

Permitting Decisions - Variation

We have decided to grant the variation for East Tollerton Farm operated by H Barker & Son Limited.

The variation number is EPR/GP3037YM/V002.

The variation is to incorporate a new small waste co-incineration plant (SWCP) and associated facilities. The SWCP will burn either Grade A, Grade B, Grade C or Grade D recycled wood chip fuel, or a mixture of these as fuel. The plant has a maximum annual throughput of 3,650 tonnes. The SWCP will replace biomass boilers, which are currently in the permit as Directly Associated Activities (DAAs) but have never been installed. Heat is currently provided by LPG for the poultry units. The SWCP will produce hot water which will be used to heat the poultry sheds on site.

The abatement system will consist of activated carbon injection for the removal of dioxins and heavy metals; sodium bicarbonate injection for the neutralisation of acid gases and urea injection for the selective non-catalytic reduction (SNCR) of oxides of nitrogen. A ceramic filter system will be used to remove particulate matter generated. The remaining combustion products are emitted to air via the stack (release point A1).

The stack will be fitted with MCERTS compliant continuous emissions monitoring system (CEMS). This will be used to continuously monitor the outgoing gas stream. There will be no direct process emissions to surface waters or sewer from the SWCP.

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

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision considerations](#) section to show how the main 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 and the variation notice.

Key issues of the decision

The key issues arising during this determination were BAT, the assessment of air emissions; the Human Health Risk Assessment (HHRA); and the Fire Prevention Plan (FPP), and we therefore describe how we determined these issues in most detail in this document.

Best Available Techniques (BAT)

In this section, we explain how we have determined whether the Applicant's proposals are the Best Available Techniques for this Installation.

The applicant carried out a stack height assessment, submitted as appendix A of the air quality assessment, the stack height chosen was further justified in response to a schedule 5 notice dated 02/07/2021. It was agreed that a stack height of 12 metres represented BAT for this installation because at this height the air quality assessment has concluded there will be no significant environmental harm to human receptors as there is significant headroom between the PEC and the Environmental Standard for all emissions modelled.

The SWCP uses a number of abatement techniques as listed below:

- Activated carbon injection for the removal of dioxins and heavy metals
- Sodium bicarbonate injection for the neutralisation of acid gases
- Urea injection for the selective non-catalytic reduction (SNCR) of oxides of nitrogen
- Ceramic filter system to remove particulate matter

We consider given the size of the SWCP and the type of waste it will be burning these techniques represent BAT for this installation.

The stack will be fitted with MCERTS compliant continuous emissions monitoring system (CEMS), used to continuously monitor the outgoing gas stream. In conjunction with the monitoring and reporting requirements added to the permit for this emission, this meets BAT for this type of facility.

The diesel burner is used to ensure the combustion chamber has an operational temperature greater than 850°C prior to the introduction of the waste fuel. The grade A and B waste wood will not contain halogenated organic compounds or heavy metals as a result of treatment with wood preservatives or coatings. The grade C and D waste wood may contain low levels of this type of

contamination. For the purposes of the air quality assessment it has been assumed that 100% of the fuel will be grade C and D waste wood in order to take a conservative approach, however in reality this is very unlikely to be the case. As the waste burnt will be exclusively waste wood there will be no cytotoxic or cytostatic drugs burnt. Therefore a temperature of 850°C has been considered BAT for this installation.

Finally, the standard permit conditions which have been added to the existing permit from the Energy from Waste template ensure the operation of the co-incineration plant meets BAT.

Air emissions

For an installation of this kind, the principal emissions are those to air.

The next sections of this document explain how we have approached the critical issue of assessing the likely impact of the emissions to air from the Installation on human health and the environment and what measures we are requiring to ensure a high level of protection.

For incineration applications, we normally require the Applicant to submit a full air dispersion model as part of their application. Air dispersion modelling enables the process contribution to be predicted at any environmental receptor that might be impacted by the plant.

Once short-term and long-term PCs have been calculated in this way, they are compared with Environmental Standards (ES). ES are described in our web guide 'Air emissions risk assessment for your environmental permit'.

Our web guide sets out the relevant ES as:

- Ambient Air Directive Limit Values
- Ambient Air Directive and 4th Daughter Directive Target Values
- UK Air Quality Strategy Objectives
- Environmental Assessment Levels

Where an Ambient Air Directive (AAD) Limit Value exists, the relevant standard is the AAD Limit Value. Where an AAD Limit Value does not exist, AAD target values, UK Air Quality Strategy (AQS) Objectives or Environmental Assessment Levels (EALs) are used. Our web guide sets out EALs which have been derived to provide a similar level of protection to Human Health and the Environment as the AAD limit values, AAD target and AQS objectives. In a very small number of cases, e.g. for emissions of lead, the AQS objective is more stringent than the AAD value. In such cases, we use the AQS objective for our assessment.

AAD target values, AQS objectives and EALs do not have the same legal status as AAD limit values, and there is no explicit requirement to impose stricter

conditions than BAT in order to comply with them. However, they are a standard for harm and any significant contribution to a breach is likely to be unacceptable.

PCs are screened out as **insignificant** if:

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

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 represent the best available techniques (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.

For those pollutants which do not screen out as insignificant, we determine whether exceedances of the relevant ES are likely. This is done through detailed audit and review of the Applicant's air dispersion modelling taking background concentrations and modelling uncertainties into account. Where an exceedance of an AAD limit value is identified, we may require the Applicant to go beyond what would normally be considered BAT for the Installation or we may refuse the application if the applicant is unable to provide suitable proposals. Whether or not exceedances are considered likely, the application is subject to the requirement to operate in accordance with BAT.

If, as a result of reviewing of the risk assessment and taking account of any additional techniques that could be applied to limit emissions, we consider that emissions **would cause significant pollution**, we would refuse the Application.

The applicant's air dispersion model used the recognised modelling software, ADMS 5. The report is titled 'Air Quality Assessment, Propose Small Waste

Incineration Plant, near Tollerton, York, for EBCO Holdings Ltd', reference JAR1076, dated 26/11/2019.

The air impact assessments, and the dispersion modelling upon which they were based, employed the following assumptions.

- First, they assumed that the ELVs in the Permit would be the maximum permitted by Article 15(3), Article 46(2) and Annex VI of the IED. These substances are:
 - Oxides of nitrogen (NO_x), expressed as NO₂
 - Total dust
 - Carbon monoxide (CO)
 - Sulphur dioxide (SO₂)
 - Hydrogen chloride (HCl)
 - Hydrogen fluoride (HF)
 - Metals (Cadmium, Thallium, Mercury, Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium)
 - Polychlorinated dibenzo-para-dioxins and polychlorinated dibenzo furans (referred to as dioxins and furans)
 - Gaseous and vaporous organic substances, expressed as Total Organic Carbon (TOC)
- Second, they assumed that the Installation operates continuously at the relevant long-term or short-term ELVs, i.e. the maximum permitted emission rate (except for emissions of arsenic and nickel).
- Third, the model also considered emissions of pollutants not covered by Annex VI of IED, specifically, polycyclic aromatic hydrocarbons (PAH) and Polychlorinated biphenyls (PCBs). Emission rates used in the modelling have been drawn from data in the Waste Incineration BREF.

We are in agreement with this approach. The assumptions underpinning the model have been checked and are considered to be precautionary.

As the local district council does not have suitable monitoring stations within the vicinity of the site; the Applicant has used background data from DEFRA (NO_x and particulate matter), the closest available AURN networks to the site (CO and SO₂), the Heavy Metals Network monitoring stations (heavy metals), the UK Eutrophying and Acidifying Network (part of the Acid Gas and Aerosol Network) (HCl), and the polycyclic aromatic hydrocarbon network (PAHs).

As well as calculating the peak ground level concentration, the Applicant has modelled the concentration of key pollutants at a number of residential receptors in the vicinity.

The Applicants air impact assessment has been reviewed by the Environment Agency to establish the robustness of the methodology used. The output from the model has then been used to inform further assessment of health impacts.

Our review of the Applicant's assessment leads us to agree with the Applicant's conclusions. We have also audited the human health impact assessment and similarly agree that the conclusions drawn in the reports were acceptable.

The Applicant's modelling predictions are summarised in the following sections.

Assessment of Air Dispersion Modelling Outputs

The Applicant's modelling predictions are summarised in the tables below.

The Applicant's modelling predicted both peak ground level exposure to pollutants in ambient air and at discreet receptors.

The tables below show the maximum predicted ground level concentration across the modelled domain. These are the worst impacted locations regardless of whether a sensitive receptor is present at these locations.

Whilst we have used the Applicant's modelling predictions in the table below, we have made our own simple verification calculation of the percentage process contribution and predicted environmental concentration. These are the numbers shown in the tables below and so may be very slightly different to those shown in the Application. Any such minor discrepancies do not materially impact on our conclusions.

For several substances the applicants report did not include background concentrations, we have therefore used background concentrations from the following sources. For ammonia (NH₃) background values have been taken from APIS, for Hydrogen fluoride (HF) from EPAQS 2006, and for Mercury (Hg) from the Lead and Multi-elements network. For NH₃ the value used was location specific, for HF and Hg the values used were the maximum values found across the monitored network for a highly precautionary approach.

Table 1. Assessment of Emissions to Air, Non-metals

Pollutant	EQS / EAL		Back-ground note 1 µg/m ³	Process Contribution (PC)		Predicted Environmental Concentration (PEC)	
	µg/m ³	Reference period		µg/m ³	% of EAL	µg/m ³	% of EAL
NO ₂	40	Annual Mean	6.7	9.7	24.25	16.4	41.0
	200	99.79th %ile of 1-hour means	13.3	27	13.5	40.3	20.2
PM ₁₀	40	Annual Mean	12.7	0.7	1.75	13.4	33.5
	50	90.41st %ile of 24-hour means	n/a	1.4	2.80	n/a	n/a
PM _{2.5}	20	Annual Mean	7.4	0.7	3.50	8.10	40.5
SO ₂	266	99.9th %ile of 15-min means	n/a	23.7	8.9	n/a	n/a
	350	99.73rd %ile of 1-hour means	n/a	18.6	5.31	n/a	n/a
	125	99.18th %ile of 24-hour means	n/a	10.9	8.7	n/a	n/a

HCl	750	1-hour average	n/a	9.5	1.2666667	n/a	n/a
HF	16	Monthly average	2.46	0.9	5.63	3.360	21.0
	160	1-hour average	n/a	3.8	2.375	n/a	n/a
CO	10000	Maximum daily running 8-hour mean	n/a	18.2	0.18	n/a	n/a
PAH	0.00025	Annual Mean	2.00E-04	2.08E-04	83.20	0.00041	163.2
NH ₃	180	Annual Mean	0.7	0	n/a	n/a	0.00
PCBs	0.2	Annual Mean	n/a	5.56E-09	0.00	n/a	n/a

PAH as benzo[a]pyrene

Note 1 – where PC is insignificant (shown in green) we do not consider the background or PEC

Table 2. Assessment of Emissions to Air, Metals

Pollutant	EQS / EAL		Back-ground note 1	Process Contribution		Predicted Environmental Concentration	
	ng/m ³	Reference period		ng/m ³	ng/m ³	% of EAL	ng/m ³
Cd	5	Annual mean	0.6	3.5	70.0	4.10	82.0
Hg	250	Annual mean	2.47	3.5	1.40	6.24	2.5
	7500	1-hour average	n/a	47.3	0.63	n/a	n/a
Sb	5000	Annual mean	n/a	34.7	0.69	n/a	n/a
	150000	1-hour average	n/a	473.1	0.32	n/a	n/a
Pb	250	Annual mean	18.9	34.7	13.88	53.60	21.44
Cu	10000	Annual mean	n/a	34.7	0.35	n/a	n/a
	200000	1-hour average	n/a	473.1	0.24	n/a	n/a
Mn	150	Annual mean	90	34.7	23.13	124.70	83.13

	1500000	1-hour average	n/a	473.1	0.032	n/a	n/a
V	5000	Annual mean	n/a	473.1	9.46	n/a	n/a
	1000	24-hr average	9.5	34.7	3.47	44.20	4.42
As	3	Annual mean	0.8	34.7	1156.67	35.50	1183.3
Cr (II)(III)	5000	Annual mean	n/a	34.7	0.69	n/a	n/a
	150000	1-hour average	n/a	473.1	0.32	n/a	n/a
Ni	20	Annual mean	1.3	34.7	173.50	36.00	180.0

Note 1 – where PC is insignificant (shown in green) we do not consider the background or PEC

(i) Screening out emissions which are insignificant

From Tables 1 & 2 above the following emissions can be screened out as insignificant in that the process contribution is <1% of the long term ES and <10% of the short term ES. These are:

- SO₂
- HCl
- CO
- PCBs
- NH₃

Therefore we consider the Applicant's proposals for preventing and minimising the emissions of these substances to be BAT for the Installation subject to the detailed audit referred to below.

(ii) Emissions unlikely to give rise to significant pollution

Also from the tables above the following emissions (which were not screened out as insignificant) have been assessed as being unlikely to give rise to significant pollution in that the predicted environmental concentration (PEC) is less than 100%, taking expected modelling uncertainties into account.

- NO₂
- PM₁₀
- PM_{2.5}
- HF
- Cd
- Hg
- Pb
- Mn
- V

For these emissions, we have assessed the Applicant's proposals to ensure that they are applying the Best Available Techniques to prevent and minimise emissions of these substances.

(iii) Emissions requiring further assessment

Finally from the tables above the following emissions are considered to have the potential to give rise to pollution in that the PEC exceeds 100% of the long term or short term ES, and therefore require further assessment.

- PAH – see section below 'Emissions to Air of PAHs' for further information.
- As and Ni – see section below 'Assessment of Emission of Metals' for further information

Emissions to Air of PAHs

For PAHs the predictions show that the PEC exceeds 100% of the long-term EAL (the emission is not assessed for short term impacts). In their air-quality assessment the applicant has stated:

For PAHs, the predicted PC is more than 1% of the EAL and the PEC is above the EAL. As such, the long-term PAH impact based on modelling across the grid would be considered to be potentially significant if public exposure was possible. Table C.1 in Appendix C shows that, at the nearest sensitive receptors, the PC is less than 1% of the EAL and the long-term PAH impact is not considered to be significant.

We agree with the above and whilst emissions of PAHs cannot be screened out as insignificant, the Applicant's modelling, and further explanation above, demonstrates that the installation is unlikely to result in an exceedance of the EAL.

Assessment of Emission of Metals

The Applicant has assessed the impact of metal emissions to air, as previously described.

Annex VI of IED sets three limits for metal emissions:

- An emission limit value of 0.05 mg/m³ for mercury and its compounds (formerly WID group 1 metals).
- An aggregate emission limit value of 0.05 mg/m³ for cadmium and thallium and their compounds (formerly WID group 2 metals).
- An aggregate emission limit of 0.5 mg/m³ for antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium and their compounds (formerly WID group 3 metals).

In addition the UK is a Party to the Heavy Metals Protocol within the framework of the UN-ECE Convention on long-range trans-boundary air pollution. Compliance with the IED Annex VI emission limits for metals along with the Application of BAT also ensures that these requirements are met.

The following emissions of metals were screened out as insignificant:

- Sb
- Cu
- Cr(II)(III)

The following emissions of metals whilst not screened out as insignificant were assessed as being unlikely to give rise to significant pollution:

- Cd
- Hg
- Pb
- Mn
- V

This left emissions of arsenic (As) and nickel (Ni) requiring further assessment as they are considered to have the potential to give rise to pollution.

Where the BREF sets an aggregate limit, the Applicant's assessment assumes that each metal is emitted individually at the relevant aggregate emission limit value. This is something which can never actually occur in practice as it would inevitably result in a breach of the said limit, and so represents a very much worst case scenario.

For As and Ni the Applicant's predictions show that the PECs exceed 100% of the long-term EALs (none of these emissions are assessed for short term impacts). In their air-quality assessment the applicant has stated:

These predictions are based on the assumption that arsenic and nickel individually comprise the total of the group 3 metals emissions. In reality, the IED emission limit applies to all nine of the group 3 metals. The Environment Agency 'Releases from waste incinerators – Guidance on assessing group 3 metal stack emissions from incinerators' version 4 (undated), provides a summary of 34 measured values for each metal recorded at 18 municipal waste and waste wood co-incinerators between 2007 and 2015. For As, the measured concentration varies from 0.04% to 5% of the IED emission concentration limit. For Ni the measured concentrations varies from 0.5% to 44% of the IED emission concentration limit.

Table 5.3 shows the predicted PC if As is only 5.0% of the emission limit i.e. the PC for As has been divided by 20 (5% of the IED emission concentration limit). In this case, the predicted PC remains more than 1% above the EAL; however, the PEC for As is below the EAL. At long-term emission limits, the As impacts are therefore not considered significant.

Table 5.3 shows the predicted PC if Ni is only 44.0% of the emission limit. In this case, the predicted PC remains more than 1% above the EAL; however, the PEC for Ni is below the EAL. At long-term emission limits, the Ni impacts are therefore not considered significant.

We agree with the above and whilst emissions of As and Ni cannot be screened out as insignificant, the Applicant's modelling, and further explanation above, demonstrates that the installation is unlikely to result in an exceedance of the EALs.

Impact on Air Quality Management Areas (AQMAs)

No Air Quality Management Areas (AQMAs) have been declared within an area likely to be affected by emissions from the co-incinerator.

Impact of abnormal operations

Article 50(4)(c) of IED requires that waste incineration and co-incineration plants shall operate an automatic system to prevent waste feed whenever any of the continuous emission monitors show that an emission limit value (ELV) is exceeded due to disturbances or failures of the purification devices. Notwithstanding this, Article 46(6) allows for the continued incineration and co-incineration of waste under such conditions provided that this period does not (in any circumstances) exceed 4 hours uninterrupted continuous operation or the cumulative period of operation does not exceed 60 hours in a calendar year. This is a recognition that the emissions during transient states (e.g. start-up and shut-down) are higher than during steady-state operation, and the overall environmental impact of continued operation with a limited exceedance of an ELV may be less than that of a partial shut-down and re-start.

For incineration plant, IED sets backstop limits for particulates, CO and TOC which must continue to be met at all times. The CO and TOC limits are the same as for normal operation, and are intended to ensure that good combustion conditions are maintained. The backstop limit for particulates is 150 mg/m³ (as a half hourly average) (225 mg/m³ at an oxygen reference volume of 6%) which is five times the limit in normal operation.

Article 45(1)(f) requires that the permit shall specify the maximum permissible period of any technically unavoidable stoppages, disturbances, or failures of the purification devices or the measurement devices, during which the concentrations in the discharges into the air may exceed the prescribed emission limit values. In this case we have decided to set the time limit at 4 hours, which is the maximum period prescribed by Article 46(6) of the IED.

These abnormal operations are limited to no more than a period of 4 hours continuous operation and no more than 60 hour aggregated operation in any calendar year. This is less than 1% of total operating hours and so abnormal operating conditions are not expected to have any significant long term environmental impact unless the background conditions were already close to, or exceeding, an ES. For the most part therefore consideration of abnormal operations is limited to consideration of its impact on short term ESs.

In making an assessment of abnormal operations the following worst case scenario has been assumed:

- Particulate emissions of 225 mg/m³ (10 x normal)

This is a worst case scenario in that these abnormal conditions include a number of different equipment failures not all of which will necessarily result in an adverse impact on the environment (e.g. a failure of a monitoring instrument does not necessarily mean that the incinerator or abatement plant is malfunctioning). This analysis assumes that any failure of any equipment results in all the negative impacts set out above occurring simultaneously.

We have reviewed this scenario under the conditions described in the paragraphs above as detailed in IED and are satisfied that under these worst-case scenario conditions the emissions under abnormal operations are unlikely to give rise to significant pollution and will not constitute a risk to human health.

We are therefore satisfied that it is not necessary to further constrain the conditions and duration of the periods of abnormal operation beyond those permitted under Chapter IV of the IED.

We have not assessed the impact of abnormal operations against long term ESs for the reasons set out above. Except that if dioxin emissions were 100 times greater than the ELV for the maximum period of abnormal operation, this would result in an intake process contribution, i.e. from the Facility, of approximately 8.5% of the COT TDI. At this level, we are satisfied that emissions of dioxins will still not pose a risk to human health.

Human health risk assessment

The Environment Agency has a statutory role to protect the environment and human health from all processes and activities it regulates. We assessed the effects on human health for this application in the following ways:

Assessment of Intake of Dioxins, Furans and Dioxin like PCBs

For dioxins, furans and dioxin like PCBs, the principal exposure route is through ingestion, usually through the food chain, and the main risk to health is through accumulation in the body over a period of time. The assessment submitted with the application also considered other plausible pathways including direct inhalation but found that the foods chain is the most numerically significant pathway.

The human health risk assessment calculates the dose of dioxins and furans that would be received by local receptors if their food and water were sourced from the locality where the deposition of dioxins, furans and dioxin like PCBs is predicted to be the highest. This is then assessed against the Tolerable Daily Intake (TDI) levels established by the COT of 2 picograms I-TEQ / Kg bodyweight/ day.

The results of the Applicant's assessment of dioxin intake are detailed in the table below. (worst – case results for each category are shown). The results showed that the predicted daily intake of dioxins, furans and dioxin like PCBs at the worst

impacted receptors, resulting from emissions from the proposed facility, were below the recommended TDI levels.

Receptor	Total intake from the facility (pg I-TEQ kg ⁻¹ d ⁻¹)	Total intake facility + MDI (pg I-TEQ kg ⁻¹ d ⁻¹)	Facility as % of TDI	Total intake as % of TDI
Farmer south-east adult	0.10	0.80	5.2%	40.2%
Farmer south-east child	0.15	1.95	7.6%	97.6%
Resident cross lanes 1 adult	0.00015	0.70	<0.1%	35.0%
Resident cross lanes 1 child	0.00045	1.80	<0.1%	90.0%
COT TDI	2	2	-	-

For the farmer receptors all were located close to the site boundary in areas identified as potential farming locations, where the highest concentrations and deposition rates are predicted. These receptors are representative of the worst-case conditions. In addition, the TDI for dioxins and furans is set for the purpose of assessing lifetime exposure, and it is considered unlikely a child would consume primarily food grown in the direct vicinity of this facility for the duration of their lifetime.

For the residential receptors in Cross Lanes the predicted contribution of the facility to the COT TDI is less than 0.1%, therefore the contribution of this facility to TDI levels at residential receptors within close proximity of the facility is negligible.

We have assessed the health effects from the operation of this installation in relation to the above. We have applied the relevant requirements of the national and European legislation in imposing the permit conditions. We are satisfied that compliance with these conditions will ensure protection of the environment and human health.

In carrying out air dispersion modelling as part of the environmental impact assessment and comparing the predicted environmental concentrations with European and national air quality standards, the Applicant has effectively made a health risk assessment for many pollutants. These air quality standards have been developed primarily in order to protect human health.

The Applicant's assessment of the impact from SO₂, HCl, CO, PCBs, Sb, Cu and Cr(II)(III) have all indicated that the Installation emissions screen out as insignificant; and where the impact of emissions of NO₂, PM₁₀, PM_{2.5}, HF (and PAHs, As and Ni, after further assessment) have not been screened out as

insignificant, the assessment still shows that the predicted environmental concentrations are well within air quality standards or environmental action levels.

The Environment Agency has reviewed the methodology employed by the Applicant to carry out the health impact assessment and we agree with their conclusions insofar as the impact of emissions of dioxins and dioxin-like PCBs from the Facility are not predicted to have a significant effect on human health.

Overall, taking into account the conservative nature of the impact assessment (i.e. that it is based upon an individual exposed for a life-time to the effects of the highest predicted relevant airborne concentrations and consuming mostly locally grown food), it was concluded that the operation of the proposed facility will not pose a significant carcinogenic or non-carcinogenic risk to human health.

Public Health England were consulted on the Application and concluded that due to the predominantly rural landscape the risk to public health from the installation was low and they had no concerns regarding the risk to the health of the local population.

The Environment Agency is therefore satisfied that the Applicant's conclusions presented above are soundly based and we conclude that the potential emissions of pollutants including dioxins, furans and metals from the proposed facility are unlikely to have an impact upon human health.

Fire prevention plan

The applicant has been required to submit a Fire Prevention Plan (FPP) as a result of the combustible waste being stored on site prior to being used as a fuel in the SWCP.

We are satisfied that the FPP meets the measures and objective set out in the Fire Prevention Plan guidance, with the exception of detection.

The site does not have an automatic detection system in place, however the guidance states *'Your detection system must be proportionate to the nature and scale of waste management activities you carry out and the associated risks.'* As a result of other measures in place on the site the risk of fire is low and therefore the CCTV system in place is deemed to be appropriate and proportionate to the risks.

Measures in place on site to limit the risk of fire include:

- the waste wood is stored in a single pile within our limits on pile size, it is stored within a building which provides shade from the sun, is locked out of hours for added security and has concrete walls to decrease the risk of a fire spreading.
- the waste wood will be stored for a maximum of 48 hours and is unlikely in this time to self ignite. Stored waste is checked daily using a temperature

probe and action is taken if the waste exceeds 50°C or where records show a temperature rise of more than 20°C over a period of 2 days.

- there are few sources of ignition on site, no vehicles are used on site for operations, there is a smoking area outside of the permit boundary, there are no industrial heaters and no hot works expected on site.
- the SWCP and auger are fitted with alarms which notify both staff on and off site of high temperatures or issues for example blockages.
- the waste storage building is fitted with a sprinkler system which will automatically be activated upon heat detection.

As a result of the measures detailed above and other measures included in the FPP it is considered that the risk from fire is low and therefore the detection system proposed is acceptable.

In all other aspects the FPP meets our guidance, we have approved the fire prevention plan as we consider it to be appropriate measures based on information available to us at the current time.

Decision considerations

Confidential information

A claim for commercial or industrial confidentiality has not been made.

The decision was taken in accordance with our guidance on confidentiality.

Identifying confidential information

We have not identified information provided as part of the application that we consider to be confidential.

The decision was taken in accordance with our guidance on confidentiality.

Consultation

The consultation requirements were identified in accordance with the Environmental Permitting (England and Wales) Regulations (2016) and our public participation statement.

The application was publicised on the GOV.UK website.

We consulted the following organisations:

- Public Health England
- Director of Public Health – North Yorkshire County Council

- Environmental Health – Hambleton District Council

The comments and our responses are summarised in the [consultation responses](#) section.

The regulated facility

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 RGN2 'Defining the scope of the installation', and Appendix 1 of RGN 2 'Interpretation of Schedule 1'.

The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.

The site

The operator has provided a plan which we consider to be satisfactory

These show the extent of the site of the facility including the new Emission to Air point A1.

The plan is included in the permit.

Nature conservation, landscape, heritage and protected species and habitat designations

We have checked the location of the application to assess if it is within the screening distances we consider relevant for impacts on nature conservation, landscape, heritage and protected species and habitat designations. The application is not within our screening distances for these designations.

Environmental risk

We have reviewed the operator's assessment of the environmental risk from the facility.

The operator's risk assessment is satisfactory.

General operating techniques

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.

The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.

Operating techniques for emissions that screen out

Emissions have been screened out as either insignificant or unlikely to give rise to significant pollution, see key issues section above, and so we agree that the applicant's proposed techniques are Best Available Techniques (BAT) for the installation.

We consider that the emission limits included in the installation permit reflect the BAT for the sector.

National Air Pollution Control Programme

We have considered the National Air Pollution Control Programme as required by the National Emissions Ceilings Regulations 2018. By setting emission limit values in line with technical guidance we are minimising emissions to air. This will aid the delivery of national air quality targets. We do not consider that we need to include any additional conditions in this permit.

Fire prevention plan

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, with the exception of detection.

For fire detection the plan sets out alternative measures that we consider meet the objectives of the Fire Prevention Plan guidance, see key issues section above.

We have approved the fire prevention plan as we consider it to be appropriate measures based on information available to us at the current time. The applicant should not take our approval of this plan to mean that the measures in the plan are considered to cover every circumstance throughout the life of the permit.

The plan has been incorporated into the operating techniques S1.2.

Updating permit conditions during consolidation

We have updated permit conditions to those in the current generic permit template as part of permit consolidation. The conditions will provide the same level of protection as those in the previous permits.

Waste types

We have specified the permitted waste types, descriptions and quantities, which can be accepted at the regulated facility.

We are satisfied that the operator can accept these wastes for the following reasons:

- they are suitable for the proposed activities
- the proposed infrastructure is appropriate; and
- the environmental risk assessment is acceptable.

We have restricted the following wastes for the following reasons:

- Waste codes 19 02 09*, 19 02 10 and 19 05 03 have been restricted in the description to wood waste only following confirmation from the operator that this is the only waste they intend to take under these codes.

Emission limits

Emission Limit Values (ELVs) have been added for the substances for which limits are specified in our standard template applicable to Schedule 13 co-incinerators and in accordance with IED.

Monitoring

We have decided that monitoring should be added for the parameters listed in Tables S3.1 (b), S3.1 (c) S3.2, S3.3 (a), S3.3 (b) and S3.4 of the permit, using the methods detailed and to the frequencies specified.

We made these decisions in accordance with our standard template applicable to Schedule 13 co-incinerators and in accordance with IED.

Reporting

We have added reporting detailed in Tables S4.1, S4.2 and S4.3 of the permit.

We have specified the reporting requirements in Schedule 4 of the Permit either to meet the reporting requirements set out in the IED, or to ensure data is reported to enable timely review by the Environment Agency to ensure

compliance with permit conditions and to monitor the efficiency of material use and energy recovery at the installation.

Management system

We are not aware of any reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.

The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.

Growth duty

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 variation.

Paragraph 1.3 of the guidance says:

“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.”

We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document 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.

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.

Consultation Responses

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 (PHE) 17/03/2021.

Brief summary of issues raised:

The main emissions of potential public health significance are emissions to air. Based on the information supplied, Public Health England has no concerns regarding the risk to the health of the local population. It is assumed by PHE that the installation will comply in all respects with the requirements of the permit, including the application of Best Available Techniques (BAT), see key issues section above. This should ensure that emissions present a low risk to human health, see Air emissions and Human health risk assessment sections in the key issues above.

Summary of actions taken: No action taken.

No consultation response was received by the Director of Public Health – North Yorkshire County Council; or from Environmental Health – Hambleton District Council.