

Submission from Save Our Shoreline

ASH DISPOSAL

Management of solid residues from incineration

Incineration reduces the volume of waste for disposal by about 90% and mass by around 70%, however this still leaves a sizable amount of material for either recovery or disposal.

Therefore an ash management strategy needs to be in place along with the understanding of the physical and chemical properties of the materials and any regulations governing their disposal.

The key questions here are:

- Is the material a hazardous waste?
- Is the material acceptable for landfill?

Consideration needs to be given to the Hazardous Waste Directive 1991, and the Waste Acceptance Criteria 2003. The European Waste Catalogue 2002 can aid in the clarification of the classification of wastes.

For a material to be accepted at a hazardous waste site it must have a total organic carbon content at less than 6% or the loss of ignition must be less than 10%. Also the leachability of specific heavy metals and halogens must be below specified levels when determined in a standard leaching test.

Bottom ash from the incinerator is classed as a non hazardous waste and appears to meet the Waste Acceptance Criteria.

A survey carried out in 2002 by the Environment Agency showed that 60% of IBA (incinerator bottom ash) is sent straight to landfill and 40% to ash processing companies.

Air Pollution Control (APC) residues, which are a mixture of fly ash, organic pollutants (including dioxins and furans), carbon and alkaline salts in powder form, are classified as hazardous waste. They are generated from processes associated with the operation of Solid Waste combustion (approximately 80% generated by this route) and other thermal waste treatments. They are classified as hazardous waste as they can cause lung damage and skin irritations. APC residues typically

account for approximately 3.5-5% by weight of waste throughput for thermal treatment technologies.

APC residue is much more soluble than bottom ash and it is likely to fail to meet the Waste Acceptance Criteria leaching limits for chloride, lead and mercury. The European Waste Catalogue classes APC residues as hazardous wastes mainly due to the irritant nature of unreacted lime present. This material will not be permitted to landfill once the WAC are implemented.

One of the principle problems with APC is the high content of soluble chlorides. Washing is commonly the first stage in many treatment processes and is a relatively straightforward process. However it results in a secondary pollutant, a liquid effluent with a high pH and chloride content and contains soluble heavy metals. The treatment of this liquid results in the formation of a concentrated brine.

Methods of treating APC residues are solidification, stabilisation and thermal treatment. Solidification involves the encapsulating of the residues in cement to reduce leachability. Stabilisation consists of adding reagents that react with the soluble hazardous components reducing their solubility. Thermal treatment results in the formation of an inert glassy material, however this process has drawbacks such as being expensive and energy intensive and releases mercury, zinc and lead.

Conclusion

La Collette is not suitable for the landfill of APC residues. The best longterm solution would be to stabilise the APC and reused as an aggregate.

Lara Luke BSc (Hons) (Open) Env Stud Dip Poll Con (Open)

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