

The environmental regulation of the production and use of Pulverised Fuel Ash (PFA) and Furnace Bottom Ash (FBA)

Purpose of this position statement

A quality protocol setting out end-of-waste criteria for the production and use of PFA¹ and FBA² is available from our website www.ni-environment.gov.uk. As the quality protocol is voluntary, the purpose of this statement is to advise our staff and customers on the legal obligations that apply to PFA and FBA.

The quality protocol and this position statement cover bound and grout applications of PFA and FBA only. Unbound applications of PFA such as for embankment developments or for raising the levels of construction sites are not covered by the quality protocol as material characterisation is still ongoing. This work is expected to continue during 2010/11, with the aim of producing a revised quality protocol (if appropriate) during 2012.

This position statement provides clarity on how we will regulate:

- the collection and processing of PFA and FBA;
- PFA and FBA that meets the requirements of the quality protocol;
- PFA and FBA that does not meet the requirements of the quality protocol.

By complying with the quality protocol, producers will have certainty that the PFA and FBA they produce will cease to be waste and can be used without the need for waste management controls.³

The main purposes of the quality protocol are:

- clarifying the point at which waste management controls are no longer required;
- providing holders with confidence that the PFA and FBA conforms to an approved standard;
- protecting human health and the environment by setting standards for the production and use of PFA and FBA in designated applications, and describing acceptable good practice for its use.

It must be noted that the quality protocol is applicable to material produced from coal combustion, or co-combustion of coal with biomass and petcoke. There are four main types of biomass which are co-fired with coal. These are olive, palm kernel, wood based and cereal based biomass. The maximum co-firing blend tends to be 10 per cent by weight, biomass to coal.

In summary, in order to be compliant with the quality protocol, the following criteria must be met: Bound applications⁴:

¹ PFA is that produced from coal combustion PFA, co-combustion PFA and cenospheres.

² FBA is the ash that in a molten state adheres to the boiler tubes within the furnace and falls to the bottom of the furnace where it is cooled using high-pressure water jets and flushed from the bottom of the furnace.

³ Waste management controls are not required from the point at which the PFA and FBA satisfies all the criteria of the quality protocol.

⁴ PFA AND FBA is used as an ingredient/ component within another product and is fully bound within that product.

- PFA and FBA must meet all the requirements of an approved engineering standard specified for the particular end use listed in Appendix B of the quality protocol as well as any additional customer specifications;
- It must be destined for use in one of the designated bound applications specified within section 4 of the quality protocol
- producers retain records of all inspection and testing carried out
- producers prepare and keep copies of customer supply documentation that includes a statement of conformance with the quality protocol and a material safety data sheet.

Grout applications⁵:

- PFA and FBA must meet a specified engineering standard listed in Appendix D of the quality protocol for the particular end use as well as any additional customer specifications;
- PFA and FBA must be destined for use only in the grouting applications described in Section 4 of the quality protocol;
- producers retain records of all inspection and testing carried out; and
- producers prepare and keep copies of customer supply documentation that includes a statement of conformance with the quality protocol and a material safety data sheet.

Full details of the requirements are set out in the quality protocol, which can be downloaded from our website at: http://www.ni-environment.gov.uk/index/about-niea/better_regulation/waste_quality_protocols.htm

Note that if you intend to export PFA and FBA outside of Northern Ireland please be aware that the receiving country may still consider the material to be waste. Therefore, you will need to adhere to the relevant waste management controls. If you intend to import quality protocol compliant PFA and FBA into Northern Ireland from outside the UK, if the country of despatch regards the material as waste, the relevant waste management controls will continue to apply. This is the case even though the PFA and FBA may be regarded as having ceased to be waste in Northern Ireland. Further guidance on import and export of waste is available from our website at: <http://www.ni-environment.gov.uk/waste-home.htm>

How we regulate the collection, processing and storage of PFA and FBA

The quality protocol does not change the regulatory requirements that apply to:

- the **delivery** and **storage** of PFA and FBA for processing;
- the **processing** of PFA and FBA.

Until it has been processed in accordance with the quality protocol, PFA and FBA must be:

- handled in accordance with the Duty of Care requirements;
- transported by a person who is registered as a waste carrier and accompanied by a waste transfer note;
- taken to a suitably permitted, licensed or exempt waste facility.

The handling, storage and processing of PFA must be carried out at a facility that has an appropriate waste authorisation to carry out those activities. Such a facility may require a PPC permit under the Pollution Prevention and Control Regulations (Northern Ireland) 2003 or a waste management licence or an exemption from waste management licensing under the Waste Management Licensing Regulations (Northern Ireland) 2003 (and Amendments).

⁵ PFA and FBA is hydraulically pumped or injected into the ground to fill void space.

How we regulate PFA and FBA that meets the requirements of the quality protocol

Producers and users are not obliged to comply with the quality protocol. If they do, they will benefit from the certainty that we will not regard the PFA and FBA they produce as waste. This means it can be used without the need for waste management controls.

Quality protocol compliant PFA and FBA should be stored in a clearly defined area separate to that used for feedstocks, material undergoing processing and other waste materials.

How we regulate PFA and FBA (bound and grout applications) that does not meet the requirements of the quality protocol

If processors⁶ do not comply with the quality protocol the material will normally be regarded as waste, and waste management controls will apply to its storage, handling, transport and use.

How we regulate PFA and FBA for unbound applications

As work remains ongoing to determine whether a quality protocol can be developed for unbound applications, PFA and FBA used for unbound applications will normally be regarded as waste, and waste management controls will apply to its storage, handling, transport and use.

Enforcement

If the activity is likely to cause pollution or harm to human health, or there is a breach of waste management controls, we will take appropriate action in line with our enforcement and prosecution policy.

Further advice

Detailed guidance on regulatory controls can be obtained from website (<http://www.ni-environment.gov.uk>), from NetRegs (<http://www.netregs.gov.uk>) or by contacting us on 0845 302 0008.

This regulatory position statement will be reviewed once ongoing work to determine whether a quality protocol is suitable for unbound applications of PFA and FBA is complete.

⁶Processors are operators who process PFA and FBA, or ensure product quality control in order to meet necessary standards and specifications for sale in other applications. This may also be done on the site of production; if so these producers should be classified as processors.