

<b>SCOTTISH ENVIRONMENT PROTECTION AGENCY</b>	<b>Guidance No: PPC TG26</b>
<b>Operational Quality Manual          POLLUTION PREVENTION AND CONTROL (SCOTLAND)          REGULATIONS 2000          PPC Technical Guidance Note TG26            Use of Air Curtain Destructors</b>	<b>Page no: 1 of 4</b>
	<b>Issue No: 1</b>
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	<b>Originator: Air Policy &amp; PPC/ Air Central Unit</b>
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## Use of Air Curtain Destructors/ Incinerators

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### 1 HEADLINE

This guidance note sets out SEPA's position that the use of an Air Curtain Destructor/ Incinerator is likely to require a PPC Part A (mobile plant) permit. However, SEPA does not believe that in most cases, the use of an ACD to burn waste wood would represent BAT, and therefore a permit may not be granted on these grounds. Any operators considering using such equipment should be aware of SEPA's position on this.

### 2 OBJECTIVE

To provide information to SEPA staff and operators on the operation of Air Curtain Destructors, and the regulatory framework around their use.

### 3 BACKGROUND

This guidance updates a previous policy note<sup>1</sup> which covered Air Curtain Destructors (ACD) under EPA 90 Part 1 which also concluded that a licence would be required. SEPA's approach is also consistent with the Environment Agency's stated position<sup>2</sup>

Air Curtain Destructors (ACD) have typically found application as mobile plant to incinerate construction and demolition waste. These plants typically have basic systems to control combustion and no pollution abatement or monitoring equipment. Different uses of ACDs have been proposed. These include, among others, the burning of culled animals, demolition wood, forestry clearances and Japanese Knotweed.

An ACD generally comprises a large industrial air mover driven by a diesel engine, together with a burning chamber. The burning chamber may be above ground (similar to a large metal open skip), or an excavated ditch arrangement. The wood is placed in the burning chamber and ignited. Combustion air is blown into the chamber by the ACD to ensure clean, smoke free operation. As combustion proceeds, further wood is added to the chamber. Air supply is controlled by a damper. The system is effective at

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1 Air Advice Note 1: The burning of wood at construction and demolition sites using Air Curtain Destructor plant  
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2 "Our Position on the use of Air Curtain Incinerators (ACI)" found on the EA Website

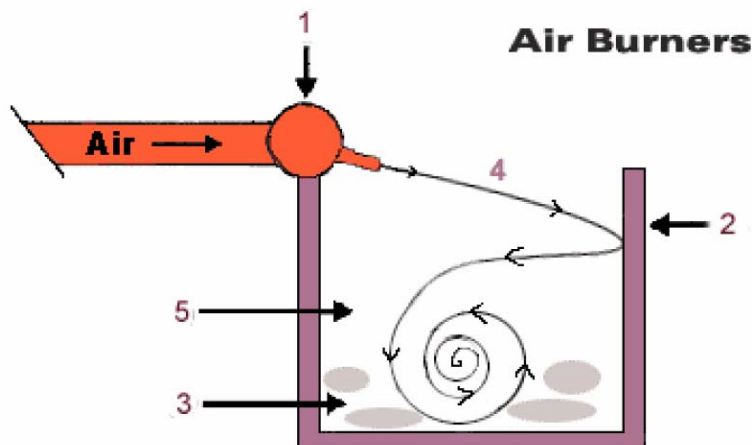
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preventing smoke during burning of the wood, with a burning rate of 3-7  $\text{t h}^{-1}$  quoted for most models.

The ACD unit can be moved by lorry, hence for large remote sites, the ACD unit can be taken to the site. It is also possible for the ACD system to operate at a semi-permanent site with wood being brought to the site for destruction. The ACD and burning chamber accelerate (up to six times), the rate of burning of wood compared to burning by natural-draught fires. Burning below ground level or in a semi-enclosed chamber requires the input of oxygen to ensure that smoke is not generated. Prevention of smoke generation during all phases of operation is by adjustment of the air flow (damper) and/or by positioning of the ACD. Feeding wood into the burning chamber is carried out by mechanical loader/ JCB, and has the potential for the generation of particulate or smoke generation if the air moves.

The diagram shows how the air stream is designed to provide a barrier to material/ smoke escaping over the top of the unit (4), and also to enhance the burning of the material (3), by adding oxygen into the burning zone (5). There is likely to be a pall of dark smoke and/ or flames above the top of the burning chamber if the ACD is not operated correctly.

In addition, these systems can be very noisy which restricts its use in built up areas without noise attenuation measures. 75dBA at 40 metres has been reported.



#### 4 REGULATORY FRAMEWORK

We consider that where it is proposed to burn waste materials in an ACD, an application for a PPC Permit will be required if the activity falls within one of the described activities in the PPC Regulations. Given that incineration of most waste materials is covered by the Waste Incineration Directive (WID), it therefore falls under Part A of the PPC Regulations.

There are some exclusions to this, e.g. for clean waste wood (see Section 6 below), and some models are being marketed as being restricted to <1 tonne per hour. In these circumstances, the activity may fall under PPC Part B, however verification of the through-put etc would be required.

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Notwithstanding the above, the PPC requirements include a requirement for the operator to demonstrate the use the Best Available Techniques (BAT) and requirements to maximise energy and raw materials efficiencies. **Against these criteria, we believe it is unlikely that an ACD would be considered BAT against the alternative of a PPC permitted incinerator or combustion plant.**

Only in exceptional circumstances where the waste produced is in a remote location with no suitable combustion plant and no economic rationale (having regard to the sector) to build a dedicated plant, may an operator be able to demonstrate that use of an ACD represents Best Available Techniques. SEPA would determine each application based on the merits of such demonstration.

## 5 FURTHER INFORMATION

The Pollution Prevention and Control (Scotland) Regulations 2000 (as amended)  
 EEC DIRECTIVE 2000/76/EC on the incineration of waste (Waste Incineration Directive, WID)

## 6 APPENDIX 1: EXTRACT FROM THE PPC REGULATIONS

### Section 5.1 *Incineration and co-incineration of waste*

#### **PART A**

- (a) The incineration of hazardous waste in an incineration plant.*
- (b) Unless carried out as part of any other Part A activity, the incineration of hazardous waste in a co-incineration plant.*
- (c) The incineration of non-hazardous waste in an incineration plant with a capacity of 1 tonne or more per hour.*
- (d) The incineration of non-hazardous waste in an incineration plant with a capacity of less than 1 tonne per hour.*
- (e) Unless carried out as part of any other Part A activity, the incineration of non-hazardous waste in a co-incineration plant.*
- (f) Unless carried out as part of any other Part A activity, the incineration of hazardous waste in an excluded plant.*
- (g) Unless carried out as part of any other Part A activity, the incineration of non-hazardous waste in an excluded plant with a capacity of one tonne or more per hour.*
- (h) Unless carried out as part of any other Part A activity, the incineration of animal carcasses in an excluded plant with a capacity of more than 10 tonnes per day.*
- (i) unless carried out as part of any other Part A activity, the thermal treatment (with or without heat or energy recovery, or production of material products) other than incidentally in the course of burning solid or liquid waste of any gaseous compound containing halogens arising from electrical equipment.*

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## **PART B**

*(a) The incineration of non-hazardous waste, other than animal carcasses, in an excluded plant with a capacity of 50 kilogrammes or more per hour but less than 1 tonne per hour.*

*(b) The incineration of animal carcasses in an excluded plant with a capacity of 50 kilogrammes or more per hour but equal to or less than 10 tonnes per day*

*(c) The cremation of human remains.*

*"excluded plant" includes (among other things):-*

*(a) a plant treating only the following wastes:-*

*(i) vegetable waste from agriculture and forestry;*

*(ii) vegetable waste from the food processing industry, if the heat generated is recovered;*

*(iii) fibrous vegetable waste from virgin pulp production and from production of paper from pulp, if it is co-incinerated at the place of production and the heat generated is recovered;*

*(iv) wood waste with the exception of wood waste which may contain halogenated organic compounds or heavy metals as a result of treatment with wood-preserved or coating, and which includes in particular such wood waste originating from construction and demolition waste;*

*(v) cork waste;*

**If you have any questions relating to this note please contact the EPI PPC / Air Central Unit.**