Determination of an application for a variation to a Permit under regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No1973) to comply with regulation 3 of the Waste Incineration (England and Wales) Regulations 2002 (SI 2002 No 2980)

Decision Document recording the decision-making process

Note: all references to the "PPC Regulations" are to the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No1973), as amended.

Administrative details

Application date and Agency reference ("the Application for Variation")	**Mostyn Organic Chemicals, 18/03/2005 AP3634SJ**
Permit number (the "Permit")	BU2357/AP3634SJ
Operator (the "Operator")	Warwick International Limited
Address/location of installation (the "Installation")]	**Dock Road Mostyn Holywell Flintshire CH8 9HE**
Name of Permitting Officer	Clare Bradley Strategic Permitting Group Warrington
Signature of Permitting Officer	C Bradley 15/12/05
Name of Authorising Officer	**M. J. Peacock** Team Leader, Strategic Permitting Group Warrington
Signature of Authorising Officer:	M Peacock. 16/12/05.

All relevant documents have been sent to the IPPC Public Registers

Purpose of this document

The Decision Document ("DD") explains how the Application for Variation has been determined and the reasoning behind the changes to the Permit . It is a record of the decision-making process to show how all relevant factors and legislative requirements have been taken into account.

Summary of the decision

The Agency has varied the Operator's Permit to operate the Installation. This variation was necessitated by the requirements of the Waste Incineration (England and Wales) Regulations 2002, which implement the European Waste Incineration Directive (2000/76/EC) (the "WID"). The Agency considers that in varying the Permit, it has taken into account all relevant considerations and legal requirements. In addition, all reference to emission points A15 and A24 have been removed from the Permit as these points have been reclassified as fugitive emission points with no associated monitoring.

Description of the Permitted Installation

A non technical description of the Permitted Installation is included in the Introductory Note to the Permit. This necessarily covers the entire installation rather than solely the residue incinerator. It is the residue incinerator that is the subject of the variation to this permit.

PART A – THE OPERATOR AND THE DECISION MAKING PROCESS

The Agency's determination procedure

A1 "Duly made" check on Application for Variation received

The Application for Variation was determined to be duly made as submitted on 18/03/05

A2 Consultation on the Application for Variation

Minor Variation – no consultation required.

A3 Consideration of consultation responses

Not Applicable

A4 Matters of commercial confidentiality or national security

The Operator made no claim for commercial confidentiality and the Agency has not received any information in relation to this Application for Variation which appears to be confidential in relation to any party. There are no matters involving national security.

A5 Further information requirements

The Application for Variation was deemed duly made by the Agency, but further information was required in order for the Agency to be able to determine the Application for Variation. Further information was requested from the Operator by notice/letter on the 15/06/05 and by email on the 30/11/2005 as follows:

auxiliary burner operation;
waste feed sampling, categorisation, composition, and calorific value;
emission limits information;
waste (soot) disposal, recovery and composition; and
emissions monitoring

Responses were received from the Operator on 28/07/05 and 12/12/2005. These were placed on the public register, and have been taken into consideration by the Agency in making its determination.

APPLICATION OF THE WASTE INCINERATION DIRECTIVE

1 Introduction

1.1 The WID has been transposed into domestic law by (inter alia) the Waste Incineration (England and Wales) Regulations 2002 (SI 2002 No. 2980) (the "WI Regulations"). These WI Regulations use the PPC regime as the vehicle for delivering the technical requirements of the WID. The Secretary of State has also issued a Direction to regulators under the PPC Regulations requiring the Agency to include WID requirements in PPC permits for "*waste incineration installations*".

1.2 This installation is an incineration plant as defined by the WID and therefore must comply with the requirements.

1.3 Under the transitional provisions set out in the WI Regulations the operations on the site qualified as an "*existing*" waste incineration installation for WID purposes.

As an existing waste incineration installation, compliance with the WID technical requirements is not necessary until 28th December 2005.

1.4 Regulation 3(3) of the WI Regulations requires an application for a variation to a PPC permit to contain the information specified in paragraph 1B of Part 1 of Schedule 4 to the PPC Regulations. Paragraph 1(g) of Schedule 7 to the PPC Regulations provides that, where such information has previously been included in a PPC application, a statement of any changes as respects the matters dealt with in Paragraph 1B of Schedule 4 which would result if the proposed change in the operation of the installation requiring the variation were made. A WID variation application should contain a description of the measures which are envisaged to guarantee in respect of that installation that –

(a) the plant is designed, equipped and will be operated in such a manner that the relevant requirements of the WID are met, taking into account the categories of waste to be incinerated;

(b) the heat generated during the incineration process is recovered as far as practicable (for example through combined heat and power, the generating of process steam or district heating);

(c) the residues will be minimised in their amount and harmfulness and recycled where appropriate;

(d) the disposal of the residues which cannot be prevented, reduced or recycled will be carried out in conformity with national and Community legislation; and

(e) the proposed measurement techniques for emissions into the air comply with Annex III of the WID and, as regards water, comply with paragraphs 1 and 2 of that Annex.

1.5 This document considers each of these requirements in turn and shows how they have been addressed in the Permit. The Agency is satisfied that, when waste is burnt in the Installation, the requirements of the PPC Regulations and the WID will be complied with.

2 Requirements of the WID

2.1 Article 1 - Objectives

2.1.1 Article 1 sets out the aims of the WID. These are:

> *"to prevent or to limit as far as practicable negative effects on the environment, in particular pollution by emissions into air, soil, surface water and groundwater, and the resulting risks to human health, from the incineration of waste".*

2.1.2 The Agency considers that the conditions in the Permit, as now varied, achieve these aims.

2.2 Article 2 - Scope

2.2.1 It is clear that the Installation, when burning the wastes described in the Application for Variation, is subject to the WID.

2.3 Article 4 - Application and permit

2.3.1 Article 4 requires that a waste incineration installation must obtain a permit, and sets out the details which must be included in an application, and conditions for granting a permit, which have been carried over directly into Schedules 4 and 7 to the PPC Regulations (see above). The Agency is satisfied that these requirements are complied with and has therefore issued the Variation to the Operator.

2.3.2 The Article 4 requirements are:

(a) the application must show that the proposed measurement techniques for emissions into the air comply with Annex III and, as regards water, comply with Annex III paragraphs 1 and 2. This is now a specific requirement of the PPC Regulations (see paragraph 1.4 above). Detailed consideration of this point follows at paragraphs 2.9.1 to 2.9.5. Discussions with the Operator and additional information provided in response to the Schedule 7 notice and other requests for information have ensured that the Application for Variation complied with this requirement.

(b) the Permit must comply with any applicable requirement laid down in the Urban Waste Water Treatment Directive (the "UWWTD"), the IPPC Directive, the Air Quality Framework Directive (the "AQFD"), the Dangerous Substances Directive (the "DSD") and the Landfill Directive (the "LFD"). Of these, the IPPC Directive's requirements are delivered via PPC and therefore this Variation, as are the applicable requirements of the UWWTD, the AQFD and the DSD. The LFD is not relevant to the Installation.

(c) the Permit must list explicitly the categories of waste that may be treated, using the categories set out in the European Waste Catalogue ("EWC") and contain information on the quantity of waste where appropriate. Condition 2.1.3AND Table 2.1.3 and Schedule 6 of the varied Permit lists the waste that is permitted to be burnt at the Installation and provide the EWC numbers.

(d) the Permit shall include the total waste incinerating capacity of the plant. Condition 2.1.3 and Table 2.1.3 of the varied Permit contain this information.

(e) the Permit shall specify the sampling and measurement procedures used to satisfy the obligations imposed for periodic measurements of each air and water pollutant. Conditions 2.10.1 and 2.10.2 and Table 2.10.1, 2.2.2, 2.2.2(a) and 2.2.5, of the varied

Permit fulfil this requirement, and specific monitoring conditions are discussed below at section 2.9.

(f) For incineration plant burning hazardous waste, the Permit shall also list the quantities of the different categories of hazardous waste which may be treated, and shall specify the minimum and maximum mass flows of those hazardous wastes, their lowest and maximum calorific values and their maximum contents of pollutants, such as PCBs, PCPs, chlorine, fluorine, sulphur and heavy metals. Condition 2.1.4 of the varied Permit requires that only those hazardous wastes where the mass flows, calorific values and pollutant composition are within the ranges specified in Section 2.1 of the Application for Variation and the response to questions 4 & 6 of the Schedule 7 notice are burnt within the Installation.

2.3.3 Article 4(7) also requires the competent authority to carry out periodic reviews (and updates as appropriate) of permits. Periodic reviews are already built into the PPC regime.

2.3.4 Finally, Article 4(9) requires the competent authority to take enforcement action against breaches of permit conditions. The WID requirements are now Permit conditions, and the Agency will take any appropriate enforcement action using its powers under the PPC Regulations and in line with its published Enforcement and Prosecution Policy.

2.4 Article 5 - Delivery and reception of waste

2.4.1 Article 5 requires all necessary precautions to be taken concerning delivery and reception of wastes, in order to prevent or minimise pollution. The PPC Regulations require installations to be operated in order to prevent or minimise pollution. Section 2.3 of the original PPC Permit Application defines how this will be carried out at the Installation and condition 2.1.1 of the varied Permit requires that appropriate measures are taken. Incoming wastes are stored in order to prevent pollution of air, groundwater, soil and surface water as well as odours and noise (condition 2.5.1 sets out the waste storage requirements in the varied Permit). The Installation only burns wastes that are generated on-site.

2.4.2 For hazardous wastes, Article 5(3) requires the Operator to have available information about the waste for the purpose of verifying compliance with the permit, about its suitability for the process, and about the hazardous characteristics of the waste, the substances with which it cannot be mixed and precautions for handling the waste. This requirement may be exempted by the competent authority under Article 5(5) where an Operator is burning waste generated

by himself at the place of generation of the waste provided that the requirements of the WID are met. The Agency is satisfied that the requirements of the WID are met by compliance with the conditions of the varied Permit and that the Operator has sufficient information about the wastes to be burnt to operate in compliance with the conditions of the varied Permit, and therefore is not setting any specific conditions to require compliance with Article 5(3).

2.4.3 Article 5(4) sets out the reception procedures for hazardous waste that must be carried out by the Operator. This requirement may be exempted by the competent authority under Article 5(5) where an Operator is burning only waste generated by himself at the place of generation of the waste provided that the requirements of the WID are met. The Agency is satisfied that the requirements of the WID are met by compliance with the conditions of the varied Permit and that the Operator has sufficient information about the wastes to be burnt to operate in compliance with the conditions of the varied Permit, and therefore is not setting any specific conditions to require compliance with Article 5(4).

2.5 Article 6 - Operating Conditions

2.5.1 Article 6(1) sets out requirements for incineration installations such as distillation residue incinerators. It states that such plants should be:

a) Operated in order to achieve a level of incineration such that the slag and bottom ashes Total Organic Carbon (TOC) is less than 3% or their loss on ignition of the dry weight of the material is less than 5%.

b) Designed, equipped, built and operated in such a way that the gas resulting from the incineration of waste is raised, after the last injection of combustion air, in a controlled and homogeneous fashion and even under the most unfavourable conditions, to a temperature of 850 °C for two seconds, as measured near the inner wall or at another representative point of the combustion chamber. If hazardous wastes with a content of more than 1% of halogenated organic substances, expressed as chlorine, are incinerated, the required temperature is 1100 °C.

c) The incineration plant must be equipped with at least one auxiliary burner. The burner must switch on automatically when the temperature of the combustion gases after the last injection of combustion air falls below 850 °C. The auxiliary burner must be used for start-up and shut-down to ensure that the temperature 850 °C is maintained at all times and as long as unburnt waste is in the combustion chamber. During start-up and shut-down, or when the temperature of the combustion gas falls below 850 °C, the auxiliary burner must not be fed with fuels which can cause higher emissions than those resulting from the

burning of gasoil as defined in Article 1(1) of Council Directive 75/716/EEC, liquefied gas or natural gas.

The requirement for automatic switch on of the auxiliary burner has been derogated by Agency as there are reasonable safety grounds for not having an automatic system. The Applicant has provided further information with respect to operation of the auxiliary burner and measures to ensure that wastes are not burnt at less than 850°C in their response to question 1 of the Schedule 7 notice. The procedures/mode of operation described by the Applicant are deemed to be sufficient to ensure that the waste is not burnt at temperatures less than 850°C.

2.5.2 a) Fly ash is the only residue produced by the incinerator.

b) (i)Condition 2.1.7 of the varied Permit limits the charging of waste into the incinerator to periods of normal operation, when operating temperatures will be in excess of 850 °C after the last injection of combustion air

b) (ii) Section 2.1.5 of the Application for Variation provides a statement confirming compliance with the minimum 2-second residence time at 850 °C of the gases from the combustion of waste after the last injection of combustion air.

Section 2.1.5 of the Application for Variation specifies the representative point where the temperature for compliance is measured. Condition 2.1.1 of the varied Permit ensures that the installation is operated in accordance with this parts of the Applications.

c) Condition 2.1.8 of the varied Permit requires the operation of at least one auxiliary burner at start-up or shut-down or whenever the operating temperature falls below 850 °C, as long as unburned waste is present in the combustion chamber. Condition 2.1.8 of the varied Permit, also permits only the use of fuels which will result in no higher emissions than those arising from gas oil, liquefied gas or natural gas unless the specified temperature above is maintained.

2.5.3 Article 6(3) requires incineration plant to operate a system to prevent using waste as a feedstock during start-up and shut-down, whenever the temperature fails to meet the required levels, or when the CEMs show exceedences due to disturbances or failure of abatement. This requirement is addressed by conditions 2.1.7 and 2.1.8 of the varied Permit

2.5.4 Article 6(4) provides that different operating conditions (residence time and temperature) may be authorised, provided that the conditions of the Directive are met. Derogation from the operating requirements is allowed only when, the mass and the organic content of the slag and bottom ashes from the incinerator will be no more than that, which would have been expected, if the operating conditions had been the same as those without the derogation. No derogation from specified operating conditions is required.

2.5.5 Article 6(5) requires incineration plant to be designed, equipped, built and operated to ensure that emissions to air do not give rise to significant ground level pollution. Emissions to air and their ground-level impact are discussed in the body of this document, and the Agency is satisfied that the WID requirement is fulfilled.

2.5.6 Article 6(6) requires that any heat generated from the process shall be recovered as far as is practicable. As described in Section 2.7 of the Application for Variation, the heat generated by incineration of waste is used directly in the process. The incinerator presently has a waste heat boiler (2.2MW) that maximises the recovery of heat from the unit. The incinerator contributes up to 10% of the site's steam demand. The Agency considers that Article 6(6) is satisfied.

2.5.7 Not Applicable

2.5.8 Article 6(8) requires management of the Installation to be in the hands of a natural person who is competent to manage it. Condition 2.1.1 and conditions 2.3.1 to 2.3.4 (and 2.3.2 and 2.3.3 in particular) of the varied Permit fulfill this requirement.

2.6 Article 7 - Air emission limit values

2.6.1 Article 7(1) requires incineration plants to be designed, equipped, built and operated to comply with the ELVs in Annex V. The Operator has proposed to operate the incinerator to comply with the Annex V requirements. Condition 2.2.1.2 and Table 2.2.2- of the varied Permit require the Operator to comply with ELVs as laid out in Annex V.

2.6.2 Article 7(3) requires the results of measurements made to verify compliance with the ELVs to be standardised in accordance with Article 11. Condition 6.1.3 of the varied Permit details this standardisation requirement (Article 11 compliance is considered further below).

2.6.3 Article 7(5) gives Member States the option of setting ELVs for PAHs. It is the UK's position that there is insufficient monitoring data on the release of PAHs from "*waste incineration*

plants", on which to base such limits or even to decide such a limit is required. Nevertheless, in the Pollution Prevention and Control (Waste Incineration Directive) (England and Wales) Direction 2002, the Secretary of State directed regulators to monitor PAHs and to report the results with the same frequency as for dioxins and dioxin-like PCBs. The Government's guidance on the WID specifies a priority list of PAHs for monitoring. Consequently, periodic monitoring of PAHs (as specified in the guidance) has been required, at the same frequency as for dioxins and dioxin-like PCBs, in Table 2.10.1 of the varied Permit.

2.7 Article 8 - Water discharges from the cleaning of exhaust gases

2.7.1 Article 8(1) to (6) addresses conditions for water discharges from the cleaning of exhaust gases. There will be no discharges of such waters from the Installation, and therefore the provisions of the Article are not relevant. For clarification, condition 2.2.2 of the PPC Permit controls releases to controlled waters and sewer from the Installation from the Installation as a whole. These conditions allow for releases to controlled waters from other parts of the Installation and prohibit releases to sewer respectively.

2.7.2 Article 8(7) requires that incineration plant sites shall be designed to prevent the unauthorised and accidental release of any polluting substances into soil, surface water or groundwater. Article 8(7) also requires that storage capacity be provided for contaminated rainwater run-off from the site or for contaminated water from spillage or fire-fighting operations. The storage capacity shall be adequate to ensure that such waters can be tested and treated before discharge where necessary. Surface water run-off is contained. The Government's guidance on the WID specifies that for existing plants to demonstrate compliance with the storage requirements for contaminated water of Article 8(7) following aspects of the installation should be assessed:

a) Use of BAT to avoid rainwater contamination
b) Average peak rainfall rate
c) Existing drainage capabilities and concerns
d) Adequacy of fire detection and prevention measures
e) Use of BAT for spill prevention and containment
f) Cost of additional provision
g) Sensitivity of the receiving medium
h) Availability of additional off-site holding capacity
i) Ability to test and treat before discharge

As a hazardous waste incinerator, prior to implementation of the waste incineration directive, this Installation was subject to the requirements of the hazardous waste directive 94/67/EC (HWID). HWID Article 8(4) requires that incineration plant sites including associated storage areas for hazardous wastes shall be designed and operated in such as way as to prevent the release of any polluting substances into soil and groundwater. Article 8(4) of the HWID also

requires that storage capacity shall be provided for rainwater run-off from the incineration plant site or for contaminated water arising from spillages or firefighting operations. The storage capacity shall be adequate to ensure that such waters can be tested and treated before discharge where necessary. This aspect of the waste incineration directive will have been addressed in the original permit determination. In addition, the Operator states in section 2.8 of the Application that they comply with the storage requirements of WID Article 8(7). The Agency does not consider that a more detailed examination as per the Guidance, as outlined above, is necessary for this Installation as this aspect of the Installation will already have been examined for permit BU2357, in particular to conform with the requirements of being a COMAH site. Any excess water is discharged only after testing. Condition 2.2.2.4 of the original permit defines sampling arrangements for the surface water run-off from sample position W1. The Agency considers that Article 8(7) is therefore satisfied.

2.8 Article 9 – Residues

2.8.1 Article 9 requires residues from incineration plants to be minimised in their amount and harmfulness, and residues to be recycled where appropriate. The residues generated by the waste incinerator consist of fly ash in the form of waste heat boiler residues recovered during maintenance, drop out from the base of the stack and soot from the gas ceramic filter. Approximately 15 tonnes per annum of residue from the gas ceramic filter is generated and disposed of to a registered landfill site. Discussions with the Operator indicate that 20kg of ash is recovered from the boiler during the annual maintenance period. The responses in Section 2.6 of the Application for Variation (and the additional information provided on 12/12/2005) define the waste recovery/disposal arrangements and how this will be carried out at the Installation and condition 2.6.1 of the varied Permit requires that appropriate measures are taken.

2.8.2 Article 9 also requires dry residues and dust to be transported to prevent dispersal into the environment. Condition 2.5.1 of the varied Permit ensures that this requirement is complied with. Condition 2.6.1 of the varied Permit ensures that wastes arising from the Installation are disposed of or recovered in accordance with Section 2.6 of the Application for Variation and the additional information provided on the 12/12/2005. The Application for Variation and the additional information provided on the 12/12/2005 defines suitable disposal and recovery routes.

2.8.3 Article 9 requires residues from incineration plants to be tested (as appropriate) for their physical and chemical characteristics and their polluting potential concerning their soluble fraction. The responses in Section 2.6 of the Application for Variation and the additional

information provided on **DATE *(final date to be inserted)*** define how this has been carried out at the Installation for the filter residue and disposal routes. A separate analysis for the arisings from annual maintenance has not been carried out as these are minimal (20 kg per annum) and it is not considered proportionate to require this additional analysis. This has been explained in the handover not to the Inspector. Condition 2.10.2 of the varied Permit requires the Operator to analyse the solid residues, i.e. flyash from the ceramic filter assembly, waste heat boiler and drop out from the base of the stack recovered during maintenance, before any new disposal or recycling routes are used, the Agency therefore considers that Article 9 is satisfied.

2.9 Article 10 - Control and monitoring

2.9.1 Articles 10 and 11 and Annex III of WID define the specific monitoring provisions required to be given effect in conditions of the Permit. For clarification, the permit conditions related to water releases from the site are not applicable to the waste incinerator and are not altered by the Variation.

2.9.2 Article 10(1) and (2) require simply that measurement equipment and techniques shall be installed and used to monitor the incineration process, and that the measurement requirements shall be laid down in permits. These requirements are covered in Tables 2.2.2, emissions to air and the conditions in Sections 2.10 of the varied Permit, which the Agency considers fulfil the WID requirements.

2.9.3 Article 10(3) requires CEM for emissions to air and water to be subjected to regular control, testing and calibration. These requirements are addressed in Table 2.2.2, emissions to air requiring monitoring to be carried out in accordance with CEN, ISO, BS national, international methods or Agency guidance. Agency Monitoring Guidance Note M2 defines what is required in an annual surveillance test. Conditions 2.10.11 and 2.10.12 of the varied Permit impose regular testing of CEM equipment to meet the requirements of Article 10(3).

2.9.4 Article 10(4) requires sampling points to be specified in permits. Tables 2.2.2, emissions to air, 2.10.1 and other monitoring requirements of the varied Permit address this issue.

2.9.5 Article 10(5) requires periodic measurements to air and water to comply with Annex III, points 1 and 2. The requirement in point 1, for measurements to be carried out representatively. Point 2 requires that measurement methods and calibration of CEMs must be to CEN standards, or ISO, international or national standards if CEN standards are not available.

These requirements are addressed by condition 2.10.7 of the varied Permit, requiring the use of certified equipment and accredited personnel to be employed for all emissions monitoring. The Agency considers that the Permit therefore delivers all the relevant requirements of the WID in this respect.

2.10 Article 11 – Measurement requirements

2.10.1 Article 11(2) sets out the air pollutant measurements that are required to be carried out, in accordance with Annex III. Continuous emissions monitoring of NOx, CO, total dust, TOC, and periodic measurement of HF, HCl, SO_2, heavy metals, dioxins and furans measurement requirements are delivered by Condition 2.10.1 and Table 2.2.2 of the varied Permit. In addition, Article 11(2) requires the process parameters of: temperature at a representative point of the combustion chamber, concentration of O2, pressure, temperature and water content of the exhaust gases to be monitored. Condition 2.10.2 and Table 2.10.1 of the varied Permit deliver these monitoring requirements.

2.10.2 Not Applicable

2.10.3 Article 11(5) provides that continuous monitoring of water vapour content shall not be required if the sampled exhaust gas is dried before the emissions are analysed. This is the case for the incinerator.

2.10.4 Article 11(6) provides the option of periodic measurement for HCl, HF and SO_2 instead of CEMs. Sections 2.1 and 2.10 of the Application for Variation and the response to question 4 of the Schedule 7 notice demonstrate that Fluorine, Chlorine and Sulphur are present in trace amounts only in the waste feed to the Incinerator. In addition, analysis of the air emissions from the incinerator demonstrate that the levels of HF, HCl and SO_2 are lower than the prescribed ELVs. This proves that the emissions of HCl, HF, and SO_2 will be no higher than the prescribed ELVs under normal operating parameters. Condition 2.2.1.2 of the varied Permit requires the Operator not to exceed the HCl, HF, SO_2 limits

2.10.5 Article 11(7) allows the competent authority to permit a reduction in the monitoring frequency for heavy metals, dioxins and furans under certain conditions, provide the criteria in article 17 of WID are available. No such criteria have been set under article 17, hence no such reduction has been allowed in this permit. Monitoring frequencies are specified by Table 2.2.2 of the varied Permit.

2.10.6 Article 11(8) sets out reference conditions for incineration. The specific reference conditions for the incinerator are contained within condition 6.1.3 of the varied Permit.

2.10.7 The recording and reporting requirements in Article 11(9) for measurements are delivered by Section 4 and Schedules 1 and 2 of the varied Permit

2.10.8 Article 11(10) sets out the compliance criteria for ELVs in accordance with Annex V. These are delivered by conditions 2.2.1.2 and 6.1.1 and Table 2.2.2 of the varied Permit.

2.10.9 Article 11(11) provides that, for incineration, daily average monitoring results from CEMs are to be generated from half-hourly averages, and that no more that 5 half-hourly averages can be discarded each day due to malfunction. In addition no more than 10 daily averages per year can be disregarded in this way. These requirements are contained within Table 2.2.2. Note 5 of the varied Permit.

2.10.10 Article 11(11) also requires that the half-hourly averages (used as above) are determined after subtracting the 95% confidence intervals defined in Annex III. Table 2.2.2 of the varied Permit contains this requirement (Note 5).

2.10.11 Article 11(12) requires that periodic measurement conditions shall be laid down in accordance with Annex III. Annex III compliance has been referred to in paragraphs 2.3.2 and 2.9.5 of this document.

2.10.12 Article 11(13) provides that the European Commission shall set a date from which continuous measurement of ELVs for heavy metals, dioxins and furans shall be carried out. This is to be done once appropriate techniques are available within the Community. Although equipment for continuous sampling of dioxins and furans is now available, its fitness for purpose is still being established, and the Commission has not as yet acted pursuant to Article 11(13). The Agency will continue to monitor technical and policy developments and include any requirements as they are imposed.

2.10.13 Article 11(14) to (16) addresses the monitoring of wastewater from the cleaning of exhaust gases (see also Article 8 above). There are no such releases from the Installation.

Article 11(17) requires that where the measurements taken show that the ELVs for air and water laid down in the Directive have been exceeded, the Agency is informed without delay. Condition 5.1.1.1 of the varied Permit fulfills this requirement

2.10.14 The Agency therefore considers that the varied Permit complies with the applicable requirements of Article 11.

2.11 Article 12 - Access to information and public participation

2.11.1 Article 12(1) requires applications for new permits for incineration plants to be made available for public inspection at one or more locations. WID has been transposed in the UK via the PPC regime, which provides for public consultation on permit applications for new applications and applications for substantial changes. The Application for Variation is not considered to be a substantial change and public consultation is not required. The Permit is available on the public registers. The Agency considers that the consultation and information requirements of the WID have been fully complied with.

2.12 Article 13 - Abnormal operating conditions

2.12.1 Article 13(1) requires conditions to be included in permits laying down the maximum period of technically unavoidable stoppages, disturbances or failures of purification or measurement devices, during which discharges to air and water may exceed the ELVs. Conditions 2.1.9 to 2.1.12 put a limit on such periods of abnormal operation. The combined effect of Articles 6(3) and 11(2) is to require operational continuous monitoring at all times.) However, Article 13(1) provides for some operational flexibility in practice. The Environment Agency considers that the maximum period of technically unavoidable stoppages, due to disturbances or failures of measurement devices should be limited, to 4 hours uninterrupted duration in any one instance, and with a maximum cumulative limit of 60 hours per year. These periods are additional to those allowed under the 95% availability requirements of the CEN monitoring standards that are required to be included in the permit under paragraph 2 of Annex III to the Directive. Available techniques for compliance with these Art 13(1) requirements include the installation of supplementary monitoring, or having appropriately-trained personnel to maintain the monitoring equipment available. The combined effect of these conditions is to ensure that the installation has reasonable operational flexibility in terms of time to repair faulty equipment, but cannot operate indefinitely in such circumstances.

2.12.2 Article 13(2) requires the Applicant to cease the feed of waste in the event of a breakdown. This requirement is contained within condition 2.1.11

2.12.3 Article 13(3) limits abnormal operation, when ELVs are exceeded (for any reason) when using wastes as fuel, up to 4 hours uninterrupted duration. It also imposes a maximum

cumulative limit on periods of abnormal operation when using wastes as fuel, of 60 hours per year. These requirements are delivered by condition 2.1.11

3 Conclusion

The Agency has carefully considered the applicable requirements of the WID, and is satisfied that the varied Permit ensures that these will be complied with.

APPENDICES –

Appendix 1. Consultee responses

Consultation not required.

Appendix 2. List Of Derogations.

Assessment of Derogations

Derogation Requested	Operator Justification	Determination Comment & Action
WID Derogations		
Exemption from the requirement for auto switch on of auxiliary burner.	HAZOP identified explosion risk. Manual control.	Further info requested via Schedule 7 notice. Operator justification acceptable. Refer advice Peter Brookfield 28/07/05. "The gas burn as stated will be used for start up and shut down. There will be no incompletely burned waste is in the combustion chamber as the feed system stops once a flame failure or temperature drop occurs. The residual waste is not released into the chamber under these conditions as the Burner pipe is not purged. Purging of the burner pipe only takes place when the gas burner is on and therefore compliance is achieved." **Derogation authorised.**
Substitute periodic HCl emission monitoring in place of continuous HCl emission monitoring as allowed by WID Article 11 (6)	There is no chlorine in the waste feed and prior emission monitoring confirms that emissions of HCl are well below the WID limit of 10mg/m3	Waste burned is a distillation residue from the organics manufacturing carried out on site. Therefore the Operator has absolute control re management of the waste content. Data provided on waste feed chlorine content (Schedule 7, qu. 4) and prior monitoring (highest HCl level 0.4 mg/m3) demonstrate that the WID limit will not be exceeded. In addition, Installation previously subject to HWID – permit contains no monitoring requirement for HCl indicating prior demonstration that average HCl emissions will not exceed 1 mg/m3. **Derogation authorised.**
Substitute periodic HF emissions monitoring in place of continuous HF emission monitoring as allowed by WID Article 11 (6)	There is no fluorine in the waste feed and prior emission monitoring confirms that emissions of HF are well below the WID limit of 1mg/m3.	Waste burned is a distillation residue from the organics manufacturing carried out on site. Therefore the Operator has absolute control re management of the waste content. Data provided on waste feed fluorine content (Schedule 7, qu. 4) and prior monitoring (highest HF level < 0.3 mg/m3) demonstrate that the WID limit will not be exceeded. In addition, Installation previously subject to HWID – permit contains no monitoring requirement for HF indicating prior demonstration that average HF emissions will not exceed 0.1 mg/m3. **Derogation authorised.**
Substitute periodic SO_2 emission monitoring in place of continuous SO_2 emission monitoring as allowed by WID Article 11 (6)	There is no sulphur in the waste feed and prior emission monitoring confirms that emissions of SO2 are well below the WID limit of 50mg/m3.	Waste burned is a distillation residue from the organics manufacturing carried out on site. Therefore the Operator has absolute control re management of the waste content. Data provided on waste feed sulphur content (Schedule 7, qu. 4) and prior monitoring (highest SO2 level 2.9 mg/m3) demonstrate that the WID limit will not be exceeded. In addition, Installation previously subject to HWID – permit contains no monitoring requirement for SO2 indicating prior demonstration that average SO2 emissions will not exceed 5 mg/m3. **Derogation authorised.**
Requirement for monitoring of TOC content of bottom ash removed.	There is no slag or bottom ash from the incinerator as the residue (waste feed) is mobile, homogeneous and injected as a liquid. Hence the TOC/LOI requirement does not apply	The Operator does not have bottom ash, only fly ash. **Derogation Authorised.**
Internal Template 'Derogations'		

With respect to the requirement for substitute monitoring in the event of abnormal operation due to failure of continuous monitor for TOC, Operator does not wish to install backup CEMs	In the Application for Variation where asked about what they will do in response to CEM failure the Operator responds: " Emissions from the incinerator are well within limits. Monitoring of process conditions of temperature and incinerator performance will mean that emissions will continue not to be exceeded."	The data (2000-2003) provided by the Operator shows that where the CO is 13 mg/m3 or less, TOC will not be above 2 mg/m3. Therefore the monitoring method for this determinand in table 2.2.2a) abnormal operation reads: BS EN 12619 – see Notes 4&2 during abatement plant failure or by continuous monitoring of carbon monoxide concentrations in the stack gas during failure of the continuous emission monitor
With respect to the requirement for substitute monitoring in the event of abnormal operation due to failure of continuous monitor for CO, Operator does not wish to install backup CEMs	In the Application for Variation where asked about what they will do in response to CEM failure the Operator responds: " Emissions from the incinerator are well within limits. Monitoring of process conditions of temperature and incinerator performance will mean that emissions will continue not to be exceeded."	The data provided by the Operator shows the CO levels (14 samples 2000-2003) have not exceeded 13 mg/m3 . Therefore the monitoring method for this determinand in table 2.2.2a) abnormal operation reads: ISO 12039 – see Notes 4&3 during abatement plant failure or by continuous monitoring of temperature and oxygen content in the stack gas during failure of the continuous emission monitor.
Requirement for periodic monitoring and periodic limits for particulates, CO, NOx and TOC removed. Continuous limits as per WID put in place.	N/A	These have been omitted as: i) they are not required for the Installation to be compliant with WID. ii) the current permit does not have these limits in place. Further assessment would be required to determine whether these limits are BAT for this Installation (not a MWI). This is a minor Variation for which this further assessment is not appropriate. iii) additional monitoring is not considered a proportionate response for a small (750 kg/hr)incinerator with continuous monitors in place.

Appendix 3. Justification of amended ELVs in Table 2.2.2

Emission point reference	Parameter	Limit (including Reference Period)[Note 1]	Justification of ELVs
A14 see Note 11	Particulate matter	30 mg/m^3 ½-hr average	Annex V of Directive 2000/76/EC on the incineration of waste
A14 see Note 11	Particulate matter	10 mg/m^3 daily average	Annex V of Directive 2000/76/EC on the incineration of waste
A14 see Note 11	Total Organic Carbon (TOC)	20 mg/m^3 ½-hr average - see Note 10	Annex V of Directive 2000/76/EC on the incineration of waste
A14 see Note 11	Total Organic Carbon (TOC)	10 mg/m^3 daily average - see Note 10	Annex V of Directive 2000/76/EC on the incineration of waste
A14 see Note 11	Hydrogen chloride	10 mg/m^3 periodic over minimum 1-hour period	Daily average Annex V of Directive 2000/76/EC on the incineration of waste. Operator advises no Cl in feed, should be achievable.
A14 see Note 11	Hydrogen fluoride	1 mg/m^3 periodic over minimum 1-hour period	Daily average Annex V of Directive 2000/76/EC on the incineration of waste. Operator advises no F in feed, should be achievable.
A14 see Note 11	Carbon monoxide	100 mg/m^3 ½-hr average	Annex V of Directive 2000/76/EC on the incineration of waste
A14 see Note 11	Carbon monoxide	50 mg/m^3 daily average	Annex V of Directive 2000/76/EC on the incineration of waste
A14 see Note 11	Sulphur dioxide	50 mg/m^3 periodic over minimum 4 hour period, data to be reported as ½ hour averages	Daily average Annex V of Directive 2000/76/EC on the incineration of waste. Operator advises no S in feed, should be achievable.
A14 see Note 11	Oxides of nitrogen (NO and NO_2 expressed as NO_2)	400 mg/m^3 daily average	Annex V of Directive 2000/76/EC on the incineration of waste (<6t/hr)
A14 see Note 11	Cadmium & thallium and their compounds (total) – see Note 3	0.05 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Annex V of Directive 2000/76/EC on the incineration of waste
A14 see Note 11	Mercury and its compounds – See Note 3	0.05 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Annex V of Directive 2000/76/EC on the incineration of waste
A14 see Note 11	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) – see Note 3	0.5 mg/m^3 periodic over minimum 30 minute, maximum 8 hour period	Annex V of Directive 2000/76/EC on the incineration of waste

A14 see Note 11	Dioxins / furans (I-TEQ)	0.1 ng/m^3 periodic over minimum 6 hours, maximum 8 hour period – see Note 4	Annex V of Directive 2000/76/EC on the incineration of waste

Note 1: See Section 6 for reference conditions

Note 2. Monitoring methods shall use standards in the following order of priority, unless equivalent methods have been agreed with the Environment Agency in writing:

. Comité Européen de Normalisation (CEN)
. British Standards Institution (BSI)
. International Standardisation Organisation (ISO)
. United States Environmental Protection Agency (US EPA)
. American Society for Testing and Materials (ASTM)
. Deutches Institut für Normung (DIN)
. Verein Deustcher Ingenieure (VDI)
. Association Française de Normalisation (AFNOR)

Note 3: Metals include gaseous, vapour and solid phases as well as their compounds (expressed as the metal or the sum of the metals as specified). Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V mean antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium respectively.

Note 4: The I-TEQ sum of the equivalence factors to be reported as a range based on: All congeners less than the detection limit assumed to be zero as a minimum, and all congeners less than the detection limit assumed to be at the detection limit as a maximum.

Note 5: The Continuous Emission Monitors used shall be such that the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed 10%. Valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods if no waste is being incinerated) from the measured values after having subtracted this value of the confidence interval (10%). Where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete half-hour period, the half-hourly average shall nonetheless be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. (The number of half-hourly averages so validated shall not exceed 5 (per day). Daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value will be considered valid if no more than five half-hourly average values in any day have been determined not to be valid. No more than ten daily average values per year shall be determined not to be valid.

Note 6: As Note 5, except that the value of the confidence interval is 20% in place on 10%.

Note 7: As Note 5, except that the value of the confidence interval is 30% in place on 10%.

Note 8: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

Note 9: This limit shall apply until 23:59 on 27th December 2005.

Note 10: This limit shall apply from 00:00 on 28th December 2005

Note 11: During normal operation.

Table 2.2.2 (a) : Emission limits to air and monitoring during abnormal operating conditions

Emission point reference	Parameter	Limit (including Reference Period)[1]	Justification for ELV
A14	Particulate matter	150 mg/m^3 ½-hr average	Article 13 of Directive 2000/76/EC on the incineration of waste

A14	Total Organic Carbon (TOC)	20 mg/m^3 ½-hr average – see Note 5	Article 13 of Directive 2000/76/EC on the incineration of waste
A14	Carbon monoxide	100 mg/m^3 ½-hr average	Article 13 of Directive 2000/76/EC on the incineration of waste

Note 1: See Section 6 for reference conditions

Note 2: The Continuous Emission Monitors used shall be such that the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed 30%. Valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods if no waste is being incinerated) from the measured values after having subtracted this value of the confidence interval (30%). Where it is necessary to calibrate or maintain the monitor and this means that data is not available for a complete half-hour period, the half-hourly average shall nonetheless be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. (The number of half-hourly averages so validated shall not exceed 5 per day).

Note 3: As Note 2, except that the value of the confidence interval is 10% in place on 30%.

Note 4: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

Note 5: This limit shall apply from 00:00 on 28th December 2005