Applicability

For existing plants, both straight grate and grate kiln systems, it is difficult to obtain the operating conditions necessary to suit an SCR reactor. Due to high costs, these end-of-pipe techniques should only be considered in circumstances where environmental quality standards are otherwise not likely to be met.

37. BAT for new plants is to reduce NO_X emissions from the drying and grinding section and induration strand waste gases by applying selective catalytic reduction (SCR) as an end-of-pipe technique.

Water and waste water

38. BAT for pelletisation plants is to minimise the water consumption and discharge of scrubbing, wet rinsing and cooling water and reuse it as much as possible.

39. BAT for pelletisation plants is to treat the effluent water prior to discharge by using a combination of the following techniques:

I. neutralisation
II. flocculation
III. sedimentation
IV. sand filtration
V. heavy metal precipitation.

The **BAT-associated emission levels**, based on a qualified random sample or a 24-hour composite sample, are:

- suspended solids <50 mg/l
- chemical oxygen demand (COD([1])) <160 mg/l
- Kjeldahl nitrogen <45 mg/l
- heavy metals <0.55 mg/l
  (sum of arsenic (As), cadmium (Cd), chromium (Cr), copper (Cu), mercury (Hg), nickel (Ni), lead (Pb), zinc (Zn)).

([1]) In some cases, TOC is measured instead of COD (in order to avoid $HgCl_2$ used in the analysis for COD). The correlation between COD and TOC should be elaborated for each pelletisation plant case by case. The COD/TOC ratio may vary approximately between two and four.

Production residues

40. BAT is to prevent waste generation from pelletisation plants by effective on-site recycling or the reuse of residues (i.e. undersized green and heat-treated pellets)

BAT is to manage in a controlled manner pellet plant process residues, i.e. sludge from waste water treatment, which can neither be avoided nor recycled.

Energy

41. BAT is to reduce/minimise thermal energy consumption in pelletisation plants by using one or a combination of the following techniques:

I. process integrated reuse of sensible heat as far as possible from the different sections of the induration strand

II. using surplus waste heat for internal or external heating networks if there is demand from a third party.

Description

Hot air from the primary cooling section can be used as secondary combustion air in the firing section. In turn, the heat from the firing section can be used in the drying section of the induration strand. Heat from the secondary cooling section can also be used in the drying section.

Excess heat from the cooling section can be used in the drying chambers of the drying and grinding unit. The hot air is transported through an insulated pipeline called a 'hot air recirculation duct'.

Applicability

Recovery of sensible heat is a process integrated part of pelletisation plants. The 'hot air recirculation duct' can be applied at existing plants with a comparable design and a sufficient supply of sensible heat.

The cooperation and agreement of a third party may not be within the control of the operator, and therefore may not be within the scope of the permit.