



Our Reference: Comments letter - EU document
Towards a thematic strategy on the prevention
and recycling of waste-August 2003.doc
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For the attention of Ms. Marianne Klingbeil

Date: 25 November, 2003

Re: Towards a thematic strategy on the prevention and recycling of waste

Dear Ms Klingbeil,

The UK Quality Ash Association is a trade association representing the views of the UK coal fired power generation industry. A brief outline of the organisation is attached as Appendix A and the materials produced as Appendix B.

We have read with great interest your discussion document "Towards a thematic strategy on the prevention and recycling of waste" and would offer the following comments for consideration:

- 1. Section 3.1 and 5.2.1 - The control system for the permitting, registration and inspection:** This control system is proving to be the biggest constraint to the use of industrial by-products and the recycling of some wastes. The EU directives seem to have assumed that all wastes are similar to many industrial and municipal solid wastes, e.g. they are potentially environmentally problematical materials. However, many materials though classified as wastes are relatively inert such as coal fired power station fly ash and blastfurnace slag. These have been used straight from the power station or recovered/recycled from landfill sites for many years without any significant problems. Fly ash, or Pulverised Fuel Ash (PFA) as it's known in the UK, has had a long history of use which has been underpinned with considerable research into its possible applications, properties, performance and potential for an adverse environmental impact. Until recent ECJ case law and its interpretation by the UK Environment Agency (UKEA), PFA was not considered as a waste where it was sold for beneficial use direct from the power station. Where it was recovered from landfill, some uses were exempt from waste management licensing. PFA has been successfully used in cements, concrete, road construction, ceramics, paints - for full details of applications visit our web site on www.ukqaa.org.uk. However, such industrial by-products are now considered by the UKEA to be 'wastes' in all circumstances and the bureaucracy associated with obtaining permits, licences and permissions is increasingly blighting their use.

It is increasingly clear that many Construction companies are not prepared to get these permissions or to deal with the UKEA and are choosing to use natural aggregates and manufactured products in favour of using byproducts or recovered/recycled materials. Even when

these permissions are sought, the process is too bureaucratic and slow and tends to delay construction. The UKEA seems to have taken the most onerous, if not inaccurate interpretation of the EU directives and recent case law. We believe this situation has arisen because of the lack of clarity in the EU Waste directive leading to numerous court cases and differing interpretations by the various National environmental bodies, with the UK taking the most onerous interpretation.

2. **Section 3.2.4 and 5.5.1.1 - Definition of waste recovery and the blight of the word 'waste':** In the UK mines and caverns are only filled for the purpose of stabilising the ground and never for waste disposal purposes. While section 3.2.4 of your discussion document indicates clearly that filling a mine for stabilising purposes would be a recovery operation, this doesn't remove the blight of the word 'waste'. For example, an area within the Midlands of the UK was blighted because of mine collapses. These mines were dug during the 18th and 19th centuries and, following much research, grouting them with PFA based grouts has become the normal method of stabilising them. Such grouts have been used for many years, are well understood and, to our knowledge, never caused a pollution incident. PFA was always considered as a byproduct or a recycled product when used in this way and so was not blighted by a 'waste' label.

The UKEA has more recently taken the view that PFA, even when filling a mine to make the mine safe and therefore a recovery operation, is classified as a waste and requires a waste management licence for the process of mixing the grout. It appears the action of mixing cement, PFA and water is classified as part of the recovery operation. To obtain a Waste management License takes between 4 and 12 months, which is far too long a period of time for most contractors. The alternative is to fill the mines with primary aggregates, e.g. sand: cement grout, for which society would pay the increased environmental and financial cost. There are numerous other examples of the inappropriate application of waste management laws within the UK.

Due to the delays in obtaining such licenses, the requirements for suitable trained personnel for waste handling, the general bureaucracy associated with waste management operations, contractors generally opt for natural aggregates!

3. **Section 5.5.1.2 - The definition of waste:** Considering the comments in the previous section, we have no problem with the EU definition of 'waste' only with the point at which a material ceases to be a 'waste', i.e. when is it 'recovered' or considered a 'by-product'. The various court rulings on this issue have probably not helped in clarifying this matter. Within the UK the UKEA now takes the view that once a waste always a waste. Therefore, all recycling and recovery operations and their subsequent use will have to be treated as 'waste' disposal operations. In view of the range of materials classified as wastes within the European Waste Catalogue - will all of these require waste permitting in order to be used? For example bitumen is classified a waste – so would all roads have to license as waste disposal sites? In the UK there has been considerable confusion of the legal meaning of the terms 'discard' and 'recovery' in comparison with their meaning in every day use. The expectation of those handling PFA is that only material sent to long term disposal sites has been 'discarded' and that any material sold for beneficial use has not. This is common sense to any layman but we are assured by the Environment Agency that the term 'discard' has a much broader meaning. We would like to see greater clarity at EU policy level on the definition of 'discard' and 'recovery' with respect to waste.
4. **Section 5.3 - Instruments to promote waste recycling:** Cost disadvantage is suggested to be the main reason for the slow uptake in recycling. This may be true for some materials we do not believe this is the main cause. In respect of ash products from coal fired power stations it is our belief that the primary reason why recycling is not thriving is the public perception of waste and the uncertainty over regulatory compliance of using waste. These factors can be resolved

through waste exemptions at a National level and clear and unambiguous legislation/communication at both the EU and National government level. Prescriptive legislation or taxation that is designed to reduce or stop the landfill of certain wastes must be accompanied by balancing legislation that is capable of creating a viable market for the material. For example, naturally occurring materials may often be used as an alternative to recycled, by-products or recovered materials. Their use does not carry the same bureaucratic burdens associated with recycling 'waste' materials. Of course many of these problems would be avoided if there were clear definitions of 'recovery' and 'by-product'. In addition it must be realised that natural materials have a significant environmental impact in their production that should be assessed at some point. Legislation requiring this would balance out the extra burdens associated with recycled 'wastes'.

Proposals

The UKQAA would suggest the following proposals (*Specific proposals in italics*):

1. **The definition of 'waste':** As in Article 1(a) of Directive 75/442, 'waste' is defined as 'Any substance or object in the categories set out in Annex I which the holder discards or intends or is required to discard.' This should not change.
2. **The definition of 'by-product':** We consider the two tests for defining a 'by-product' should be:
 - a. *The reuse of the goods, materials or raw materials is not a mere possibility but a certainty.*
 - b. *That the goods, materials or raw materials should have a high degree of likelihood that they can be used without any further processing prior to reuse.*
3. **The definition of when discarding has taken place:** We consider this should be:
 - a. *Discarding does not take place when substances, objects, products including by-products, intermediate products or secondary products are suitable in their existing form either to be used in industrial and commercial (production) processes or to be placed on the market for further use or consumption. The suitability for use in industrial processes can be assumed in particular if the substances in question meet any available specifications for these processes.*
4. **The definition of recovery:** We think 'recovery' should be defined as:
 - a. *'Any action intended to recover or use the material or the energy contained in the waste.'*
5. **The point at which a material is recovered/ceases to be a waste:** We would suggest that previously 'discarded' materials should be classified as 'products' and as a result 'fully recovered' at a distinct and early point in their production cycle. In our opinion the point at which a 'material ceases to be a waste' should be defined as:
 - a. *'When a material leaves the production factory premises, in response to an order for delivery to the customer who made that order and who has a beneficial use for that material, it shall be considered recovered and cease to be classified as a waste.'*

This would alleviate the need for waste management licenses, excessive bureaucracy, etc at the customer's site.

6. **Environmental Risk Assessment:** In order to alleviate the discrimination against recycled materials we believe that the process of environmental impact and risk assessment should be extended to cover all construction applications and that all materials should be assessed to a common framework of environmental impact assessment. This should assess the overall impact and identify the best available technique to minimise this impact.

- a. *This Environmental Impact and Risk Assessment should be carried out for which a certificate of satisfaction should be issued by the Environment Agency for every construction contract. This assessment should describe the scope, duration and size of the contract.*

For practical reasons we feel there should be a limit to the size of contract above which these requirements should apply, to allow smaller contractors to work without excessive bureaucratic hindrance.

We believe the above would eliminate the problems being found with the current legislation and would encourage the use of recycled and secondary materials, such as PFA. Should you wish to discuss these ideas further please do not hesitate to contact the undersigned.

**Yours sincerely,
On behalf of the United Kingdom Quality Ash Association**



**Lindon K. A. Sear, BSc, PhD, FICT
Technical Officer**

Appendix A - Profile of the UKQAA

The UKQAA is a trade association representing the interests of the producers and users of coal fired power station products such as pulverised fuel ash, furnace bottom ash and cenospheres. The association promotes its members interests of a scientific, technical industrial environmental, educational and legal nature associated with all applications of coal ash products. This is achieved by sponsoring research and publishing data through the Internet, printed information, lobbying, correspondence and presentations to interested parties. In addition the UKQAA is represented on a number of National and European standardisation committees covering the use of PFA in construction and building applications including concrete, road construction, environmental aspects, mortar, etc.

The UKQAA was formed in 1997 and is run by the Technical Officer, Dr Lindon Sear and the Administration Assistant, Miss Yvonne Cotterill based in Wolverhampton in the West Midlands, UK.

Appendix B – Coal fired power station products

Pulverised Fuel Ash (PFA) and Furnace Bottom Ash (FBA) are by-products of coal-fired power stations. Both are valuable resources in their own right. They are safe and versatile construction materials, which are used in a variety of applications. These applications include PFA as a cement replacement in concrete, in grout structural stabilisation of underground caverns, pipes, and mine workings, in land stabilisation, in road/airfield pavement construction/maintenance and as a load-bearing fill. PFA and FBA are also in concrete block/brick manufacture, and lightweight aggregates.

In many of these applications, significant technical, economical, and environmental benefits are possible. The impact of obtaining primary aggregates and CO₂ emissions from the manufacture of Portland cement, are environmentally less acceptable. Every tonne of Portland cement replaced with PFA reduces the overall CO₂ emissions by approximately 0.9 tonne. PFA is also pozzolanic; its reaction with lime gives concrete additional strength and durability. PFA is an alternative for natural aggregates, for example in foamed concrete, in grouting, and for fill and landscaping applications, reducing the environmental impacts of quarrying. The combination of the cementitious properties and replacement of virgin aggregates leads to an overall reduction in CO₂ emissions of ~1,000,000 tonnes and a saving of ~3,200,000 tonnes of virgin aggregate per annum.

There are many types of PFA available:

- Dry PFA – as normally used in concrete to BS3892 Part 1 and BS EN450.

It is always supplied in sealed tankers for storage in silos. For BS3892 Part 1 PFA, the ash is selected or classified to remove the coarser particles. This reduces its water demand, lowering the density, permeability and giving improved resistance to sulfate and chloride attack, alkali silica reaction and therefore improves the concrete's durability. EN450 fly ash for concrete permits a wider range of fineness than BS3892 Part 1; however, the ash is still able to offer considerable durability benefits.

- Conditioned and lagoon PFA – used for grout, fill, landscaping and road construction.

This material is moistened and supplied in normal tipping vehicles. In fill applications, both conditioned and lagoon ash are used to form embankments, as a landscaping material, in ground remediation and for grouts for filling abandoned mines and caverns. As PFA is lighter than most virgin aggregate it reduces the ground bearing pressures, requires less transportation for a given volume and is often more economical. For road construction applications PFA acts partially as an aggregate and as a binder. European standards are shortly due for publication covering the production and use of Fly Ash Bound Mixtures (FABM's) for road sub-base and road-base.

- Furnace Bottom Ash (FBA) – used in block manufacture.

Within the UK all FBA is removed from the furnace using high-pressure water jets. As such, it is thoroughly washed producing a clean material ranging from gritty sand to particle 70mm across. It is crushed and screened to form a coarse and fine material aggregate. FBA is used as a by-product aggregate in making blocks because it is a lightweight aggregate, not combustible, will not rot, and has a history of excellent performance.

- Cenospheres – used as a filler in paints, plastics etc

Cenospheres are a unique filler for many applications, because they are inert, very lightweight (it floats on water), thermally stable and physically strong spherical particles.