



**ENVIRONMENT  
AGENCY**

## Variation Notice with introductory note

Pollution Prevention and Control Regulations 2000

---

**Aroma & Fine Chemicals Ltd  
Widnes Aromachem  
Dans Road  
Widnes  
Cheshire  
WA8 0RF**

Variation Notice number

**XP3532SE**

Permit number

**BS3751IW**

# Introductory note

## **This introductory note does not form a part of the Variation Notice.**

The following Notice is issued under Regulation 17 of The Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No. 1973 (as amended) (the "Regulations") to vary the conditions of Permit number BS3751IW (the "Permit") issued under the Regulations to operate the Widnes Aromachem works (the "Installation").

The Notice comprises: Schedule 1 containing conditions to be deleted; Schedule 2 conditions to be amended; and Schedule 3 conditions to be added. The Notice is subject to the express conditions set out in Schedules 1 to 3.

The Permit, as amended by this Variation Notice, contains conditions which have to be complied with. It should be noted that aspects of the operation of the Installation which are not regulated by those conditions are subject to the condition implied by Regulation 12(10) of the Regulations, that the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the Installation. Techniques include both the technology used and the way in which the Installation is designed, built, maintained, operated and decommissioned.

## **Brief description of the changes introduced by this Variation Notice.**

This variation is to comply with the requirements of the Waste Incineration (England and Wales) Regulations 2002 (SI 2002 No. 2980) (The WI Regulations) and the Pollution Prevention and Control (Waste Incineration Directive) (England and Wales) Direction 2002, which together implement the requirements of the Waste Incineration Directive (Directive EC 2000/76/EC on the Incineration of Waste (WID)). The Installation regulated under this Permit contains an existing Waste Incineration Installation (as defined in the WI Regulations) in which the incineration of waste in a co-incineration plant is carried out. Conditions delivering the corresponding requirements of the relevant articles of the Waste Incineration Directive have been incorporated into this variation to the Permit.

Boiler No. 2 uses a process-derived fuel, which has similar emission characteristics to gas oil. However, as this fuel is a waste material the burning of this material comes under Section 1.1 A(1)(b)(iii) in Part 1 to Schedule 1 of the PPC Regulations. In addition, the burning of a waste material as a fuel requires that the Operator is compliant with the Waste Incineration Regulations 2002 by the 28<sup>th</sup> December 2005.

No. 2 boiler burns approximately 7 tonnes of liquid waste every 24 hours. The prime purpose of the boiler is to supply process steam to operate the plant and it is therefore deemed to be a co-incineration plant. The waste burned is derived from permitted processes operated at the site and no waste is received from outside the Installation. Gas oil is added to the waste to aid viscosity. There is no abatement fitted to the boiler. The liquid wastes for use as fuel are stored in tanks contained in bunds. The tanks are fitted with high level controls that stop the pump filling the tank should the high level be reached. The fuels are transferred from storage to the boiler by dedicated pipework. Boiler residues or boiler sweeps (a black powder consisting mainly of ash) are removed from the boiler annually and are stored in polythene open topped drums on pallets. The material is disposed of to a licensed waste treater as special waste and transported by a registered waste carrier. Monitoring of flue gases in compliance with the Waste Incineration Directive is also undertaken

## Talking to us

If you contact the Agency about this Permit please quote the Permit Number.

The Operator should use the Emergency Hotline telephone number (0800 80 70 60) or any other number notified to it to give a notification under condition 5.1.1 of the Permit.

## Confidentiality

The Permit/Variation requires the Operator to provide information to the Agency. The Agency will place the information onto the public registers in accordance with the requirements of the PPC Regulations. If the Operator considers that any information provided is commercially confidential, it may apply to the Agency to have such information withheld from the register as provided in the PPC Regulations. To enable the Agency to determine whether the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

## Variations to the permit

This Permit may be varied in the future. The Status Log within the Introductory Note to any such variation will include summary details of the Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

## Surrender of the permit

Before this Permit can be wholly or partially surrendered, an application to surrender the Permit has to be made. For the applicant to be successful, they would have to be able to demonstrate to the Agency, in accordance with Regulation 19 of the PPC Regulations, that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

## Transfer of the permit or part of the permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 18 of the PPC Regulations. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the Installation or will not ensure compliance with the conditions of the transferred Permit. If the Permit authorises the carrying out of a specified waste management activity, then there is a further requirement that the transferee is considered to be a "fit and proper person" to carry out that activity.

## Status Log

Detail	Date	Comment
Permit BS3751IW	Issued 26/3/04	
Variation AP3439SM	Issued 04/11/04	Deletion of monitoring requirements for releases to sewer
Variation MP3535SC	Issued 19/11/04	Inclusion of inorganic salts and a multi-product protocol
Application for variation	Received 19/4/05	
Schedule 7 Notice Requiring Further Information	16/6/05	Notice requiring further information to ensure the Application demonstrated compliance with the WID. Responses received 18/7/05 and 20/7/05.
Variation XP3532SE	Issued 4/11/05	

*End of introductory Note*



## Variation Notice

Permit number

**BS3751IW** (the "Permit")

Variation Notice number

**XP3532SE**

The Environment Agency in exercise of its powers under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I. 2000 No. 1973) (as amended) (the "Regulations"), hereby varies the Permit held by **Aroma and Fine Chemicals Ltd** (the "Operator"),

Whose Registered Office is  
**Octel Administration Building**  
**PO Box 17**  
**Oil Sites Road**  
**Ellesmere Port**  
**CH65 4HF**

**Company registration number 04178371**

which relates to the operation of the Installation at  
**Widnes Aromachem**  
**Dans Road**  
**Widnes**  
**Cheshire**  
**WA8 0RF**

to the extent set out in Schedules A to C of this Variation Notice.

Signed

A rectangular box containing a handwritten signature in black ink.

Authorised to sign on behalf of the Environment Agency

Date

**04 NOVEMBER 2005**

## SCHEDULE A - CONDITIONS TO BE DELETED

No conditions are deleted.

## SCHEDULE B - CONDITIONS TO BE AMENDED

Conditions 2.1.1, 2.2.1.2, 2.2.1.3, 2.10.1, 2.10.2, 2.10.3, 2.10.7, 6.1.1, Tables 2.1.1, S2 of Schedule 2, S3 of Schedule 3, and Schedule 1 are amended to (Note Table 2.2.2 and 2.10.1 have been added but included in this section as the relevant condition referring to the relevant Table has been amended)

- 2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of the Permit.

**Table 2.1.1: Operating techniques**

Description	Parts	Date Received
Application	Section 2.1 & 2.2	31/03/03
Application	Appendix 1 pages 129 – 131 & 134	31/03/03
Application for variation dated 11 November 2004 and the additional information dated 18 November 2004	Information regarding the production of inorganic salts E25 – Multi-product protocol	15/11/04 and 18/11/04
Application for variation XP3532SE	The response to question 2.1 of the Application form for variation XP3532SE	19/04/05
Response to Schedule 7 Notice	Responses to questions 1 through 8	20/07/05

- 2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the sources specified in that Table.

- 2.2.1.3 The limits for emissions to air for the parameter and emission points set out in Table 2.2.2 shall not be exceeded when burning waste as permitted under condition 2.1.3.

**Table 2.2.2 : Emission limits to air and monitoring**

Emission point reference	Parameter	Limit (including Reference Period) <sup>1</sup>	Monitoring frequency	Monitoring method
A1	Particulate matter	From 28/12/05 18 mg/m <sup>3</sup> daily average	Continuous measurement	BS EN 13284 <sup>7 6</sup>

A1	Total Organic Carbon (TOC)	From 28/12/05 18 mg/m <sup>3</sup> daily average	Continuous measurement	BS EN 12619 <sup>7 6</sup>
A1	Hydrogen chloride	18 mg/m <sup>3</sup> periodic over minimum 1-hour period	Bi-annual	BS EN 1911
A1	Hydrogen fluoride	2 mg/m <sup>3</sup> periodic over minimum 1-hour period	Bi-annual	USEPA Method 26/26A
A1	Carbon monoxide	From 28/12/05 89 mg/m <sup>3</sup> daily average	Continuous measurement	ISO 12039 <sup>7 4</sup>
A1	Sulphur dioxide	89 mg/m <sup>3</sup> periodic over minimum 1-hour period	Bi-annual	BS 6069-4.1
A1	Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	From 28/12/2005 712 mg/m <sup>3</sup> daily average	Continuous measurement	ISO 10849 <sup>7 5</sup>
A1	Cadmium & thallium and their compounds (total) <sup>2</sup>	0.06 mg/m <sup>3</sup> periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 14385
A1	Mercury and its compounds <sup>2</sup>	0.06 mg/m <sup>3</sup> periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 13211
A1	Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds (total) <sup>2</sup>	0.6 mg/m <sup>3</sup> periodic over minimum 30 minute, maximum 8 hour period	Bi-annual	BS EN 14385
A1	Dioxins / furans (I-TEQ)	0.12 ng/m <sup>3</sup> periodic over minimum 6 hours, maximum 8 hour period <sup>3</sup>	Bi-annual	BS EN 1948

A1	Carbon monoxide	From 28/12/05 178 mg/m <sup>3</sup> ½-hr average	Continuous measurement	ISO 12039 <sup>7 4</sup>
A1	Total Organic Carbon (TOC)	From 28/12/05 36 mg/m <sup>3</sup> ½-hr average	Continuous measurement	BS EN 12619 <sup>7 6</sup>

Note 1: See Section 6 for reference conditions

Note 2: 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 3: 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 4: 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 5: As Note 4, except that the value of the confidence interval is 20% in place on 10%.

Note 6: As Note 4, except that the value of the confidence interval is 30% in place on 10%.

Note 7: MCERTS certification to the appropriate ranges and determinands is a demonstration of compliance to the applicable standards.

Note 8: The certification range for MCERTS equipment should be 1.5 times the daily emission limit value.

2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods described in Table 2.2.2, unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.

2.10.2 The Operator shall carry out environmental or other specified substance monitoring to the frequencies and methods described in Table 2.10.1.

**Table 2.10.1 : Other monitoring requirements**

<b>Emission point reference or source or description of point of measurement</b>	<b>Substance or parameter</b>	<b>Monitoring frequency</b>	<b>Monitoring method</b>	<b>Other specifications</b>
A1	Temperature	From 28/12/05 continuous		
A1	Pressure	From 28/12/05 continuous		
A1	Oxygen content	From 28/12/05 continuous		
A1	Water vapour <sup>2</sup>	From 28/12/05 continuous		
Boiler Sweeps (Boiler No 2)	Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Before use of a new disposal or recycling route	Sampling and analysis as per Agency ash sampling protocol.	
Close to the Combustion Chamber inner wall of Boiler No 2	Temperature	From 28/12/05 Continuous	Traceable to National Standards	
A1	Dioxin-like PCBs (WHO-TEQ <sup>1</sup> Humans / Mammals)	Bi-annual periodic measurement, average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)	
A1	Dioxin-like PCBs (WHO-TEQ <sup>1</sup> Fish)	Bi-annual periodic measurement, average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)	

A1	Dioxin-like PCBs (WHO-TEQ <sup>1</sup> Birds)	Bi-annual periodic measurement, average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)
A1	Specific individual polycyclic aromatic hydrocarbons (PAHs), as specified in condition 6.1.1	Bi-annual periodic measurement, average value over sample period of between 6 and 8 hours.	Procedure shall use BS ISO 11338-1 and BS-ISO 11338-2.
A1	Dioxins / furans (WHO-TEQ <sup>1</sup> Humans / Mammals)	Bi-annual periodic measurement, average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)
A1	Dioxins / furans (WHO-TEQ <sup>1</sup> Fish)	Bi-annual periodic measurement, average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)
A1	Dioxins / furans (WHO-TEQ <sup>1</sup> Birds)	Bi-annual periodic measurement, average value over sample period of between 6 and 8 hours.	To be determined utilising sampling and analytical techniques developed for dioxins/furans (BS EN 1948)

Note 1: The 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 2: Continuous monitoring of water is not required if the sampled exhaust gas is dried before the emissions are analysed.

2.10.3 The Operator shall carry out monitoring of the process variables listed in Table 2.10.1 to the frequencies and methods described in that Table.

2.10.7 From 28 December 2005, monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 of this Permit and the environmental or other monitoring specified in condition 2.10.2 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing. Newly installed CEMs, or CEMs replacing existing CEMs, shall have MCERTS certification and have an MCERTS certified range which is not greater than 1.5 times the daily emission limit value (ELV) specified in Table 2.2.2, unless otherwise agreed in writing. The CEM shall also be able to measure instantaneous values over the ranges which are to be expected during all operating conditions unless otherwise agreed in writing. If it is necessary to use more than one range setting of the CEM to achieve this requirement, the CEM shall be verified for monitoring supplementary, higher ranges unless otherwise agreed in writing.

6.1.1. In this Permit, the following expressions shall have the following meanings:-

*"Abatement equipment"* means that equipment dedicated to the removal of polluting substances from releases from the Installation to air or water media.

*"Abnormal operation"* means any technically unavoidable stoppages, disturbances, or failures of the abatement plant or the measurement devices, during which the concentrations in the discharges into air and the purified waste water of the regulated substances may exceed the normal emission limit values. It includes the time taken for the plant to stabilise after the repair or replacement has been carried out. For the purposes of this Installation *"Abnormal operation"* relates to the operation of Boiler No.2 when burning waste.

*"Application"* means the Application for this Permit, together with any response to a notice served under Schedule 4 to the PPC Regulations, any further information submitted by the Applicant and any operational change agreed under the conditions of this Permit.

*"background concentration"* means such concentration of that substance as is present in:

- water supplied to the site; or
- where more than 50% of the water used at the site is directly abstracted from the ground or surface water onsite, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation on to the site.

"BAT" means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: "available techniques" means "those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator"; "best" means "in relation to techniques, the most effective in achieving a high level of protection of the environment as a whole" and "techniques" "includes both the technology used and the way in which the Permitted Installation is designed, built, maintained, operated and decommissioned.". In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT.

"Bi-annual" means twice per year with at least five months between tests;

"CEM" Continuous emission monitor

"CEN" means Comité Européen de Normalisation

"Co-incineration line" means all of the co-incineration equipment related to a common discharge to air location

"Commissioning" relates to the period after construction has been completed or when a modification has been made to the plant or the raw materials when the Permitted Installation process is being tested and modified to operate according to its design;

"Daily average" for releases of substances to air means the average of half-hourly averages over a calendar day during normal operation. Where any of abnormal operation, start-up or shut-down occur during the day in such a way that there are less than 43 half-hourly averages recorded during normal operation, no daily average shall be recorded for that day.

"Dioxin and Furans" means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans.

"ELV" means emission limit value.

"Fugitive emission" means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.3, 2.2.2.4, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit.

"Groundwater" means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"ISO" means International Standards Organisation.

"Land Protection Guidance" means the version of the Agency Guidance note "H7 – Guidance on the Protection of Land under the PPC Regime: Application Site Report and Site Protection and Monitoring Programme", including its appended templates for data reporting, which is current at the time of issue of the Permit.

" $L_{Aeq,T}$ ", means the equivalent continuous A-weighted sound pressure level in dB determined over the time period, T.

" $L_{A90,T}$ ", means the A-weighted sound pressure level in dB exceeded for 90% of the time period, T.

" $L_{AFmax}$ ", means the maximum A weighted sound level measurement in dB measured with a fast time weighting.

"**MCERTS**" means the Environment Agency's Monitoring Certification Scheme.

"**MFSU**" means the manufacture, formulation, supply and use.

"**Monitoring**" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"**PAH**" means Poly-cyclic aromatic hydrocarbon, and comprises Anthanthrene, Benzo[a]anthracene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Benzo[b]naph(2,1-d)thiophene, Benzo[c]phenanthrene, Benzo[ghi]perylene, Benzo[a]pyrene, Cholanthrene, Chrysene, Cyclopenta[c,d]pyrene, Dibenzo[ah]anthracene, Dibenzo[a,i]pyrene Fluoranthene, Indo[1,2,3-cd]pyrene, Naphthalene

"**PCB**" means Polychlorinated Biphenyl. Dioxin-like PCBs are the non-ortho and mono-ortho PCBs listed in condition 6.1.5

"**Permitted Installation**" means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

"**PPC Regulations**" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No. 1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit.

"**Quarterly**" for reporting/sampling means after/during each 3 month period, January to March; April to June; July to September and October to December and, when sampling, with at least 2 months between each sampling date.

"**Sewer**" means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

"**Shutdown**" is any period where the plant is being returned to a non-operational state and there is no waste being burned as described in the Application for variation.

"**Staff**" includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

*"Start-up"* is any period, where the plant has been non-operational, until waste has been fed to the co-incinerator to initiate steady-state conditions as described in the Application for variation.

*"TOC"* means Total Organic Carbon. In respect of releases to air, this means the gaseous and vaporous organic substances, expressed as TOC. In respect of Bottom Ash, this means the total carbon content of all organic species present in the ash (excluding carbon in elemental form).

*"Waste Incineration Directive"* means Directive 2000/76/EC on the incineration of waste.

*"Waste oil"* has the same meaning as in Directive 75/439/EEC

*"WHO"* means the World Health Organisation

*"Year"* means calendar year ending 31 December

# Schedule 1 - Notification of abnormal emissions (including abnormal operations)

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

- a If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the PPC Regulations.

## Part A

<b>Permit Number</b>	
<b>Name of Operator</b>	
<b>Location of Installation</b>	
<b>Location of the emission</b>	
<b>Time and date of the emission</b>	

<b>Substance(s) emitted</b>	<b>Media</b>	<b>Best estimate of the quantity or the rate of emission</b>	<b>Time during which the emission took place</b>

<b>Measures taken, or intended to be taken, to stop the emission</b>	
--	--

## Part B

<b>Any more accurate information on the matters for notification under Part A.</b>	
<b>Measures taken, or intended to be taken, to prevent a recurrence of the incident</b>	
<b>Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission</b>	
<b>The dates of any unauthorised emissions from the Installation in the preceding 24 months.</b>	

**Part C**

<b>Permit Number</b>	
<b>Name of Operator</b>	
<b>Location of Installation</b>	

For multi-line plants, indicate which line(s) was (were) subject to abnormal operation.	
Time at which abnormal operation commenced	
Time at which abnormal operation ceased	
Duration of this incidence of abnormal operation	
Cumulative abnormal operation duration in current year (at end of present incidence)	
Reasons for abnormal operation	
How did the abnormal operation end? (e.g. plant repaired, reaching maximum permitted duration, initiation of shutdown, etc.)	
Where the abnormal operation was caused by the failure of the particulate, CO or TOC CEM, attach a copy of the alternate monitoring data which was used to demonstrate compliance with the abnormal operation emission limit values.	

<b>Name*</b>	
<b>Post</b>	
<b>Signature</b>	
<b>Date</b>	

\*Authorised to sign on behalf of Aroma and Fine Chemicals Ltd

**Table S2: Reporting of monitoring data**

Parameter	Emission point	Reporting period	Period begins
Sulphur dioxide mg/m <sup>3</sup>	A1	Every 6 months	01/01/06
Total Organic Carbon mg/m <sup>3</sup>	A1	Every 6 months	01/01/06
Oxides of nitrogen mg/m <sup>3</sup>	A1	Every 6 months	01/01/06
Hydrogen Chloride mg/m <sup>3</sup>	A1	Every 6 months	01/01/06
Hydrogen Fluoride mg/m <sup>3</sup>	A1	Every 6 months	01/01/06
Particulates mg/m <sup>3</sup>	A1	Every 6 months	01/01/06
Carbon Monoxide mg/m <sup>3</sup>	A1	Every 6 months	01/01/06
Cadmium & Thallium and their compounds (total)	A1	Every 6 months	01/01/06
Mercury and its compounds	A1	Every 6 months	01/01/06
Antimony, Arsenic, Lead, Chromium, Cobalt, Copper, Manganese, Nickel and Vanadium and their compounds (total)	A1	Every 6 months	01/01/06
Dioxins / furans (I-TEQ)	A1	Every 6 months	01/01/06
Dioxin-like PCBs (WHO-TEQ Humans / Mammals)	A1	Every 6 months	01/01/06
Dioxin-like PCBs (WHO-TEQ Fish)	A1	Every 6 months	01/01/06
Dioxin-like PCBs (WHO-TEQ Birds)	A1	Every 6 months	01/01/06
Poly-cyclic aromatic hydrocarbons (PAHs)	A1	Every 6 months	01/01/06
Total soluble fraction and metals (Cadmium, Thallium, Mercury, Lead, Chromium, Copper, Manganese, Nickel, Arsenic, Cobalt, Vanadium, Zinc) soluble fractions	Boiler sweeps (Boiler No. 2)	Before use of a new disposal or recycling route	01/01/06
Water usage		Every 12 months	01/01/04
Energy usage		Every 12 months	01/01/04
Waste disposal and/or recovery		Every 12 months	01/01/04

Note 1. Process control parameters have been specified under monitoring requirements, however these parameters shall not normally be required to be reported, but shall be available for inspection at the site.

Table S3: Reporting Forms		
Media or parameter	Form Number	Date of Form
Air: Periodic monitored emissions biannually	Agency Form /BS3751IW/XP3532SE/A1/Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of particulates	Agency Form /BS3751IW/XP3532SE/A2/Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of TOC	Agency Form /BS3751IW/XP3532SE/A3/Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of carbon monoxide	Agency Form /BS3751IW/XP3532SE/A4/Form dated 01/09/05	01/09/05
Air: Continuously monitored emissions of oxides of nitrogen	Agency Form /BS3751IW/XP3532SE/A5/Form dated 01/09/05	01/09/05
Boiler Sweeps	Agency Form /BS3751IW/XP3532SE/ASH1/Form dated 01/09/05	01/09/05
Energy	E1	18/03/04
Waste Return	R1	18/03/04
Water usage	WU1	18/03/04
Performance Indicator	P1	18/03/04

### **SCHEDULE C - CONDITIONS TO BE ADDED**

Improvement Condition 14, Conditions 2.1.3, 2.1.4, 2.1.5, 2.1.6, 2.1.7, 2.1.8, 2.1.9, 2.1.10, 2.1.11, 2.1.12, 2.10.11, 2.10.12, 5.1.1.5, 5.1.2.3, 6.1.1.3, 6.1.5 Table 2.1.2, and Schedule 6 have been added as follows

**Table 1.4.1 Improvement programme**

Reference	Requirement	Date
14	The Operator shall calibrate and verify the performance of Continuous Emission Monitors for release points and parameters as specified in Table 2.2.2 to BS EN 14181 and submit a summary report to the Environment Agency as evidence of compliance with the requirements of BS EN 14181.	Report to be submitted to the Agency by 28/12/06

2.1.3 From 28 December 2005, only the wastes specified in Schedule 6 shall be incinerated in the Permitted Installation in quantities not exceeding those specified for the waste types specified in Table 2.1.2.

**Table 2.1.2: Permitted Waste Types**

Waste type	Limitations	Maximum throughput at Boiler No. 2 (Maximum combined waste throughput 3000 tonnes/year)
HF (Hydrocarbon Fraction) Hydrocarbon	Hydrocarbon produced from distillation column producing lilestralis.	1000 tonnes/year
Res I	Still residues consisting of high boiling point hydrocarbons from distillation units	3000 tonnes/year

2.1.4 From 28 December 2005, the Operator shall incinerate only those hazardous wastes where the throughputs, calorific values and pollutant composition are within the ranges specified in the Application.

2.1.5 No condition applies.

2.1.6 No condition applies.

2.1.7 From 28 December 2005, waste shall not be charged, or shall cease to be charged, if:

- the combustion chamber temperature is below or falls below 850°C; or
- any continuous emission limit value in Table 2.2.2 is exceeded, other than under the abnormal operating conditions; or
- monitoring results required to demonstrate compliance with any continuous emission limit value in Table 2.2.2 are unavailable other than during a period of abnormal operation.

2.1.8 From 28 December 2005, the Operator shall record the beginning and end of each period of abnormal operation.

2.1.9 From 28 December 2005, during a period of abnormal operation, the Operator shall restore normal operation of the failed equipment or replace the failed equipment as rapidly as possible.

2.1.10 From 28 December 2005, where, during abnormal operation, any of the following situations arise, the Operator shall, as soon as is practicable, cease the burning of waste until normal operation can be restored:

- continuous measurement shows that an emission exceeds any emission limit value in Table 2.2.2, or continuous emission monitor(s) are out of service, as the case may be, for a total of four hours uninterrupted duration;
- the cumulative duration of abnormal operation periods over one calendar year exceeds 60 hours on an incineration line;

2.1.11 From 28 December 2005, the Operator shall interpret the end of the period of abnormal operation as the earliest of the following:

- when the failed equipment is repaired and brought back into normal operation;

- when the Operator initiates a shut-down of the waste combustion activity, as described in the Application;
- when a period of 4 hours has elapsed from the start of the abnormal operation;
- when, in any calendar year, an aggregated period of 60 hours abnormal operation has been reached for a given co-incineration line.

2.1.12 No condition applies.

2.10.11 From 28 December 2005, where Continuous Emission Monitors are installed to comply with the monitoring requirements in Table 2.2.2, the Operator shall perform a QAL2 test as specified in BS EN 14181 at least every three years and when there are significant changes to either the process, the fuel used or to the CEMs themselves.

2.10.12 From 28 December 2005, where Continuous Emission Monitors are installed to comply with the monitoring requirements in Table 2.2.2, the Operator shall perform an Annual Surveillance Test (AST) at least annually, as specified within BS EN 14181.

5.1.1.5 any incident which has led to a period of abnormal operation of incineration or co-incineration plant, as defined in Section 6 Interpretation.

5.1.2.3 for notifications of incidents of abnormal operations under condition 5.1.1.5, only the information listed in Part C of that Schedule;

and such information shall be in accordance with that Schedule.

6.1.3.3 in relation to gases from co-incineration plants the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3%.

6.1.5 For dioxins/furans and dioxin-like PCBs the determination of the toxic equivalence concentration (I-TEQ, & WHO-TEQ for dioxins/furans, WHO-TEQ for dioxin-like PCBs) stated as a release limit and/ or reporting requirement, the mass concentrations of the following congeners have to be multiplied with their respective toxic equivalence factors before summing.

TEF schemes for dioxins and furans				
Congener	I-TEF(1990)	WHO-TEF (1997/8)		
		Humans / Mammals	Fish	Birds
<b>Dioxins</b>				
2,3,7,8-TCDD	1	1	1	1
1,2,3,7,8-PeCDD	0.5	1	1	1
1,2,3,4,7,8-HxCDD	0.1	0.1	0.5	0.05
1,2,3,6,7,8-HxCDD	0.1	0.1	0.01	0.01
1,2,3,7,8,9-HxCDD	0.1	0.1	0.01	0.1
1,2,3,4,6,7,8-HpCDD	0.01	0.01	0.001	<0.001
OCDD	0.001	0.0001	-	-
<b>Furans</b>				
2,3,7,8-TCDF	0.1	0.1	0.05	1
1,2,3,7,8-PeCDF	0.05	0.05	0.05	0.1
2,3,4,7,8-PeCDF	0.5	0.5	0.5	1
1,2,3,4,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,7,8,9-HxCDF	0.1	0.1	0.1	0.1
1,2,3,6,7,8-HxCDF	0.1	0.1	0.1	0.1
2,3,4,6,7,8-HxCDF	0.1	0.1	0.1	0.1
1,2,3,4,6,7,8-HpCDF	0.01	0.01	0.01	0.01
1,2,3,4,7,8,9-HpCDF	0.01	0.01	0.01	0.01
OCDF	0.001	0.0001	0.0001	0.0001

TEF schemes for dioxin-like PCBs			
Congener	WHO-TEF (1997/8)		
	Humans / mammals	Fish	Birds
<b>Non-ortho PCBs</b>			
3,4,4',5'-TCB (81)	0.0001	0.0005	0.1
3,3',4,4'-TCB (77)	0.0001	0.0001	0.05
3,3',4,4',5'-PeCB (126)	0.1	0.005	0.1
3,3',4,4',5,5'-HxCB(169)	0.01	0.00005	0.001
<b>Mono-ortho PCBs</b>			
2,3,3',4,4'-PeCB (105)	0.0001	<0.000005	0.0001
2,3,4,4',5'-PeCB (114)	0.0005	<0.000005	0.0001
2,3',4,4',5'-PeCB (118)	0.0001	<0.000005	0.00001
2',3,4,4',5'-PeCB (123)	0.0001	<0.000005	0.00001
2,3,3',4,4',5-HxCB (156)	0.0005	<0.000005	0.0001
2,3,3',4,4',5'-HxCB (157)	0.0005	<0.000005	0.0001
2,3',4,4',5,5'-HxCB (167)	0.00001	<0.000005	0.00001
2,3,3',4,4',5,5'-HpCB (189)	0.0001	<0.000005	0.00001

## Schedule 6 - List of Permitted Wastes

Permitted Waste Types		
Description	European Waste Catalogue Number (where available) or other specification	Waste type as defined in Table 2.1.2
Wastes from the MFSU of fine chemicals and chemical products not otherwise specified – other organic solvents, washing liquids and mother liquors	EWC 070704	HF (Hydrocarbon Fraction) Hydrocarbon (hazardous waste)
Wastes from the MFSU of fine chemicals and chemical products not otherwise specified – other still bottoms and reaction residues	EWC 070708	Res I (hazardous waste)

END OF PERMIT VARIATION