise, odour, dust or other amenity issues which have not been addressed in this application for an environmental permit.</p>
Summary of actions taken or show how this has been covered
No further action required.