# Accelerated start-up sampling for Incinerator Bottom Ash (IBA) from a new ERF

**A minimum of 24 samples are required to complete start-up sampling**

## Start-Up Sampling Phase 1: Samples 1 to 12

The operator can select when to commence collection of start-up samples during commissioning

The operator may wish to delay the start-up sampling programme until ash quality stabilises. In this instance ash pre-start-up sampling should be tested on a batch basis for separate disposal until the waste classification should be completed for each batch

Once start-up sampling has started it should continue until 12 samples are collected. A gap in the sampling schedule is permitted in the event of a plant outage

Once start-up sampling commences all IBA results must be included from that date onward (all previous IBA data prior to that date can be excluded)

All samples must be collected in accordance with the procedures set out in the current ESA IBA Sampling and Testing Protocol

Take a maximum of 2 samples of IBA per week, until 12 samples are collected (minimum sampling period 6 weeks). During collection of these samples, the IBA produced must be under control at a suitably permitted site

Record all operational issues in the event that these are subsequently shown to cause a change in ash quality. Abnormal ash may subsequently be designated a sub-population that may need to be separately classified

Undertake routine hazard assessments based on HP4/8, HP7 and HP14. Three of the 12 samples must be tested for the additional parameters needed to undertake a full 15 property (HP1-HP15) hazard assessment

**Are there zero exceedances in the first 12 samples?** — No → **Are there two or less, and no 4 x exceedances in the first 12 samples?** — No → **Are there three or more, or a single 4x exceedance(s) in the first 12 samples?**

Yes (first) → IBA produced during start-up sampling can be despatched and managed as non-hazardous

Yes (second) → The first 12 samples can be despatched and managed as non-hazardous BUT in the event that subsequently there are > 5 exceedances in 24 samples, or 3 exceedances in a row, procedures must be in place to recover all the ash

Yes (third) → All IBA produced during start-up sampling must be kept under control until the results for all 24 samples have been obtained

## Start-Up Sampling Phase 2: Samples 13 to 24

Collect a further 12 samples at a frequency of 2 samples per month from the date of the 12th sample. As per the Protocol ash need only be under control for the period between sampling and test confirmation that it continues to be non-hazardous

Collect a further 12 samples at a maximum frequency of 2 samples per week, from the date of the 12th sample. Ash should be under control for the six week period of Phase 2 sampling

In the event that 5 exceedances are obtained in Phase 2, ash would only be hazardous from the last sample

Characterise each sample for core hazardous properties (HP4/8, HP7 and HP14). A '3 in a row' exceedance would require a specific investigation as per the Protocol and the EA should be informed. A 4 x exceedance would trigger hazard status for the IBA

Each sample must be assessed against the compliance regime in the ESA Protocol

**Have more than 5 exceedances occurred during collection of the 24 start-up samples?**

No → **IBA NON-HAZARDOUS** → FOLLOW STANDARD REQUIREMENTS OF ESA PROTOCOL FOR NON-HAZARDOUS IBA

Yes → **IBA IS HAZARDOUS** — IBA must be declared hazardous as soon as the trigger event occurs → FOLLOW THE REQUIREMENTS OF ESA PROTOCOL FOR HAZARDOUS IBA