

Position Paper

Waste Framework Directive and the UK Environment Agency - PFA and FBA

The Electricity Supply Industry Position

In 1991 the UK regulations (revised in 1994 and 2005) enacting the Waste Framework Directive (WFD) was introduced. Since then the UK Electricity Supply Industry (ESI) has not accepted the Environment Agency's view that Pulverised Fuel Ash (PFA)/ fly ash (including cenospheres) and Furnace Bottom Ash (FBA) or other by-products from the generation of electricity from coal are wastes when sold for use in construction applications. However, the ESI have always accepted that ash that has been disposed of in landfill is waste. This position is reaffirmed as at 1 July 2007.

There has been no known incident of coal fired power station ash products causing an environmental problem in the UK, to our knowledge. PFA and FBA are classed as 'non-hazardous' materials in the European Waste Catalogue¹, see code 10 01 01: bottom ash, slag and boiler dust (excluding boiler dust mentioned in 10 01 04) and code: 10 01 02 coal fly ash.

Many of the trace metals contained in ash are bound into the glassy matrix, preventing them from leaching from the material. Less than 1% of ash is soluble in water of which the water soluble material consists of sulfate from gypsum and limited amounts of alkalis. This means that all UK fly ashes comply with the non-hazardous category as defined in the Waste Acceptance Criteria².

The ESI accepts that material sent for landfill, consisting of predominantly PFA in the UK, is a waste, landfill taxation is paid on this material and the requirements of the Environment Agency in respect of compliance with the Waste framework Directive and all UK regulations are fully fulfilled. However, the ESI does not accept that material supplied for beneficial use, as described above, is classified as a 'waste' because it is a product or by-product.

The ESI has taken Senior Council's advice on the definition of waste and the situation regarding PFA and FBA. Their advice has been that coal fired power station ash products sold for beneficial use are NOT wastes and the Environment Agency has no right to demand contractors or producers to apply for exemptions or waste management licences under the UK regulations.

The ESI is prepared to support any contractor or producer in whatever way it can in the event the Environment Agency or Scottish Environment Protection Agency seek to legally challenge a decision by the contractor to use coal fired power station products as products and not as waste.

However, the ESI does recognise that there are some situations when the use of coal fired power station ash products may represent a significant risk to the environment either through pollution to air, land or water.

Contractors and producers are obliged under the Environment Protection Act to prevent damage to the environment and MUST seek appropriate permissions to use PFA or FBA for the contract through the planning consent procedures applicable in the UK. Environmental assessments should be carried out when required to determine the suitability of the proposed materials for the application giving consideration to the groundwater quality, hydro-dynamics of the site and the techniques used to place the material.

The Council of the European Union

The EU has recognised the Waste Framework Directive (WFD) is flawed as it fails to define clearly such terms as 'product', 'recovery', etc. This has led to a number of European Court of Justice Rulings that have tended to complicate the issue even further. As a result of this confusion a Thematic Strategy review of the WFD is currently taking place. This has been ongoing for some years with a variety of proposals being made.

The EU Parliament had over 600 amendments proposed to the first reading of the revision to the WFD in October 2006. Voting was delayed until November 2006 at which a legal definition of a by-product was dropped in favour of the Commissions guidelines document. The definition of a by-product was later reinstated in February 2007.

The following text that defines a by-product is taken from the 20 June 2007 proposed text:

A substance or object, resulting from a production process, the primary aim of which is not the production of that item, may be regarded as not being waste as referred to in Article 3(a) but as being a by-product only if the following conditions are met:

(a) further use of the substance or object is certain;

(b) the substance or object can be used directly without any further processing other than normal industrial practice;

(c) the substance or object is produced as an integral part of a production process; and

(d) further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.

Again this has aspects that are open to interpretation. Does the certainty of use in (a) refer to the macro or micro, e.g. is all fly ash throughout the EU supposed to be used before it can be classified as a by-product or does it relate to a single batch of fly ash? In reality this fails the clarity and is open to interpretation (or misinterpretation) by the regulatory bodies involved.

Recent Court Rulings

A European Court of Justice ruling³ it was decided that pig manure was not considered a waste when it was put to beneficial use. We believed this case supported the ESI's legal understanding of the Waste Framework Directive and we would conclude that PFA/fly ash, when sold for beneficial use it NOT a waste. However, the result has apparently been to harden the 'certainty of use' test for a by-product as resulted in the EU Commission Guidance Document.

More recently in a case of appeal between R(OSS Group Limited) and Environment Agency & Ors and DEFRA⁴ of 28 June 2007, the following statement was made by Lord Justice Carnwath;

I hope, however, that in the light of this judgment, it may be possible for DEFRA and the Agency to join forces in providing practical guidance for those affected. It is unfortunate that the difficulties of interpreting the pronouncements from Luxembourg are compounded by the failure of the national authorities to agree a common approach. It is important that the national authorities should use their expertise and experience to assist those concerned with treatment and handling of waste, and also the courts (civil or criminal) who may well be faced with deciding individual cases without the benefit of any comparable expertise. The European Court recognises the scope for the national authorities to fill in some of the gaps left by the Directive. For example, in Niselli, while noting the lack of any "decisive criterion" for determining the holder's intention, it added:

"In the absence of Community provisions, Member States are free to choose the modes of proof of the various matters defined in the directives which they transpose, provided the effectiveness of Community law is not thereby undermined..." (para 34)

This judgement makes it clear that the Environment Agency do have the power to interpret the WFD in a pragmatic manner if they so choose! Let us hope they take heed of this judgement...

Interpretation by the EU Commission

The publication of the EU Commission Guidance Document⁵ titled "**Interpretative Communication on waste and by-products**" in February 2007 is hypothetically based on ECJ case law. The document

suggests the classification for defining when a material is a waste or a by-product depends on whether ALL the material produced is sold or not. They quote as examples that lignite fly ash is classified as a waste because some material is landfilled and yet, blast furnace slag is a by-product because all material is sold.

In our opinion, this rather arbitrary reason is not based on any logic nor considers the potential for environmental impacts. It would appear that a material may suddenly change classification as a waste if only a small proportion is landfilled. This is untenable in practice.

The ESI do not accept this document is definitive and they reassert that all coal fired power station products offered for sale have certainty of use and therefore should NOT be classified as wastes.

The EA have made it clear on 28 February 2007 that they treat this guidance only indicative stating the following:

We note the Commission's guidelines on the interpretation of the three-part test and we encourage operators to take similar careful note. We are mindful that a 'list based' approach has been rejected in favour of case-by-case decisions, thus any examples cited cannot be regarded as definitive.

As a result they still consider blast furnace slag to be a waste – contrary to the Commission's document.

The BREW/WRAP/EA Quality Protocol

On the basis that material from PFA/fly ash landfill sites is classified as a waste and in consideration that landfill tax has been paid, there is an urgent need for a WRAP type Quality Protocol that defines a point when ash recovered from landfill ceases to be classified as a waste.

The ESI through the Association of Electricity Producers and the UKQAA fully support and are actively involved with the current BREW/WRAP/EA project developing such protocols including ones for PFA. The protocol may also become a pragmatic solution to the differing interpretations of the WFD.

This project has been ongoing since Dec 2006 is due to complete in summer 2007, but has been delayed. Final versions of the documents have as of the time of updating this position paper not been forthcoming. However, through various routes the UKQAA is maintaining pressure on WRAP/EA to complete this work as quickly as possible.

The Environment Agency's position

The UK Environment Agency (EA) and the Scottish Environmental Protection Agency (SEPA) consider coal fired power station ash products such as PFA and FBA to be wastes. They have not actively pursued any contractor for failing to obtain the appropriate exemptions, licenses, etc to our knowledge. However, they have sent by email a letter dated 22 December 2006 Ref. CCU601 to the UKQAA clarifying their position during the period of development of the Quality Protocol;

Dear Lindon

Waste Framework Directive - Classification of Ash Residues

At our meeting in October I agreed to set out our position on the waste streams that are being considered as part of our Quality Protocol Project.

As you know, we are working with the Waste and Resources Action Programme (WRAP) to develop a series of Quality Protocols ('protocols') which will make clear what business needs to do to recover waste and show that it ceases to be waste. This should enable the recovered material to enter the secondary markets and also reduce the quantity of material destined for landfill.

The wastes currently being considered are:

*Compost
Food Oil
Non-packaging wood
Washed and stabilised contaminated soils
Non-packaging plastic
Tyre crumb and shred
Pulverised Fuel Ash
Blast Furnace Slag
Flat glass*

While we are considering those waste streams, we need to adopt a position that avoids the need for business to get a permit that may become unnecessary, but also ensures that we protect the environment and human health.

The position relates to activities where

- *the business involves the final use of one of those listed wastes (other than disposal); and*
- *that waste is not mixed with other wastes or materials, and*
- *the activity is carried out in such a way that it does not cause or is unlikely to cause pollution of the environment.*

If your activity fits into this position then if the final use of the listed waste would require a waste management licence but you do not yet have one, we will not normally take enforcement action against you for failure to have a licence.

If you already have a waste management licence or a PPC permit for the activity you should continue to comply with the conditions of that permit. And if the final use of the listed waste is covered by an exemption² from the need for a licence you should register the activity as exempt and comply with the conditions of that exemption.

If our work with business leads us to conclude that a waste stream can not be used in a particular way or that its use should be regulated under a permit, then this position will come to an end. We will then need to discuss how to bring business into regulation.

This guidance may change in relation to all or any of the materials listed and it is your responsibility to ensure you refer to the most up to date guidance.

We will need to manage any proposals that we receive from business, and I suggest that in the short term you direct any proposals to me directly.

Yours sincerely

CLARE MCCALLAN
Waste Policy Manager

The UKQAA consider this letter to be helpful as a temporary solution to the issues.

¹ Disposal operations will require a permit or in limited circumstances an exemption and this position statement does not apply to disposal operations.

² Exemptions from licensing are set out in Schedule 3 to the Waste Management Licensing Regulations 1994

What licences, exemptions apply currently according to the Environment Agency?

The following are statements made by the EA on this issue;

"Decisions on the definition of waste must be made in the light of all the circumstances and in accordance with current case law. Where there is disagreement whether or not something is waste, it is ultimately a matter for the courts to decide.

The Government issued guidance on the interpretation of the definition of waste in 1994.³ Since then, however, there have been a number of judgements by European and national courts on the definition's interpretation. These judgements are not yet reflected in Government guidance, which is being reviewed to take them into account.

The courts have identified various factors that indicate whether something is waste or not. However, these factors are only indicative. Each decision must be made based on all the facts and keeping in mind the need to protect human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste.

It is the responsibility of the holder of an item to satisfy themselves as to whether or not they are handling waste. However in the case of the ash arising from coal fired power stations, we have concluded that the holder has discarded it, or intends or is required to discard it and that it is waste."

The EA have concluded that for the following applications the following courses of action are required:

PFA for use in the manufacture of aerated concrete blocks

Paragraph 13 of the 1994 Waste Management Licensing Regulations (WMLR) permits the manufacture of blocks from waste ash, provided that the waste is stored at the place where the activity is to be carried on; and the total quantity of waste stored at that place does not exceed 20,000 tonnes.

The PFA is likely to cease to be waste at the point that it is incorporated into a block and therefore the blocks can be stored and sold as products with no waste management controls.

PFA/fly ash for the use in cement manufacture of blended cement or as raw kiln feed material

All cement blending and manufacturing plants are required to be registered under IPPC Part B for control of emissions to air. Provided all the requirements are met by the IPPC Part B recovery process, the PFA is likely to cease to be waste at the point that it is blended into the cement mix or used as a raw feed material. The resulting cement can be stored and sold as products with no waste management controls.

PFA/fly ash for the use in concrete as a Type II addition

All cement blending and manufacturing plants are required to be registered under IPPC Part B for control of emissions to air. Blending the cement in bulk or using cement in bulk other than at a construction site, including the bagging of cement and cement mixtures, the batching of ready mixed concrete and the manufacture of concrete blocks and other cement products are covered Part B. Provided all the WFD requirements are met by the Part B recovery process, the PFA is likely to cease to be waste at the point that it is blended into the concrete mix or used as a raw feed material. The resulting concrete can be stored and sold as products with no waste management controls.

PFA/fly ash for use as a fill material

Paragraph 19 of the 1994 WMLR with the 2005 revisions permits the use of ash as a construction material under an exemption for relevant works. The PFA is likely to cease to be waste at the point that it is incorporated into the structure.

There is a registration charge for applying for an exemption which is £546 per annum per contract. For further details see the EA web site.

PFA/fly ash for the use in grouting

The mixing plant;

1. Where the mixing or batching of the grout is carried out on the site where the relevant works will be undertaken in accordance with a paragraph 19 exemption then the batching will be covered by the exemption.
2. Where the batching is carried on at a location separate from the final grouting or use, then the batching plant would require a Local Authority permit issued under Section 3.1 Part B
3. Where the use of the grout is not considered to be relevant work within the meaning of paragraph 19 then a waste management licence would be required. It is the Agency's view that the use of grout is not generally "relevant work" but do consider that activities must be considered on a case by case basis.

³ Department of the Environment (DOE) Circular 11/94, Annex 2; Welsh Office Circular 26/94.

PFA grout does not cease to be waste until incorporated into a structure, and it is unlikely that a paragraph 19 exemption applies therefore a Waste Management Licence is required. A streamlined application process has been developed and will assist both industry and us to determine licence and surrender applications more quickly.

Furnace Bottom Ash (FBA) for the manufacture of lightweight concrete blocks

This activity is covered by paragraph 13 of Schedule 3 to the Waste Management Licensing Regulations as detailed above. The FBA ceases to be waste at the point it is incorporated into a block and therefore the blocks can be stored and sold as products with no waste management controls.

Conclusions

The EA's interpretation of EU law and the WFD lead them to conclude that ash products are wastes until incorporated into the final product. The ESI does not accept this view and believe it is flawed both legally and practically.

The EU Commission guidance document of February 2007 has proven to be of little practical use as the EA are treating this only as indicative. The EU Parliament seems to have become engrossed the many proposals and suggestions for the revision of the WFD. It is clear we shall not see any revision of the WFD for some years into the future. This makes the potential solution of the Quality Protocol route the most likely to achieve at least some of the aims of the ESI and construction industry.

If all of the above initiatives fail, the bureaucracy required to issue WML's, exemptions, etc would be a massive burden both to the contractor and the EA.

The reader should check the current position with their local Environment Agency officer who should be able to advise on the latest EA thinking.

This position paper will be updated as the various initiatives progress.

United Kingdom Quality Ash Association, Regent House, Bath Avenue, Wolverhampton, WV1 4EG

Tel: 01902-810-087
Fax: 01902-810-187
Email: Enquiries@UKQAA.org.uk

This document is the UKQAA's interpretation of the issues surrounding the Waste Framework Directive. It is the reader's responsibility to check the latest situation and draw their own conclusion. The UKQAA can accept no responsibility or liability for errors, omissions or misinterpretation of the issues contained within this position paper.

¹ European Waste Catalogue and Hazardous Waste List, Consolidated Text produced by the CONSLEG system of the Office for Official Publications of the European Communities, CONSLEG: 2000D0532 — 01/01/2002

² A Better Place, Guidance for waste destined for disposal in landfills, section 8, Environment Agency 2005

³ Judgment of the Court (Third Chamber) of 8 September 2005. Commission of the European Communities v Kingdom of Spain. Failure of a Member State to fulfil obligations - Directives 75/442/EEC and 91/156/EEC - Meaning of "waste" Case C-416/02.

⁴ Neutral Citation Number: [2007] EWCA Civ 611, Case No: C1/2006/2545, IN THE SUPREME COURT OF JUDICATURE, COURT OF APPEAL (CIVIL DIVISION), ON APPEAL FROM QBD, ADMINISTRATIVE COURT, MR JUSTICE BURTON, CO/2157/2006, Royal Courts of Justice, Strand, London, WC2A 2LL, Date: 28/06/2007

⁵ COMMUNICATION FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT on the Interpretative Communication on waste and by-products, Brussels, 21.2.2007 COM(2007) 59 final